

HUGHES ELECTRONICS CORP
Form 425
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Filed by EchoStar Communications Corporation
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Subject Companies: Hughes Electronics Corporation
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General Motors Corporation
Commission File No. 1-00143
Date: March 4, 2002

On the evening of March 4, 2002, the website www.echostarmerger.com was launched. The documents set forth below are available at www.echostarmerger.com.

SITE UNLOCK - SEC LEGEND

To view the content of this site, simply certify that you have read the following:

We at EchoStar maintain this website to tell you about the merger. In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC's website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from GM. Such documents are not currently available.

GM and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM 's solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, EchoStar, Hughes, or a combined EchoStar and Hughes to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all;

(3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimates, projects, expects, plans, anticipates, intends, continues, forecast, designed, goal, or the negative of those words or comparable words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

I have read the information above:

Yes No

NAVIGATION

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EchoStar-DIRECTV Merger Benefits

The Benefits of the EchoStar/Hughes Merger

EchoStar Communications Corporation, Hughes Electronics and General Motors believe that consumers will reap tremendous benefits from the merger of EchoStar and HUGHES. The companies' two services, DISH Network and DIRECTV®, today each transmit a total of more than 500 identical channels. Consumers will benefit from the massive increase in Direct Broadcast Satellite (DBS) satellite capacity that will result from the elimination of this duplicative programming. Indeed, as a direct result of the completion of this merger, consumers across the continental United States, Alaska and Hawaii will have access to local broadcast channels with digital-quality television picture and CD-quality sound in every one of the 210 television markets covering the country.

Subsequent to the announcement of the merger agreement on October 28, 2001, a series of pre-merger transition meetings between DISH Network and DIRECTV engineers have been held to analyze the technical and economic feasibility of a "Local Channels, All Americans" plan by which the merged company could offer every U.S. consumer access to satellite-delivered local television signals. After an exhaustive examination of each company's spectrum and satellite assets, the engineers determined that this plan could become a reality. In a satellite application filed yesterday with the Federal Communications Commission, EchoStar and HUGHES detailed a technically and commercially feasible plan to build, launch and operate spot-beam spacecraft that will serve all 210 Designated Market Areas (DMAs) in the United States, including full compliance with must carry requirements.

New set-top boxes and satellite dishes will be deployed that will be capable of receiving satellite signals from multiple orbital positions. The new receiving equipment will be made available free of charge to all existing DIRECTV and Dish Network subscribers who may need it in order to receive their local channels.

Consumers across the country will pay the same price for services delivered by the merged DBS service, i.e., one nation, one rate card, regardless of a subscriber's location. Implementation of the plan will begin immediately upon regulatory approval of the merger, and the rollout can be completed as soon as 24 months thereafter.

The merged company also will establish itself as a source of meaningful satellite-based broadband competition to cable modem and DSL offerings, fulfilling the mission to provide affordable high-speed Internet access to all of America, including the most rural areas of the country. The "digital divide" in the United States is real: some 40 million households in the United States do not have access to high-speed Internet and data services, in large part due to the high cost of wiring homes for these services in less densely populated areas.

Combined, EchoStar and HUGHES will create a more robust satellite platform that will liberate these digital "have nots" by serving every household in the country, including every household in every state. Efficiencies from the combined companies will provide the subscriber base and financial means to move current Ku-band satellite broadband offerings from their status as expensive "niche" services to a more competitive price point for consumers, and then ensure that next-generation Ka-band satellite broadband service becomes a reality for consumers everywhere in the United States.

The combined EchoStar-HUGHES will achieve a new level of vigorous competition to incumbent cable operators, and will not have anticompetitive effects in any market. As this booklet illustrates, the benefits from this merger will allow all Americans to receive their full complement of local channels and national entertainment networks, as well as provide a new source of meaningful satellite-based broadband competition.

- Local Channels, All Americans
- One Nation, One Rate Card
- Eliminates the "Digital Divide"

True Competition for 107 Million Households

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EchoStar-DIRECTV Merger Benefits

Local Benefits, All Americans

Consumers throughout America will be able to view their local broadcast stations via satellite.

One Price -- Everywhere

In all 50 states consumers are protected by one uniform price for service -- guaranteed!

Rural Broadband

Satellites can reach every corner of rural America. Broadband via Satellite is the best solution for bringing high speed Internet access to rural Americans.

FCC Filings

View the full application filings to the U.S. Federal Communications Commission (FCC).

Latest Merger News

Merged EchoStar and Hughes Will Deliver Local Broadcast Channels To All 210 U.S. Television Markets
[02/26/2002]

EchoStar and Hughes Comment on FCC Filings
[02/04/2002]

EchoStar, DIRECTV Welcome Farm Bureau Support
[01/09/2002]

Take Action

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EchoStar-DIRECTV Merger Benefits

Local Channels, All Americans

The merger is all about efficiency. By eliminating duplicative programming of the two parent companies, significant amounts of the industry's most precious resource - bandwidth - will be freed up for other uses. This is the key to many of the benefits the merger will bring to consumers.

With the increased capacity, DIRECTV and DISH Network engineering teams have developed a system that is technologically feasible and economically viable for the merged company to deliver full local broadcast service, in all 210 television markets, including full compliance with federal must carry provisions. The merger of DIRECTV and DISH Network will enable a fully competitive cable alternative - DBS service with local channels - in EVERY television market in the country, including Alaska and Hawaii.

Bottom line, local channels will be available through DBS - just as they are through cable - in areas where such competition was impractical before.

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one.PRICE

EchoStar-DIRECTV Merger Benefits

One Nation, One Rate Card

Consumers across the country will pay the same price for services delivered by the merged DBS service, i.e., one nation, one rate card, regardless of a subscriber's location. This means that customers in rural America can rest assured that they will continue to pay the same monthly rate as customers in big cities where competition with cable companies is more prevalent. This pricing structure extends the benefits of competing with cable companies in urban areas to those who live in the most remote areas.

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rural.BROADBAND

EchoStar-DIRECTV Merger Benefits

Closing the Digital Divide

The proposed merger will help close the so-called "digital divide" that exists between urban and rural residents by providing a platform that can deliver high speed Internet access to ALL Americans.

The merged company will establish itself as a source of meaningful satellite-based broadband competition to cable modem and DSL offerings, fulfilling the mission to provide affordable high-speed Internet access to all of America, including the most rural areas of the country. The "digital divide" in the United States is real: some 40 million households in the United States do not have access to high-speed Internet and data services, in large part due to the high cost of wiring homes for these services in less densely populated areas.

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**Merger Effects
Pre-Merger**

EchoStar-DIRECTV Merger Benefits

Merger Effects Post-Merger

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EchoStar-DIRECTV Merger Benefits

Mouse over the map to see how the merger will affect you. [State information pops up on map.]

STATE INFO SOURCE

TV Households as of January 2001, from Nielson Media Research as published in U.S. Television Household Estimates: September 2000.

Basic Cable Subscribers as of September 2000 from Nielsen Media Research as published in U.S. Television Household Estimates: September 2000. Note: Cable information from system operators and ancillary sources, including Television Factbook, FCC and Television Digest Weekly.

Satellite subscribers - DTH subscription counts are an aggregate total of DIRECTV, ECHOSTAR, and C-Band subscriptions. DTH subscription counts are current to October 1, 2001.

Cable and DSL Broadband Access - Data from the FCC's Third Report on the Deployment of Advanced Telecommunications Capability to All Americans released February 6, 2002, CC Docket 98-146. FCC DATA IS BASED ON ZIP CODES WHERE CABLE AND/OR DSL BROADBAND SERVICE IS AVAILABLE. NOT ALL HOMES WITHIN THOSE ZIP CODES WILL HAVE CABLE AND/OR DSL AVAILABLE.

Alabama

Total TV Households: 1,678,690

Cable Subscribers: 1,153,050 (68.69%)

Satellite Subscribers: 413,379 (24.63%)

Current local broadcast markets served:

·Atlanta, GA

·Birmingham (Anniston and Tuscaloosa), AL

Markets that consumers will see added if the merger is approved:

·Huntsville-Decatur (Florence), AL

·Chattanooga, TN

·Montgomery (Selma), AL

·Columbus et al, MS

·Meridian, MS

- Mobile Pensacola, AL FL
- Dothan, AL
- Columbus, GA

State access to broadband Internet:

pre-merger

80%

post-merger

100%

Alaska

Total TV Households: 184,870

Cable Subscribers: 111,010 (60.05%)

Satellite Subscribers: 28,014 (15.15%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Anchorage, AK
- Fairbanks, AK
- Juneau, AK

State access to broadband Internet:

pre-merger

21%

post-merger

100%

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Arizona

Total TV Households: 1,892,010

Cable Subscribers: 1,129,900 (59.72%)

Satellite Subscribers: 454,191 (24.01%)

Current local broadcast markets served:

- Phoenix, AZ

Markets that consumers will see added if the merger is approved:

- Tucson (Sierra Vista), AZ
- Yuma El Centro, AZ CA
- Albuquerque Santa Fe, NM

State access to broadband Internet:

pre-merger

92%

post-merger

100%

Arkansas

Total TV Households: 976,010

Cable Subscribers: 618,030 (63.32%)

Satellite Subscribers: 307,922 (31.55%)

Current local broadcast markets served:

- Memphis, TN

Markets that consumers will see added if the merger is approved:

- Little Rock-Pine Bluff, AR
- Springfield, MO
- Shreveport, LA
- Ft. Smith-Fayetteville-Springdale-Rogers, AR

· Monroe- El Dorado, LA AR

· Jonesboro, AR

· Greenwood Greenville, MS

State access to broadband Internet:

pre-merger

61%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

California

Total TV Households: 11,561,050

Cable Subscribers: 7,884,780 (68.20%)

Satellite Subscribers: 2,091,150 (18.09%)

Current local broadcast markets served:

- Los Angeles, CA
- San Francisco-Oakland-San Jose, CA
- Phoenix, AZ
- Sacramento-Stockton-Modesto, CA
- San Diego, CA

Markets that consumers will see added if the merger is approved:

- Fresno-Visalia, CA
- Reno, NV
- Monterey-Salinas, CA
- Santa Barbara-Santa Maria-San Luis Obispo, CA
- Eureka, CA
- Medford et al, OR
- Chico Redding, CA
- Bakersfield, CA
- Palm Springs, CA
- San Diego, CA
- Yuma El Centro, AZ CA

State access to broadband Internet:

pre-merger

93%

post-merger

100%

Colorado

Total TV Households: 1,645,010

Cable Subscribers: 1,027,300 (62.45%)

Satellite Subscribers: 400,418 (24.34%)

Current local broadcast markets served:

· Denver, CO

Markets that consumers will see added if the merger is approved:

· Colorado Springs Pueblo, CO

· Albuquerque Santa Fe, NM

· Grand Junction et al, CO

State access to broadband Internet:

pre-merger

85%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Connecticut

Total TV Households: 1,236,050

Cable Subscribers: 1,090,940 (88.26%)

Satellite Subscribers: 103,211 (8.35%)

Current local broadcast markets served:

· New York, NY

Markets that consumers will see added if the merger is approved:

· Hartford & New Haven, CT

State access to broadband Internet:

pre-merger

97%

post-merger

100%

Delaware

Total TV Households: 290,470

Cable Subscribers: 237,120 (81.63%)

Satellite Subscribers: 45,121 (15.53%)

Current local broadcast markets served:

· Philadelphia

Markets that consumers will see added if the merger is approved:

· Salisbury, MD

State access to broadband Internet:

pre-merger

100%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Florida

Total TV Households: 6,170,820

Cable Subscribers: 4,653,790 (75.42%)

Satellite Subscribers: 1,236,359 (20.04%)

Current local broadcast markets served:

- Miami-Ft. Lauderdale, FL
- Orlando-Daytona Beach-Melbourne, FL
- West Palm Beach-Ft. Pierce, FL [DIRECTV Only]

Markets that consumers will see added if the merger is approved:

- Jacksonville, FL
- Mobile, AL-Pensacola (Ft. Walton Beach), FL
- Ft. Myers-Naples, FL
- Tallahassee, FL-Thomasville, GA
- Dothan, AL
- Panama City, FL
- Gainesville, FL
- Tampa St. Pete et al, FL

State access to broadband Internet:

pre-merger

98%

post-merger

100%

Georgia

Total TV Households: 2,936,690

Cable Subscribers: 2,051,910 (69.87%)

Satellite Subscribers: 776,237 (26.43%)

Current local broadcast markets served:

- Atlanta, GA
- Greenville-Spartanburg, SC-Asheville, NC-Anderson, SC

Markets that consumers will see added if the merger is approved:

- Jacksonville, FL
- Chattanooga, TN
- Savannah, GA
- Tallahassee, FL Thomasville, GA
- Augusta, GA
- Macon, GA
- Albany, GA
- Columbus, GA
- Dothan, AL

State access to broadband Internet:

pre-merger

84%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Hawaii

Total TV Households: 382,720

Cable Subscribers: 337,740 (88.25%)

Satellite Subscribers: 9,058 (2.37%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Honolulu

State access to broadband Internet:

pre-merger

80%

post-merger

100%

Idaho

Total TV Households: 457,790

Cable Subscribers: 237,970 (51.98%)

Satellite Subscribers: 139,104 (30.39%)

Current local broadcast markets served:

- Salt Lake City, UT

Markets that consumers will see added if the merger is approved:

- Spokane, WA

- Boise, ID

- Twin Falls, ID

- Idaho Falls et al, ID

State access to broadband Internet:

pre-merger

66%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Illinois

Total TV Households: 4,442,640

Cable Subscribers: 2,888,140 (65.01%)

Satellite Subscribers: 776,408 (17.48%)

Current local broadcast markets served:

· Chicago, IL

· St. Louis, MO

Markets that consumers will see added if the merger is approved:

· Paducah, KY; Cape Girardeau, MO-Harrisburg-Mt Vernon, IL

· Champaign and Springfield-Decatur, IL

· Davenport, IA-Rock Island-Moline, IL

· Evansville, IN

· Peoria-Bloomington, IL

· Rockford, IL

· Terre Haute, IN

· Quincy et al, IL MO IA

State access to broadband Internet:

pre-merger

82%

post-merger

100%

Indiana

Total TV Households: 2,266,720

Cable Subscribers: 1,420,530 (62.67%)

Satellite Subscribers: 591,024 (26.07%)

Current local broadcast markets served:

- Chicago, IL
- Indianapolis, IN
- Cincinnati, OH

Markets that consumers will see added if the merger is approved:

- Louisville, KY
- Dayton, OH
- South Bend-Elkhart, IN
- Evansville, IN
- Ft. Wayne, IN
- Terre Haute, IN
- Lafayette, IN

State access to broadband Internet:

pre-merger

81%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Iowa

Total TV Households: 1,115,900

Cable Subscribers: 714,170 (64.00%)

Satellite Subscribers: 259,739 (23.28%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Des Moines-Ames, IA
- Omaha, NE
- Cedar Rapids-Waterloo-Iowa City Dubuque, IA
- Davenport, IA-Rock Island-Moline, IL
- Sioux Falls (Mitchell), SD
- Mankato, MN
- Rochester et al, MN IA
- Quincy et al, IL MO IA
- Ottumwa et al, IA MO
- Sioux City, IA

State access to broadband Internet:

pre-merger

51%

post-merger

100%

Kansas

Total TV Households: 1,017,970

Cable Subscribers: 703,540 (69.11%)

Satellite Subscribers: 212,615 (20.89%)

Current local broadcast markets served:

- Kansas City, MO

Markets that consumers will see added if the merger is approved:

- Tulsa, OK
- Wichita-Hutchinson, KS Plus
- Lincoln & Hastings-Kearney, NE
- Topeka, KS
- St. Joseph, MO
- Joplin Pittsburg, MO KS
- Amarillo, TX

State access to broadband Internet:

pre-merger

65%

post-merger

100%

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Kentucky

Total TV Households: 1,516,310

Cable Subscribers: 1,003,000 (66.15%)

Satellite Subscribers: 412,482 (27.20%)

Current local broadcast markets served:

· Nashville, TN

· Cincinnati, OH

Markets that consumers will see added if the merger is approved:

· Bowling Green, KY

· Louisville, KY

· Charleston-Huntington, WV

· Knoxville, TN

· Lexington, KY

· Paducah, KY-Cape Girardeau, MO

· Harrisburg-Mt. Vernon, IL

· Tri-Cities, TN-VA

· Evansville, IN

State access to broadband Internet:

pre-merger

60%

post-merger

100%

Louisiana

Total TV Households: 1,587,770

Cable Subscribers: 1,157,490 (72.90%)

Satellite Subscribers: 303,229 (19.10%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- New Orleans, LA
- Shreveport, LA
- Baton Rouge, LA
- Lafayette, LA
- Monroe- El Dorado, LA AR
- Greenwood Greenville, MS
- Alexandria, LA
- Lake Charles, LA

State access to broadband Internet:

pre-merger

79%

post-merger

100%

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Maine

Total TV Households: 489,530

Cable Subscribers: 342,690 (70.00%)

Satellite Subscribers: 116,415 (23.78%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Portland-Auburn, ME
- Presque Isle, ME
- Bangor, ME

State access to broadband Internet:

pre-merger

65%

post-merger

100%

Maryland

Total TV Households: 1,921,640

Cable Subscribers: 1,339,970 (69.73%)

Satellite Subscribers: 308,925 (16.08%)

Current local broadcast markets served:

- Washington, DC (Hagerstown, MD)
- Pittsburgh, PA
- Baltimore, MD (DIRECTV Only)

Markets that consumers will see added if the merger is approved:

- Salisbury, MD

State access to broadband Internet:

pre-merger

88%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

Massachusetts

Total TV Households: 2,336,260

Cable Subscribers: 1,897,320 (81.21%)

Satellite Subscribers: 200,308 (8.57%)

Current local broadcast markets served:

- Boston, MA (Manchester, NH)

Markets that consumers will see added if the merger is approved:

- Providence, RI-New Bedford, MA
- Albany-Schenectady-Troy, NY
- Springfield-Holyoke, MA

State access to broadband Internet:

pre-merger

99%

post-merger

100%

Michigan

Total TV Households: 3,699,480

Cable Subscribers: 2,440,320 (65.96%)

Satellite Subscribers: 718,480 (19.42%)

Current local broadcast markets served:

- Detroit, MI

Markets that consumers will see added if the merger is approved:

- Grand Rapids-Kalamazoo-Battle Creek, MI
- Flint-Saginaw-Bay City, MI
- Toledo, OH
- Green Bay-Appleton, WI

- South Bend-Elkhart, IN
- Lansing, MI
- Traverse City-Cadillac, MI
- Duluth Superior, MN WI
- Marquette, MI
- Alpena, MI

State access to broadband Internet:

pre-merger

90%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Minnesota

Total TV Households: 1,825,000

Cable Subscribers: 1,039,330 (56.95%)

Satellite Subscribers: 399,138 (21.87%)

Current local broadcast markets served:

- Minneapolis-St. Paul, MN

Markets that consumers will see added if the merger is approved:

- Sioux Falls (Mitchell), SD
- Fargo-Valley City, ND
- Mankato, MN
- Rochester et al, MN IA
- La Crosse Eau Claire, WI
- Duluth Superior, MN WI

State access to broadband Internet:

pre-merger

65%

post-merger

100%

Mississippi

Total TV Households: 1,004,040

Cable Subscribers: 609,040 (60.66%)

Satellite Subscribers: 330,764 (32.94%)

Current local broadcast markets served:

- Memphis, TN

Markets that consumers will see added if the merger is approved:

- New Orleans, LA

- Mobile, AL-Pensacola (Ft. Walton Beach), FL
- Jackson, MS
- Baton Rouge, LA
- Greenwood Greenville, MS
- Columbus et al, MS
- Meridian, MS
- Hattiesburg Laurel, MS
- Baton Rouge, LA
- Biloxi Gulfport, MS

State access to broadband Internet:

pre-merger

72%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Missouri

Total TV Households: 2,113,950

Cable Subscribers: 1,178,570 (55.75%)

Satellite Subscribers: 590,340 (27.93%)

Current local broadcast markets served:

- St. Louis, MO
- Kansas City, MO
- Memphis, TN

Markets that consumers will see added if the merger is approved:

- Des Moines-Ames, IA
- Springfield, MO
- Omaha, NE
- Paducah, KY; Cape Girardeau, MO;
- Harrisburg-Mt. Vernon, IL
- St. Joseph, MO
- Ottumwa et al, IA MO
- Quincy et al, IL MO IA
- Columbia et al, MO
- Joplin Pittsburg, MO KS
- Jonesboro, AR

State access to broadband Internet:

pre-merger

65%

post-merger

100%

Montana

Total TV Households: 336,530

Cable Subscribers: 176,820 (52.54%)

Satellite Subscribers: 131,251 (39.00%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Spokane, WA
- Missoula, MT
- Helena, MT
- Great Falls, MT
- Butte Bozeman, MT
- Billings, MT
- Glendive, MT
- Minot et al, ND
- Rapids City, SD

State access to broadband Internet:

pre-merger

52%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Nebraska

Total TV Households: 640,330

Cable Subscribers: 450,840 (70.41%)

Satellite Subscribers: 140,722 (21.98%)

Current local broadcast markets served:

- Denver, CO

Markets that consumers will see added if the merger is approved:

- Omaha, NE
- Lincoln & Hastings-Kearney, NE
- Sioux Falls (Mitchell), SD
- Cheyenne, WY; Scottsbluff, NE
- North Platte, NE
- Wichita et al, KS
- Sioux City, IA
- Rapids City, SD

State access to broadband Internet:

pre-merger

56%

post-merger

100%

Nevada

Total TV Households: 788,220

Cable Subscribers: 548,080 (69.53%)

Satellite Subscribers: 138,936 (17.63%)

Current local broadcast markets served:

· Salt Lake City, UT

Markets that consumers will see added if the merger is approved:

· Las Vegas, NV

· Reno, NV

State access to broadband Internet:

pre-merger

78%

post-merger

100%

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EchoStar-DIRECTV Merger Benefits

New Hampshire

Total TV Households: 459,220

Cable Subscribers: 373,870 (81.41%)

Satellite Subscribers: 78,030 (16.99%)

Current local broadcast markets served:

- Boston, MA (Manchester, NH)

Markets that consumers will see added if the merger is approved:

- Portland-Auburn, ME
- Burlington, VT; Plattsburgh, NY

State access to broadband Internet:

pre-merger

92%

post-merger

100%

New Jersey

Total TV Households: 2,951,700

Cable Subscribers: 2,429,840 (82.32%)

Satellite Subscribers: 354,224 (12.00%)

Current local broadcast markets served:

- New York, NY
- Philadelphia, PA

Markets that consumers will see added if the merger is approved:

State access to broadband Internet:

pre-merger

99%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

New Mexico

Total TV Households: 620,020

Cable Subscribers: 357,740 (57.70%)

Satellite Subscribers: 159,204 (25.68%)

Current local broadcast markets served:

- Albuquerque-Santa Fe, NM (EchoStar Only)

Markets that consumers will see added if the merger is approved:

- Tucson (Sierra Vista), AZ
- Amarillo, TX
- Odessa Midland, TX

State access to broadband Internet:

pre-merger

66%

post-merger

100%

New York

Total TV Households: 6,613,410

Cable Subscribers: 4,757,290 (71.93%)

Satellite Subscribers: 918,661 (13.89%)

Current local broadcast markets served:

- New York, NY

Markets that consumers will see added if the merger is approved:

- Buffalo, NY
- Albany-Schenectady-Troy, NY
- Rochester, NY
- Syracuse, NY

· Burlington, VT; Plattsburgh, NY

· Watertown, NY

· Utica, NY

· Binghamton, NY

· Elmira, NY

State access to broadband Internet:

pre-merger

92%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

North Carolina

Total TV Households: 2,988,960

Cable Subscribers: 1,933,500 (64.69%)

Satellite Subscribers: 859,705 (28.76%)

Current local broadcast markets served:

- Atlanta, GA
- Charlotte, NC
- Raleigh-Durham (Fayetteville), NC
- Greenville-Spartanburg, SC-Asheville, NC; Anderson, SC
- Greensboro-High Point-Winston Salem, NC (DIRECTV Only)

Markets that consumers will see added if the merger is approved:

- Norfolk-Portsmouth-Newport News, VA
- Chattanooga, TN · Greenville-New Bern-Washington, NC
- Florence-Myrtle Beach, SC
- Tri-Cities, TN VA
- Wilmington, NC

State access to broadband Internet:

pre-merger

89%

post-merger

100%

North Dakota

Total TV Households: 246,460

Cable Subscribers: 159,420 (64.68%)

Satellite Subscribers: 68,310 (27.72%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Minot et al, ND
- Fargo Valley City, ND

State access to broadband Internet:

pre-merger

28%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Ohio

Total TV Households: 4,302,770

Cable Subscribers: 3,012,610 (70.02%)

Satellite Subscribers: 754,176 (17.53%)

Current local broadcast markets served:

- Cleveland-Akron (Canton), OH
- Cincinnati, OH
- Columbus, OH (DIRECTV Only)

Markets that consumers will see added if the merger is approved:

- Dayton, OH
- Charleston-Huntington, WV
- Toledo, OH
- Youngstown, OH
- Ft. Wayne, IN
- Lima, OH
- Zanesville, OH
- Wheeling et al, WV OH
- Parkersburg, WV

State access to broadband Internet:

pre-merger

92%

post-merger

100%

Oklahoma

Total TV Households: 1,288,600

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Cable Subscribers: 792,240 (61.48%)

Satellite Subscribers: 311,736 (24.19%)

Current local broadcast markets served:

· None

Markets that consumers will see added if the merger is approved:

· Oklahoma City, OK

· Tulsa, OK

· Shreveport, LA

· Ft. Smith-Fayetteville-Springdale-Rogers, AR

· Amarillo, TX

· Joplin Pittsburg, MO KS

· Sherman Ada, TX OK

· Wichita Falls et al, TX OK

State access to broadband Internet:

pre-merger

71%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Oregon

Total TV Households: 1,276,210

Cable Subscribers: 804,880 (63.07%)

Satellite Subscribers: 276,443 (21.66%)

Current local broadcast markets served:

- Portland, OR

Markets that consumers will see added if the merger is approved:

- Spokane, WA
- Boise, ID
- Eugene, OR
- Yakima-Pasco-Richland-Kennewick, WA
- Bend, OR
- Medford et al, OR

State access to broadband Internet:

pre-merger

91%

post-merger

100%

Pennsylvania

Total TV Households: 4,559,840

Cable Subscribers: 3,548,830 (77.83%)

Satellite Subscribers: 577,754 (12.67%)

Current local broadcast markets served:

- New York, NY
- Philadelphia, PA

· Washington, DC (Hagerstown, MD)

· Pittsburgh, PA

Markets that consumers will see added if the merger is approved:

· Harrisburg-Lancaster-Lebanon-York, PA

· Buffalo, NY

· Wilkes Barre-Scranton, PA

· Johnstown-Altoona, PA

· Youngstown, OH

· Erie, PA

· Elmira, NY

State access to broadband Internet:

pre-merger

78%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Rhode Island

Total TV Households: 375,750

Cable Subscribers: 286,460 (76.24%)

Satellite Subscribers: 38,456 (10.23%)

Current local broadcast markets served:

· None

Markets that consumers will see added if the merger is approved:

· Providence, RI-New Bedford, MA

State access to broadband Internet:

pre-merger

94%

post-merger

100%

South Carolina

Total TV Households: 1,460,980

Cable Subscribers: 922,560 (63.15%)

Satellite Subscribers: 384,661 (26.33%)

Current local broadcast markets served:

· Charlotte, NC

· Greenville-Spartanburg, SC-Asheville, NC-Anderson, SC

Markets that consumers will see added if the merger is approved:

· Columbia, SC

· Savannah, GA · Charleston, SC

· Florence-Myrtle Beach, SC

· Augusta, GA

· Columbia, SC

· Florence et al, SC

· Charleston, SC

· Savannah, GA

State access to broadband Internet:

pre-merger

84%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

South Dakota

Total TV Households: 275,600

Cable Subscribers: 178,910 (64.92%)

Satellite Subscribers: 67,953 (24.66%)

Current local broadcast markets served:

- None

Markets that consumers will see added if the merger is approved:

- Sioux Falls (Mitchell), SD
- Minot et al, ND
- Rapid City, SD
- Sioux City, IA

State access to broadband Internet:

pre-merger

37%

post-merger

100%

Tennessee

Total TV Households: 2,139,070

Cable Subscribers: 1,421,000 (66.43%)

Satellite Subscribers: 540,846 (25.28%)

Current local broadcast markets served:

- Nashville, TN
- Memphis, TN (DIRECTV Only)

Markets that consumers will see added if the merger is approved:

- Jackson, TN
- Knoxville, TN

- Paducah, KY; Cape Girardeau, MO; Harrisburg-Mt. Vernon, IL
- Huntsville-Decatur (Florence), AL
- Chattanooga, TN
- Tri-Cities, TN-VA

State access to broadband Internet:

pre-merger

82%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Texas

Total TV Households: 7,265,760

Cable Subscribers: 4,214,630 (58.01%)

Satellite Subscribers: 1,939,923 (26.70%)

Current local broadcast markets served:

- Dallas-Ft. Worth, TX
- Houston, TX
- San Antonio, TX
- Austin, TX

Markets that consumers will see added if the merger is approved:

- Shreveport, LA
- Waco-Temple-Bryan, TX
- Harlingen-Weslaco-Brownsville-McAllen, TX
- El Paso, TX
- Tyler-Longview (Lufkin & Nacogdoches), TX
- Amarillo, TX
- Lubbock, TX
- Odessa Midland, TX
- San Angelo, TX
- Abilene Sweetwater, TX
- Wichita Falls et al, TX OK
- Sherman Ada, TX OK
- Beaumont Port Arthur, TX
- Corpus Christi, TX
- Laredo, TX

State access to broadband Internet:

pre-merger

83%

post-merger

100%

Utah

Total TV Households: 682,150

Cable Subscribers: 353,460 (51.82%)

Satellite Subscribers: 198,676 (29.12%)

Current local broadcast markets served:

- Salt Lake City, UT

Markets that consumers will see added if the merger is approved:

State access to broadband Internet:

pre-merger

75%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Vermont

Total TV Households: 227,350

Cable Subscribers: 132,070 (58.09%)

Satellite Subscribers: 94,059 (41.37%)

Current local broadcast markets served:

- Boston, MA (Manchester, NH)

Markets that consumers will see added if the merger is approved:

- Albany-Schenectady-Troy, NY
- Portland-Auburn, ME
- Burlington, VT; Plattsburgh, NY

State access to broadband Internet:

pre-merger

75%

post-merger

100%

Virginia

Total TV Households: 2,607,330

Cable Subscribers: 1,850,020 (70.95%)

Satellite Subscribers: 655,491 (25.14%)

Current local broadcast markets served:

- Washington, DC (Hagerstown, MD)
- Raleigh-Durham (Fayetteville), NC
- Greensboro-High Point-Winston Salem, NC

Markets that consumers will see added if the merger is approved:

- Norfolk-Portsmouth-Newport News, VA

- Richmond-Petersburg, VA
- Roanoke-Lynchburg, VA
- Tri-Cities, TN-VA
- Beckley et al, WV
- Harrisonburg, VA
- Charlottesville, VA

State access to broadband Internet:

pre-merger

72%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Washington

Total TV Households: 2,212,180

Cable Subscribers: 1,527,680 (69.06%)

Satellite Subscribers: 418,472 (18.92%)

Current local broadcast markets served:

· Seattle-Tacoma, WA

· Portland, OR

Markets that consumers will see added if the merger is approved:

· Spokane, WA

· Yakima-Pasco-Richland-Kennewick, WA

State access to broadband Internet:

pre-merger

89%

post-merger

100%

Washington, DC

Total TV Households: 216,780

Cable Subscribers: 123,380 (56.91%)

Satellite Subscribers: 20,967 (9.67%)

Current local broadcast markets served:

· Washington, DC

Markets that consumers will likely see added if the merger is approved:

State access to broadband Internet:

pre-merger

93%

post-merger

100%

West Virginia

Total TV Households: 706,080

Cable Subscribers: 513,930 (72.79%)

Satellite Subscribers: 186,305 (26.39%)

Current local broadcast markets served:

· Washington, DC (Hagerstown, MD)

· Pittsburgh, PA

Markets that consumers will see added if the merger is approved:

· Charleston-Huntington, WV

· Roanoke-Lynchburg, VA

· Huntsville Decatur (Florence), AL

· Wheeling et al, WV OH

· Parkersburg, WV

· Clarksburg Weston, WV

· Harrisonburg, VA

· Beckley et al, WV

State access to broadband Internet:

pre-merger

42%

post-merger

100%

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local.BENEFITS

EchoStar-DIRECTV Merger Benefits

Wisconsin

Total TV Households: 2,013,950

Cable Subscribers: 1,202,450 (59.71%)

Satellite Subscribers: 456,600 (22.67%)

Current local broadcast markets served:

- Minneapolis-St. Paul, MN
- Milwaukee, WI (DIRECTV Only)

Markets that consumers will see added if the merger is approved:

- Green Bay-Appleton, WI
- Madison, WI
- Cedar Rapids-Waterloo-Iowa City & Dubuque, IA
- Duluth Superior, MN WI
- Wausau Rhinelander, WI
- Marquette, MI
- La Crosse Eau Claire, WI

State access to broadband Internet:

pre-merger

84%

post-merger

100%

Wyoming

Total TV Households: 180,170

Cable Subscribers: 119,390 (66.27%)

Satellite Subscribers: 63,124 (35.04%)

Current local broadcast markets served:

- Denver, CO
- Salt Lake City, UT

Markets that consumers will see added if the merger is approved:

- Cheyenne, WY; Scottsbluff, NE
- Billings, MT
- Rapids City, SD
- Casper Riverton, WY
- Idaho Falls et al, ID

State access to broadband Internet:

pre-merger

53%

post-merger

100%

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take.ACTION

EchoStar-DIRECTV Merger Benefits

Take Action!

You can take action by writing a letter to the FCC and your elected officials. Just click on the link below to let your voice be heard.

Write a letter to the FCC and your Elected Officials

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write.YOUR_OFFICIAL

EchoStar-DIRECTV Merger Benefits

Write to the FCC and Your Elected Officials

Select a sample letter from below or write your own. Please read it over, make any changes you want, fill in your personal info at the bottom, and click submit.

| Dear Member of Congress: | | |
|---------------------------------|--|---|
| Write your own letter here. | Subscriber Letter of Support | Retailer Letter of Support |
| Write your own letter here. | <p>I am writing to you today as a current satellite TV subscriber who would like to add my voice of support to the pending merger of EchoStar and DIRECTV. The combination of these two satellite providers will provide numerous benefits to consumers like me, including more choices in channels, programming, broadband and new television technologies.</p> <p>By merging, the combined company will be a much stronger competitor to cable television and can offer more programming choices and, most importantly, all local TV channels in every market in the U.S. By providing local TV channels everywhere, this merger will make satellite television a strong alternative to cable in our community. Throughout the country, people will now be able to turn to satellite TV to access their local news, weather and community information, in addition to a comprehensive package of national video programming. But just as exciting, the merger will bring the availability of affordable high-speed Internet service by satellite to over 40 million Americans who don't have high-speed Internet access. This is a tremendous benefit to consumers that won't happen without the merger. Satellite-delivered Internet service will bring an affordable and competitive alternative to cable modems and DSL to consumers in big cities, small towns and rural areas alike. This will give me a competitive choice for Internet access and will be especially advantageous to rural communities where cable modems and DSL are not likely to be available anytime in the near future.</p> <p>In the interest of improving our access to competitive television and Internet service, I urge you to lend your support to this merger.</p> | <p>As a small business operator, I urge you to support the pending EchoStar and DirecTV merger. This is an exciting combination because of the clear benefits it will provide for consumers and retail merchants and contractors.</p> <p>Retail merchants will benefit from EchoStar's upgrade plans because it will simplify their inventory and repair process by standardizing the satellite TV equipment platform. The greatest gains for retail merchants will come from EchoStar's plans to carry local broadcast channels in all 210 US television markets once the merger is completed. This means that satellite TV will be a more effective competitor to cable since consumers will now be able to get their local stations by satellite as they can currently from cable. This will put local retailers selling DBS satellite dishes on a more level playing field as they sell services that directly compete with local cable TV companies. This service improvement will mean more business for retailers and a more competitive video service for consumers from satellite television.</p> <p>This merger is an economic gain for the small business community and it needs your support.</p> |

Sincerely:

* First Name:

* Last Name:

Company/Organization:

* Address:

* City: * State: * Zip:

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Fax:

* E-Mail:

* Required Field

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Latest News:

02/26/2002 - Merged EchoStar and Hughes Will Deliver Local Broadcast Channels To All 210 U.S. Television Markets

Combined Company Will Also Bridge Digital Divide With Affordable Broadband Satellite Internet Service in Every Market

02/04/2002 - EchoStar and Hughes Comment on FCC Filings

The pending merger of EchoStar Communications Corporation (NASDAQ: DISH) and Hughes Electronics Corporation will benefit consumers through more competition to cable TV...

01/09/2002 - EchoStar, DIRECTV Welcome Farm Bureau Support

The chief executives of EchoStar Communications Corporation and DIRECTV, Inc., today thanked the American Farm Bureau Federation for supporting the pending merger of the two companies...

Press Releases:

10/28/2001 - GM's Hughes Electronics to Merge with EchoStar Communications

Local Channels and Competitive Broadband for All Americans - Report (pdf)

Spot Beam Satellite Map (pdf)

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Latest News

02/26/2002 - Merged EchoStar and Hughes Will Deliver Local Broadcast Channels To All 210 U.S. Television Markets
Combined Company Will Also Bridge Digital Divide With Affordable Broadband Satellite Internet Service in Every Market

FOR IMMEDIATE RELEASE

Combined Company Will Also Bridge Digital Divide With Affordable Broadband Satellite Internet Service in Every Market

El Segundo, CA and Littleton, CO, February 26, 2002 - EchoStar Communications Corporation (Nasdaq: DISH) and Hughes Electronics Corporation (NYSE: GMH) announced today a new proposal that will enable the combined company to deliver local broadcast TV channels in all 210 Designated Market Areas (DMAs) in the United States.

In their joint satellite application filed with the Federal Communications Commission (FCC) late Monday, the companies detailed a technically and commercially feasible Local Channels, All Americans plan developed by DISH Network and DIRECTV engineers that will allow the merged company to offer every consumer in the continental United States, Alaska, and Hawaii access to satellite-delivered local television signals.

The filing also seeks authority to launch and operate a new spot-beam satellite that when combined with four existing and under-construction EchoStar and DIRECTV spot-beam satellites and spectrum efficiencies achieved by combining frequencies from three of the companies orbital locations, will enable the merged company to broadcast local TV channels in all 210 DMAs, including full compliance with federal must carry requirements. Today, DIRECTV and EchoStar deliver local broadcast channels via satellite to consumers in a total of only 42 metropolitan markets. The merger eliminates carriage of duplicative content - a total of more than 500 identical channels - from the DIRECTV and DISH Network satellites which, when coupled with advanced spot-beam satellites and efficiencies created by the merger, would enable local channel delivery in all U.S. DMAs.

EchoStar and HUGHES filed the satellite application today contemporaneously with their filing of a formal response to comments on the merger previously filed with the FCC on Feb. 4.

While there are numerous consumer and competitive benefits from this pending merger, the ability to offer local channels to every consumer in every television market in the country - including rural and underserved areas - certainly is one of the most compelling aspects of this deal, said Charles Ergen, chairman and CEO of EchoStar. Today, approximately 42 million TV households do not have the option to receive local channels via satellite, and as such, have no choice but to subscribe to cable. Without this merger, many of those will never see local channels on satellite and have no choice of local television providers.

Ergen continued, We have heard the concerns of local, state and federal representatives and officials and we appreciate their feedback and input. Only if this merger is approved by the federal government will millions of consumers in small and rural markets in every state finally have a true, competitive alternative to incumbent cable operators. Clearly, this merger is a win for consumers across all of America.

New set-top boxes and satellite dishes, which will be capable of receiving satellite signals from multiple orbital slots, will be made available free of charge to all existing DIRECTV and EchoStar customers who will require new equipment in order to receive their local channels from the combined company.

Consumers across the country will receive programming from the merged direct broadcast satellite service via one small satellite dish and will pay the same nationwide price for services. We are one nation, and there will be one dish and one rate card, regardless of a subscriber's location, said Ergen.

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This merger will bring to fruition so many tremendous benefits to consumers that it will set a new standard for the delivery of multichannel video and broadband services, said Jack Shaw, CEO of HUGHES. In addition to delivering local channels in all 210 television markets, the combined company will bridge the digital divide by offering affordable high-speed satellite Internet access to consumers in every market, including the most rural areas of the country. We will create a more robust and efficient satellite platform with a larger subscriber base that will enable the merged company to transition existing niche satellite Internet services to a more affordable and accessible next-generation service.

The combined EchoStar-HUGHES will also offer more high definition channels, new interactive services, expanded national programming networks and additional educational, specialty and foreign-language programming.

The ability of the combined company to serve all 210 DMAs with local channels is contingent upon the proposed HUGHES-EchoStar merger receiving the necessary government approvals from the FCC and U.S. Department of Justice, and the successful launch of three new spot-beam satellites. Implementation of the Local Channels, All Americans plan will begin immediately upon regulatory approval of the merger, and the rollout can be completed as soon as 24 months thereafter. The proposed transaction is also subject to review by the Internal Revenue Service, and requires approval by a majority of GM \$1-2/3, GM Class H and EchoStar shareholders.

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FOR IMMEDIATE RELEASE

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LITTLETON, Colo. - February 4, 2002 - The pending merger of EchoStar Communications Corporation (NASDAQ: DISH) and Hughes Electronics Corporation will benefit consumers through more competition to cable TV, local channels via satellite in more than twice the communities and rapid deployment of high-speed Internet access nationwide, particularly in rural areas, stated EchoStar and Hughes today as the Federal Communications Commission's initial public comment deadline occurred. EchoStar and Hughes will file a formal response to the FCC on Feb. 25, the FCC's deadline for responses to comments and oppositions to petitions to deny.

EchoStar and Hughes are pleased that they have received additional support through the FCC process for the pending merger, including the following:

Independent consumer groups: U.S. Internet Industry Association, Americans for Tax Reform, Small Business Survival Committee, the State of Missouri Chamber of Commerce, Citizens for a Sound Economy, the National Alliance of Medical Researchers & Teaching Physicians, Project 21 (African American business association), the Columbus Education Association in Ohio, and many more.

Rural organizations: Montana World Trade Center, Louisiana Farm Bureau Federation, Frontiers of Freedom, NetExpress of North Dakota, which stated support for expanded rural services such as local TV channels and broadband access.

Government officials: Louisiana Governor Mike Foster, Jr., Wisconsin State Senator Kevin Shibilski, Missouri State Representative Martin Hohulin, Wisconsin State Representative Kitty Rhoades, and Louisiana Senator Noble Ellington.

Major consumer electronics firms: Thomson MultiMedia and Sharp Electronics Corporation, among others, which believe the pending merger will help further the transition of high definition television and strengthen multichannel options for consumers.

After the FCC reviews all the comments they have received and thoroughly examines all the facts involving spectrum efficiencies, rural access to broadband, local channels delivered via satellite and other benefits to the American public, we are confident that the FCC will find that the pending merger is in the public interest, said Charlie Ergen, chairman and CEO of EchoStar. Through the merger of EchoStar and Hughes, we can offer affordable, high-speed Internet access to virtually every community in the United States; more than double the markets in which we offer local channels, including at least one market in every state; and enhance programming and interactive content to the pay-television consumer, said Ergen. The combined company will offer nationwide pricing and will be a competitive force against cable.

EchoStar and Hughes Electronics Corporation, a wholly owned subsidiary of General Motors Corporation (NYSE: GM, GMH) and the parent company of DIRECTV, reached an agreement in October 2001, that provided for the spin-off of Hughes from GM and the merger of Hughes with EchoStar.

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We welcome an open debate on the merits of our merger, said Jack A. Shaw, president and CEO of Hughes. Consumers have the most to benefit from this pending merger because of the vigorous competition it creates to cable companies. Approximately 78 percent of the U.S. pay TV market is controlled by cable companies, which operate as virtual monopolies in most of the communities they serve.

In addition to FCC approval, the merger requires approval by the Department of Justice, which is reviewing antitrust issues under the Hart-Scott-Rodino Act. Also, the transaction is subject to review by the Internal Revenue Service, and requires approval by a majority of GM \$1-2/3, GM Class H, and EchoStar shareholders.

Public comments to the FCC can be found at www.fcc.gov/csb/echodiv.

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01/09/2002 - EchoStar, DIRECTV Welcome Farm Bureau Support

The chief executives of EchoStar Communications Corporation and DIRECTV, Inc., today thanked the American Farm Bureau Federation for supporting the pending merger of the two companies...

FOR IMMEDIATE RELEASE

Media Contact:
George Jamison
(310) 662-9986
HUGHES Electronics

Judianne Atencio
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EchoStar Communications

LAS VEGAS, NV. - January 9, 2002 - The chief executives of EchoStar Communications Corporation and DIRECTV, Inc., today thanked the American Farm Bureau Federation for supporting the pending merger of the two companies while speaking on a panel at the 2002 Consumer Electronics Show in Las Vegas.

As the nation's largest and most influential farm organization, the Farm Bureau's support is very significant, said Charlie Ergen, chairman and CEO of EchoStar. They clearly recognize the importance of this merger in bringing enhanced satellite television service and local channels to 85 percent of U.S. households to their more than 5 million members and their families. They also recognize that the merger will help close the digital divide between urban and rural America.

The Farm Bureau clearly understands this proposed merger is key to making broadband a reality for millions of rural residents, said Eddy Hartenstein, chairman and CEO of DIRECTV. We share their excitement that the merger will allow us to rapidly develop an affordable satellite-based, two-way, always-on, high speed Internet connection that will serve both rural and urban areas.

The American Farm Bureau believes that the proposed merger is good for rural America, stated Bob Stallman, president of American Farm Bureau Federation, in the letter. It will help revitalize rural communities and small businesses and improve the quality of life for American farm and ranch families. Both EchoStar and DIRECTV started their businesses serving areas of the country not served by cable television. Today, both companies continue to offer uniform, nationwide pricing for television programming and have told Congress that they are willing to commit to continue this practice. This means rural customers benefit from competitive pricing occurring in urban settings.

Text of Dec. 27, 2001, letter from Bob Stallman, president of the American Farm Bureau Federation, to the members of Congress:

The American Farm Bureau Federation believes that the proposed merger between DIRECTV and EchoStar Communications will provide great benefits to rural America, making broadband services available to millions of rural residents and expanding local broadcast coverage.

The proposed merger will help make the first broadband satellite telecommunications system a reality for many rural areas starved for high speed Internet access. As noted in the joint study by the National Telecommunications and Information Administration (NTIA) and the Rural Utility Service (RUS), Advanced Telecommunications in Rural America, April, 2000, less than five percent of small towns and rural communities have access to the two dominate broadband technologies offered by local exchange carriers and cable companies, while each of those technologies are available to more than half of all cities with more than 100,000 in population.

That same report specifically points to the potential of satellite technology as an essential element of bringing broadband to many rural and high-cost areas. Satellites may therefore be an attractive alternative for remote locations that cannot be economically connected via other last-mile technologies. These systems are not constrained by distance and offer the opportunity to leap directly to broadband service without

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upgrading existing terrestrial communications infrastructure. If the merger is approved, the combined entity will have the ability to deliver high speed Internet access via satellite to virtually any rural resident.

Farmers, ranchers, small businesses and rural residents, in general, live in circumstances where weather and news are an essential part of their everyday lives. Rural residents rely upon local broadcasters to keep them informed, especially regarding the weather. This proposal will significantly advance the goal of delivering local-to-local broadcasting to more rural markets. The spectrum efficiencies achieved by combining the capacity of EchoStar Communications and DIRECTV will enable the combined entity to deliver local broadcast signals to more than 100 markets - a significant expansion of today's circumstances where only about 40 local markets are able to receive local-to-local broadcast signals via satellite.

For these reasons, the American Farm Bureau Federation believes that the proposed merger is good for rural America. It will help revitalize rural communities and small businesses and improve the quality of life of American farm and ranch families.

We urge you to support the EchoStar-DIRECTV merger.

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NEWS

EchoStar-DIRECTV Merger Benefits

10/28/2001 - GM's Hughes Electronics to Merge with EchoStar Communications

FOR IMMEDIATE RELEASE

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Stockholders and Consumers Benefit As Combined Hughes-EchoStar Provides Meaningful Competitor To Cable TV Companies

NEW YORK -- General Motors Corp. and its subsidiary Hughes Electronics (NYSE: GM, GMH) together with EchoStar Communications Corporation (NASDAQ: DISH), today announced the signing of definitive agreements that provide for the spin-off of Hughes from GM and the merger of Hughes with EchoStar.

The combined company would use the EchoStar name and adopt the DIRECTV brand for its services and related products. The merger would create the nation's second-largest pay television platform with more than 16.7 million subscribers, of which 1.8 million subscribers are National Rural Telecommunications Cooperative (NRTC) and affiliates, and 14.9 million subscribers are owned-and-operated by the combined company. Cable TV companies presently control more than 80 percent of the U.S. pay television market, while a combined EchoStar-Hughes would provide service to about 17 percent of the market.

The spin-off of Hughes from GM would result in current holders of Class H common stock receiving one share of new Hughes Class C common stock in exchange for each share of Class H stock held prior to the spin-off. The merger of Hughes and EchoStar would result in Hughes being the surviving entity and taking the name EchoStar Communications Corp. Holders of Class A EchoStar common stock prior to the merger would receive 1.3699 shares of the new EchoStar in exchange for each share of Class A EchoStar common stock held prior to the merger. Based on the closing price of EchoStar common stock of \$25.26 on Oct. 26, 2001, the transaction would provide a value of approximately \$18.44 per GMH share, representing a 20-percent premium. As of Oct. 26, 2001, the implied market capitalization of Hughes was approximately \$21.3 billion and the market capitalization of EchoStar was approximately \$12.1 billion.

The transaction is expected to require approximately \$5.5 billion of total financing, which EchoStar expects to fund in the capital markets prior to closing. Completion of this financing has been backstopped by a bridge commitment of approximately \$2.75 billion from Deutsche Bank, and a bridge commitment of approximately \$2.75 billion from General Motors, the latter of which the parties plan to replace with a commitment from one or more other leading financial institutions in the near future. The GM bridge commitment is secured by a pledge of \$2.75 billion of EchoStar stock held by a trust controlled by EchoStar Chairman and Chief Executive Officer Charles Ergen.

The transaction is subject to a number of conditions, including approval by a majority of each class of GM shareholders - GM \$1-2/3 and GM Class H - voting both separately as distinct classes, and also together as a single class. Approval of the majority of EchoStar's voting shares has already been given by written consent. The proposed transaction also is subject to regulatory clearance under the Hart-Scott-Rodino Act and approval by the Federal Communications Commission. The transaction is also contingent upon the receipt of a favorable ruling from the Internal Revenue Service that the separation of Hughes from GM will qualify as a tax-free spin-off for U.S. Federal Income Tax purposes. The

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transaction is currently expected to close in the second half of 2002.

This transaction provides significant benefits to Hughes, EchoStar, millions of present and future DIRECTV customers, and shareholders of both GM and EchoStar, said GM President and Chief Executive Officer Rick Wagoner. We've said all along that we wanted to structure an agreement that would provide continued strong growth at Hughes and maximum value for both GM and GM Class H shareholders. This transaction achieves these objectives.

Strong Growth Prospects and Significant Synergies This is an extremely compelling combination for GM, GMH and EchoStar shareholders, Ergen said. The combination of EchoStar and Hughes is expected to generate very substantial synergies utilizing the advantages of direct-broadcast satellite television, cost savings from the elimination of costly duplicate satellite bandwidth and infrastructure, and strong management offering more effective fundamental business practices. The new company would also have enhanced scale to compete more effectively against the dominant U.S. cable and broadband providers - a critical factor given increasing consolidation in the cable industry.

U.S. consumers also would benefit from the combined company's ability to increase significantly the number of markets served with local channels via satellite, provide additional channel offerings, increase high-definition TV (HDTV) offerings and accelerate the introduction of next-generation high-speed Internet services, Ergen continued. Together, EchoStar's DISH Network and Hughes DIRECTV also can provide a range of services that would bridge the digital divide - providing high-speed broadband solutions to consumers and businesses. Importantly, these services would be available in rural areas otherwise far from the information superhighway at rates which the company is prepared to assure regulators would be competitive.

Hughes and its operating companies would be well positioned to thrive as part of this merged company, said Jack A. Shaw, chief executive officer of Hughes. DIRECTV would enjoy significant cost efficiencies and better use of its assets. Hughes Network Systems would play a key strategic part in the growth of satellite-delivered broadband. PanAmSat would have continued growth opportunities. And DIRECTV Latin America would benefit from the synergies of the larger combined company, Shaw said.

The new company, which would retain the EchoStar name but would use the DIRECTV brand for consumer offerings, would be based in Littleton, Colo., and would employ approximately 20,000 people and serve more than approximately 14.9 million direct-broadcast satellite TV customers. EchoStar and Hughes have pledged that the merger would not cause disruption of service or additional expense to existing customers of either DIRECTV or DISH Network service.

The new EchoStar would be led by Ergen as chairman and chief executive officer. The board of directors would consist of nine members, five of whom would be independent directors.

Ergen added, I think it is significant that EchoStar and Hughes have agreed to a fair and balanced process for identifying the most qualified people from both companies in order to select the best person for every job, regardless where they worked prior to the merger. This is a key provision that Hughes management felt strongly about and to which EchoStar readily agreed.

A transition team made up of Shaw and DIRECTV Chairman and CEO Eddy Hartenstein from Hughes, as well as Ergen and EchoStar President Michael Dugan will assure a smoother and orderly process.

Significant Proceeds for GM

As part of the transaction, General Motors would receive up to \$4.2 billion in cash for redemption of part of its economic interest in Hughes. Pro forma for the cash redemption (assuming illustratively a price of \$18.44 based on the implied deal value), GM Class H shareholder would own approximately 53 percent of the combined company, EchoStar's shareholders would own approximately 36 percent, and GM would own approximately 11 percent. In addition, prior to the transaction, GM would seek to exchange up to 100 million shares of GM Class H common stock (or after the transaction 100 million shares of EchoStar common stock) for GM outstanding debt, which would further improve GM's net liquidity position.

This transaction offers substantial financial benefits now and over the long term for GM \$1-2/3 and GM Class H shareholders, Wagoner said. GM Class H shareholders would receive a significant premium on their investment. For GM \$1-2/3 shareholders, GM expects to receive \$4.2 billion in cash, and would retain a significant investment in the merged company.

GM intends to file a registration statement in connection with the transaction and mail a proxy statement/prospectus to both GM and GM Class H stockholders in connection with the transaction. Investors are urged to read the proxy statement/prospectus when it becomes available because it will contain important information about GM, Hughes and the transaction.

EchoStar Communications Corp. and its DISH Network provide state-of-the-art direct-broadcast satellite TV service that is capable of offering over 500 channels of digital video and CD-quality audio programming, as well as advanced satellite TV receiver hardware and installation.

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EchoStar is included in the Nasdaq-100 Index (NDX). DISH Network currently serves over 6.43 million customers. For more information, visit www.dishnetwork.com.

HUGHES is the world's leading provider of digital television entertainment, broadband services, satellite-based private business networks and global video and data broadcasting.

Hughes Network Systems, a unit of Hughes Electronics Corporation, is the world's leading provider of broadband satellite network solutions for businesses and consumers, with over 400,000 one- and two-way systems installed in more than 85 countries. Headquartered in Germantown, Maryland, USA, HNS maintains sales and support offices worldwide. To learn more about HNS and DIRECWAY, please visit www.hns.com or www.direcway.com.

DIRECTV is the nation's leading digital satellite television service provider with more than 10 million customers. DIRECTV and the Cyclone Design logo are trademarks of DIRECTV, Inc., a unit of Hughes Electronics Corporation. Visit DIRECTV on the World Wide Web at DIRECTV.com.

General Motors, the world's largest vehicle manufacturer, designs, builds and markets cars and trucks worldwide. In 2000, GM earned \$5 billion on sales of \$183.3 billion, excluding special items. It employs about 372,000 people globally. GM also operates one of the largest and most successful financial services companies, General Motors Acceptance Corp. (GMAC), which offers automotive, mortgage and business financing and insurance services to customers worldwide. GM is investing aggressively in digital technology and e-business within its global automotive operations and through such initiatives as e-GM, GM BuyPower, and OnStar. More information on General Motors can be found at www.gm.com.

EchoStar-DIRECTV Merger Benefits

The EchoStar/HUGHES Merger

**Local Channels and Competitive Broadband
for All Americans**

February 2002

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The Benefits of the EchoStar/Hughes Merger

February 26, 2002

EchoStar Communications Corporation, Hughes Electronics and General Motors believe that consumers will reap tremendous benefits from the merger of EchoStar and HUGHES. The companies' two services, DISH Network and DIRECTV®, today each transmit a total of **more than 500 identical channels**. Consumers will benefit from the massive increase in Direct Broadcast Satellite (DBS) satellite capacity that will result from the elimination of this **duplicative programming**. Indeed, as a direct result of the completion of this merger, consumers across the continental United States, Alaska and Hawaii will have access to local broadcast channels with digital-quality television picture and CD-quality sound **in every one of the 210 television markets covering the country**.

Subsequent to the announcement of the merger agreement on October 28, 2001, a series of pre-merger transition meetings between DISH Network and DIRECTV engineers have been held to analyze the technical and economic feasibility of a Local Channels, All Americans plan by which the merged company could offer every U.S. consumer access to satellite-delivered local television signals. After an exhaustive examination of each company's spectrum and satellite assets, the engineers determined that this plan could become a reality. In a satellite application filed yesterday with the Federal Communications Commission, EchoStar and HUGHES detailed a **technically and commercially feasible plan** to build, launch and operate spot-beam spacecraft that will serve all 210 Designated Market Areas (DMAs) in the United States, including full compliance with must carry requirements.

New set-top boxes and satellite dishes will be deployed that will be capable of receiving satellite signals from multiple orbital positions. The new receiving equipment will be made available **free of charge** to all existing DIRECTV and DISH Network subscribers who may need it in order to receive their local channels.

Continued...

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...Continued

Consumers across the country will pay the same price for services delivered by the merged DBS service, *i.e.*, **one nation, one rate card**, regardless of a subscriber's location. Implementation of the plan will begin immediately upon regulatory approval of the merger, and the rollout can be completed as soon as 24 months thereafter.

The merged company also will establish itself as a source of meaningful satellite-based broadband competition to cable modem and DSL offerings, fulfilling the mission to provide affordable high-speed Internet access to all of America, including the most rural areas of the country. The digital divide in the United States is real: some 40 million households in the United States do not have access to high-speed Internet and data services, in large part due to the high cost of wiring homes for these services in less densely populated areas.

Combined, EchoStar and HUGHES will create a more robust satellite platform that will liberate these digital have-nots by serving every household in the country, including every household in every state. Efficiencies from the combined companies will provide the subscriber base and financial means to move current Ku-band satellite broadband offerings from their status as expensive niche services to a more competitive price point for consumers, and then ensure that next-generation Ka-band satellite broadband service becomes a reality for consumers everywhere in the United States.

The combined EchoStar-HUGHES will achieve a new level of vigorous competition to incumbent cable operators, and will not have anticompetitive effects in any market. As this booklet illustrates, the benefits from this merger will allow all Americans to receive their full complement of local channels and national entertainment networks, as well as provide a new source of meaningful satellite-based broadband competition.

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3 The EchoStar/HUGHES Merger

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Total Television Viewing Households

In the pages that follow, you will see that the merger of HUGHES and EchoStar benefits consumers and serves the public interest.

4 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 87

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Cable Franchise Areas

Despite the rapid growth of DBS since 1994, cable television clearly remains the dominant provider of multi-channel pay TV services throughout the country.

Over 104 million of the 107 million TV households are located in a cable franchise area.

5 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 87; Nielsen Media Research, Sept. 2001

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Households With Access to DBS With Local Channels

Today only 65 million TV households, those within the 42 television markets served by DIRECTV and DISH Network, have a fully competitive multi-channel alternative to cable with local channels.

Competitive alternatives to cable did not seriously take form until the launch of DIRECTV in 1994, later joined by DISH Network in 1996.

DBS offered more channels and superior picture and sound quality compared to cable, with one notable exception: consumers were not able to receive their local channels via satellite.

In 1999, Congress changed the law, allowing satellite carriers to offer local channels. Only at this point did DBS become a viable competitive alternative to cable, at least in those markets in which DIRECTV and DISH Network began delivering local channels.

6 The EchoStar/HUGHES Merger

Source: SkyResearch, Feb. 2002; Nielsen Media Research, Sept. 2001; EchoStar and DIRECTV, Jan. 31, 2002

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Households With No Competitive Alternative Today

42 million TV households are not served with local channels by DBS. Residents in these markets do not have a true competitive alternative to cable.

Customers who live in markets in which DBS does not provide local channels are forced to either pay additional subscription fees for a basic cable service to receive their local channels, or install an off-air roof-top antenna and hope for good reception.

Neither DIRECTV nor DISH Network have sufficient spectrum, alone, to provide all local channels as well as the national pay cable networks to viewers in every one of the country's 210 local channel markets.

7 The EchoStar/HUGHES Merger **Source: SkyResearch, Feb. 2002; Nielsen Media Research, Sept. 2001; EchoStar and DIRECTV, Jan. 31, 2002**

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TV Households With Competitive Alternative After Merger

DIRECTV and DISH Network engineering teams have developed a system that is technologically feasible and economically viable for the merged company to deliver full local broadcast service, in all 210 television markets, including full compliance with federal must carry provisions.

The merger of DIRECTV and DISH Network will enable a fully competitive cable alternative DBS service with local channels in EVERY television market in the country, including Alaska and Hawaii.

8 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 87; EchoStar, HUGHES, Feb. 2002

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Without Merger: Inefficient Spectrum Use

The merger will end the inefficient use of spectrum by eliminating the need for each company to transmit more than 500 channels of duplicative programming.

The merger will combine each company's spectrum and advanced satellite assets, making the plan technically achievable.

The merger will combine the companies' subscriber bases, making service to smaller markets commercially feasible.

9 The EchoStar/HUGHES Merger

Source: EchoStar, HUGHES, Feb. 2002

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With Merger: Spectrum Efficiencies Achieved

Implementation could begin immediately following merger approval and the rollout can be completed as soon as 24 months later, allowing delivery of local channels to all Americans.

10 The EchoStar/HUGHES Merger

Source: EchoStar, HUGHES, Feb. 2002

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National Pricing

Consumers across the country will pay the same price for their DBS subscription services, regardless of where they reside. We are one nation, and the combined EchoStar-HUGHES will offer one rate card.

For example: a resident of Milwaukee will pay the same fee for his or her local channel package as a customer in Cedarville, Ohio; a resident of Burlington, Vermont, will pay the same price for HBO as a customer in Salt Lake City; and a resident of Mountlake Terrace, Washington, will pay the same price for a basic 125-channel programming package as a customer in New York City.

11 The EchoStar/HUGHES Merger

Source: EchoStar, HUGHES, Feb. 2002

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Broadband: The Digital Divide

Another benefit of the EchoStar and HUGHES merger comes in the form of competitively priced high-speed Internet access, and the end of the so-called digital divide that exists in the wired world today.

12 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 22, 87;
The Buxton Company, Broadband Deployment, Jan. 2002

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Broadband: The Digital Haves

Approximately 67 million households have access to a terrestrial high-speed Internet service.

These represent the digital haves who are located primarily in the major metropolitan areas.

13 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, p. 22; The Buxton Company, Broadband Deployment, Jan. 2002

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Broadband: The Digital Have Nots

40 million households, located primarily in rural areas, have no access to wired broadband services.

This map clearly shows the number of digital have nots those households with no access to DSL or cable modem service.

The primary reason for this is simply the expense of rolling out wired technologies, such as DSL and cable modem service, to millions of homes, particularly to those beyond the boundaries of urban and suburban markets.

Both EchoStar and HUGHES believe many of the have nots would be interested in fairly-priced, bundled video and high-speed data services.

14 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, p. 22; The Buxton Company, Broadband Deployment, Jan. 2002

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Merger Bridges the Digital Divide

The merger will bridge the digital divide by providing consumers in every community with a competitively priced high-speed broadband solution available to them regardless of their location.

The efficiencies gained from the merged company's combined customer base will enable the offering of a high-speed Internet service that is not only price-competitive with existing providers in urban settings, but also a tremendous benefit for rural customers for whom DSL and cable modem service are unlikely to be available for years to come, if ever.

The merger will provide the technical and economic infrastructure to convert every household in the country to a digital home.

15 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 22, 87; EchoStar and DIRECTV, Jan. 31, 2002

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One Nation, One Dish

Bringing all local channels and broadband service to all consumers' homes is not a simple endeavor. However, the DIRECTV and DISH Network engineering teams have designed a system that enables the receipt of local channels, other entertainment services **and** high-speed Internet access using one consumer-friendly mini-dish.

An 18 x 22-inch dish will enable the receipt of signals from the merged company's three orbital slots.

New equipment will process signals from existing spacecraft as well as advanced satellites the merged company will launch to deliver the remaining local broadcast channels and high-speed Internet services to consumers in all states.

Equipment will be provided to existing DBS customers **at no charge** including free service call and installation to receive their new local channels.

16 The EchoStar/HUGHES Merger

Source: EchoStar, HUGHES, Feb. 2002

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Cable Industry Remains Dominant Multi-Channel Video Provider

Eight years after the introduction of DBS services, 78% of multi-channel video subscribers still receive their programming from a franchised cable operator.

Cable operators' market dominance has been strengthened by their upgrades to digital video and cable modem services.

The cable industry's market dominance is further evidenced by its continual price increases to consumers: 37% on average since 1996.

The spectrum constraints which exist today will forever keep a separate DIRECTV and DISH Network at a competitive disadvantage to cable for those consumers who live in markets where local channels are not offered by DBS.

17 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 87; EchoStar and DIRECTV, Jan. 31, 2002; Report on Cable Industry Prices, Federal Communications Commission, Feb. 14, 2001, p. 9, and Dec. 15, 1997, p.

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Local Channels and Broadband for All Americans

The merger of spectrum at the three orbital slots eliminates these disadvantages through the addition of an enhanced satellite infrastructure that will enable delivery of local channels in EVERY one of the 210 television markets across the country.

The merger of EchoStar and HUGHES ensures that prices for video and data services will be the same throughout the country, whether the market is rural or urban/suburban: one nation, one rate card.

The merged company will bridge the digital divide by moving satellite high-speed Internet access from its current high-priced niche to being price-competitive with existing providers a tremendous benefit for rural customers where DSL and cable modem service are unlikely to be available for years to come.

The EchoStar and HUGHES merger merits broad scale support for the clear and definitive benefits it will bring to all Americans.

18 The EchoStar/HUGHES Merger

Source: FCC Eighth Annual Report, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Jan. 14, 2002, pp. 11, 87; EchoStar and HUGHES, Jan. 31, 2002

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The EchoStar/HUGHES Merger

Local Channels, All Americans

One Nation, One Rate Card

Eliminates the Digital Divide

True Competition for 107 Million Households

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SEC Legend

In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC's website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from GM. Such documents are not currently available.

GM and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM's solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, EchoStar, Hughes, or a combined EchoStar and Hughes to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all; (3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimate, projects, potential, expects, plans, anticipates, intends, continues, forecast, designed, goal, or the negative of those words or words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

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EchoStar-DIRECTV Merger Benefits

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fcc.FILINGS

EchoStar-DIRECTV Merger Benefits

EchoStar/HUGHES FCC Filing

The full application filings to the U.S. Federal Communications Commission (FCC) for approval to transfer control of certain licenses to the proposed merged company.

EchoStar/HUGHES FCC Filing - February 25, 2002

Opposition to Petitions to Deny and Reply Comments (pdf)

Attachment A - Willig Declaration (pdf)

Attachment B - Barnett Declaration (pdf)

Attachment C - Friedman Declaration (pdf)

Attachment D - Dear Comcast Customer Letter (pdf)

Satellite Application - February 25, 2002

9c0t14 (pdf)

9DH802 (pdf)

EchoStar/HUGHES FCC Filing - December 3, 2001

Summary (pdf)

Table of Contents (pdf)

Consolidated Application for Authority to Transfer Control (pdf)

Declaration of Dr. Robert D. Willig (pdf)

Joint Engineering Statement (pdf)

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fcc.FILINGS

EchoStar-DIRECTV Merger Benefits

EchoStar/HUGHES FCC Filing

The full application filings to the U.S. Federal Communications Commission (FCC) for approval to transfer control of certain licenses to the proposed merged company.

EchoStar/HUGHES FCC Filing - February 25, 2002

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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|---|---|----------------------|
| <i>Application of</i> |) | |
| |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION, |) | |
| GENERAL MOTORS CORPORATION, |) | |
| HUGHES ELECTRONICS CORPORATION, |) | |
| |) | |
| Transferors, |) | CS Docket No. 01-348 |
| |) | |
| and |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION, |) | |
| |) | |
| Transferee, |) | |
| |) | |
| For Authority to Transfer Control. |) | |
| |) | |

To: The Commission

OPPOSITION TO PETITIONS TO DENY AND REPLY COMMENTS

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February 25, 2002

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OVERVIEW & SUMMARY

Now that the merger's opponents have aired their objections, the Commission may confidently conclude that New EchoStar will provide consumers with numerous benefits, including:

giving *all* Americans access by satellite to their local broadcast stations;

creating a true broadband alternative when in many areas of the country there is no true broadband service whatsoever; and

doubling (or better) the programming choices each company provides today, including moving to 12 or more High Definition Television channels.

These benefits translate directly into effective competition to cable systems, which have continued to raise their prices unrestrained by either EchoStar or DIRECTV standing alone, all to the benefit of consumers. The merger's pro-competitive potential is recognized by the constituency with the most direct stake in matters of competition and consumer choice—the consumers themselves. Under the guise of promoting the public interest, the handful of powerful organizations opposing the merger are pursuing rather obvious agendas that have nothing to do with the public interest: seeking to improve bargains they have struck; trying to preserve their competitive position or ability to continue overcharging rural customers, as they do today; and airing other unrelated grievances.

Many of the merger benefits will flow from the massive increase in Direct Broadcast Satellite (DBS) capacity that will result from the elimination of duplicative

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programming a total of *more than 500 identical channels* from the DIRECTV and EchoStar satellite systems once the companies merge. And as the Applicants announce here for the first time, the merger will bring consumers across the United States access to local broadcast channels via satellite with digital-quality television picture and CD-quality sound *in every one of the 210 television Designated Markets Areas in the United States*.

Subsequent to the announcement of the merger agreement on October 28, 2001, as part of the pre-merger transition process, EchoStar and DIRECTV have been analyzing the technical and economic feasibility of a Local Channels, All Americans plan by which every U.S. consumer can have access to satellite-delivered local television signals. Today, in an Application being filed contemporaneously with this Opposition, New EchoStar will make that plan a reality by applying for Commission authority to launch and operate a new spot-beam satellite that, when combined with other existing and under-construction EchoStar and DIRECTV satellites, will allow the merged company to serve all 210 Designated Market Areas (DMAs), equaling *all* Americans, with local television stations.

New EchoStar will deploy new set-top boxes and satellite dishes capable of receiving satellite signals from multiple orbital positions. The new receiving equipment will be made available, free of charge, to all existing EchoStar and DIRECTV subscribers who will require new equipment in order to receive their local channels. Consumers across the country will pay the same price for this DBS service, *i.e.*, one nation, one rate card, regardless of a subscriber's location. This means that whether for a town of 5 people or a city of 5 million people, the New EchoStar will provide the same

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service for the same rate. And implementation of the plan will begin immediately upon regulatory approval of the merger, becoming fully operational as soon as 24 months thereafter.

This Local Channels, All Americans service vision, however, is premised entirely upon the EchoStar-Hughes merger being successfully consummated. *Neither company standing alone could achieve the tremendous public interest benefit of being able to serve every television market in the country.* Certain Petitioners speculate that each company alone might be able to replicate the merger benefits by building satellites of the Petitioners own design. These proposals suffer from two fundamental defects: (i) they make invalid assumptions about *technical* feasibility, and (ii) they disregard entirely the question of *commercial* feasibility. Even if these super-satellites looked good on paper, no Petitioner has explained why no one in the world has deployed anything like them, or how it could be profitable for each company on a stand-alone basis. As Dr. Robert Willig explains in the attached Declaration, expansion of local channel service to every DMA would not be economically feasible absent the merger.

The merger will also create the first true broadband satellite alternative. For urban areas, this will translate into meaningful satellite-based competition to cable modem and DSL offerings. For tens of millions of other Americans, it will translate into their first affordable advanced service a true move from zero to one provider. The digital divide in the United States is real: as many as 40 million households in the United States today do not have access to high-speed Internet and data services, in large part due to the high cost of delivering these services to homes in less densely populated

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areas. New EchoStar will create a more robust satellite platform that will liberate these digital have nots by offering them a more affordable, viable broadband service.

Here too, the Petitioners are wrong that each company could achieve these benefits on its own. The two companies' current broadband offerings are expensive niche products that are hampered by several constraints, do not even satisfy the Commission's definition of an advanced service, and have attracted fewer than 150,000 subscribers combined. The merger will allow New EchoStar to integrate these products and achieve a more competitive price point. As for the future deployment of satellite service in the Ka-band, neither company standing alone would be able to achieve early and affordable service to consumers. The merger, on the other hand, will give New EchoStar the spectrum capacity, subscriber base and economies of scale needed to ensure that next-generation residential broadband service becomes a reality everywhere in the United States, rapidly and inexpensively enough to matter.

In addition to the consumers, many other parties have supported the EchoStar-Hughes merger. The most vociferous opposition comes from a handful of entities, including the National Rural Telecommunications Cooperative (NRTC), Pegasus Communications (Pegasus), the American Cable Association (ACA) and the National Association of Broadcasters (NAB). The Commission should recognize the narrow self-interests of NRTC and Pegasus, who have been in active litigation against

¹ In contrast, businesses with an interest in greater competition and output in the MVPD market, such as television equipment manufacturers and electronics retailers, strongly support the merger. *See* Comments of Circuit City Stores, Inc. and Thomson Multimedia.

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DIRECTV for years in a contractual dispute over distribution rights. Equally important, while lamenting the future fate of rural consumers, NRTC and Pegasus do not explain why they overcharge rural consumers today: in reselling DIRECTV's service, they charge \$3.00 a month more than DIRECTV charges for the same service in other areas and than EchoStar charges for the equivalent package in the same areas. The sincerity of Pegasus's concerns about competition is further impeached by reported statements of a Pegasus executive to the press that a buy-out of Pegasus by EchoStar would make the most financial sense for both companies.² As for the American Cable Association, it expresses candidly its fear that the merger will result in price competition in rural areas.³ This is the sort of harm to *competitors* that the Commission should not take into account in its analysis, except as a benefit to *competition* and consumers.

The Local Channels, All Americans plan also disposes completely of the concerns expressed by NRTC and NAB with respect to local service. NRTC has alleged that New EchoStar does not contemplate expanding local television service to rural America in DMAs beyond the top 100, which the NRTC states is no consolation to the millions of rural Americans who most need local service. For its part, the NAB's principal stated concern is that competition between the nation's two DBS providers has driven the expansion of local-into-local and will lead to more carriage of local

² See Ted Hearn, Pegasus: Contract Bars Post-Merger Competition, *Multichannel News* (Feb. 18, 2002).

³ See ACA Petition at 14-16 (EchoStar would have every incentive to [set its uniform national price] below small cable systems' costs of providing similar services...)

⁴ NRTC Petition at 60.

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stations.⁵ New EchoStar's commitment to serve all 210 DMAs could not answer those complaints more dispositively, leaving the NAB with no principled basis for continuing its opposition.⁶ The Applicants stand ready to achieve with one stroke what NAB's members have not achieved in decades—extending the coverage of local broadcast stations to all areas of the country.

The Local Channels, All Americans plan will uniquely benefit rural subscribers, who without it might never enjoy digitally-delivered local channels via any distribution medium. And, because of New EchoStar's one nation, one rate card plan, consumers in rural areas will reap an additional benefit—they will take advantage of the increased competition in the most populous areas of the country.⁷ Contrary to the claims of some Petitioners, national pricing makes economic sense. It has been the Applicants' past practice and it is a common practice for other national providers in network industries, such as Internet Service Providers and cellular telephone companies. Local promotions may continue to be a useful tool to the limited extent they have been in the past, and the Applicants are willing to commit to reasonable requirements in that regard.

New EchoStar has every incentive to set its national price at strongly competitive levels instead of extracting additional profits from its existing subscriber

⁵ NAB Petition at iii.

⁶ *Id.* at 7 (opining that if the merger is approved, it would still leave markets 101-210, in which 14 percent of the country's population resides, with *no hope* of receiving local-to-local service.) (emphasis added).

⁷ Pegasus and NRTC vastly exaggerate the number of homes not served by cable operators, in a stilted effort to argue that the merger would harm rural consumers.

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base as some parties allege. New EchoStar would be leaving money on the table if it restricted itself to existing subscribers. Instead, as Dr. Willig shows, New EchoStar will have to set the national price low to compete for new subscribers in the most densely populated and most heavily contested areas of the country. The one nation, one rate card plan will therefore be a more effective constraint on MVPD prices in rural areas than EchoStar is on NRTC's and Pegasus's prices today. Finally, the fears of collusion raised by Petitioners are equally unwarranted: this particular tango would require EchoStar to dance with 9 or 10 cable MSO partners at the same time or forego huge pools of potential subscribers. In the final analysis, the net benefits to consumers from the creation of New EchoStar far outweigh any anticompetitive concerns.

There are other miscellaneous attempts by certain parties to litigate particular disputes or raise parochial concerns that have little bearing on the Commission's public interest inquiry here. The Applicants urge the Commission to restrict its analysis to merger-specific issues and remedies, to the extent applicable, and promptly approve the Application, so that New EchoStar may begin delivering on its promise of dramatic consumer and competitive benefits to all Americans, including the carriage of local broadcast channels in all 210 television markets and true broadband services to all Americans.

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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| |) | |
| <i>Application of</i> |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS |) | |
| CORPORATION, |) | |
| GENERAL MOTORS CORPORATION, |) | |
| HUGHES ELECTRONICS CORPORATION, |) | |
| |) | |
| Transferors, |) | CS Docket No. 01-348 |
| |) | |
| and |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS |) | |
| CORPORATION, |) | |
| |) | |
| Transferee, |) | |
| |) | |
| For Authority to Transfer Control. |) | |
| |) | |

To the Commission:

OPPOSITION TO PETITIONS TO DENY AND REPLY COMMENTS

EchoStar Communications Corporation (EchoStar), General Motors Corporation (GM) and Hughes Electronics Corporation (Hughes) (collectively, the Applicants) hereby submit this Opposition to Petitions to Deny and Reply Comments (Opposition) in response to the pleadings and comments filed in the above-captioned proceeding. For the reasons set for in their Application and this Opposition, the Applicants respectfully request that the Commission promptly approve the proposed merger.

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I. THE MERGER WILL PROMOTE MORE CHOICES FOR CONSUMERS AND MORE EFFECTIVE COMPETITION AGAINST CABLE BY CREATING EXTRAORDINARY EFFICIENCIES

No party disputes that the merger will free up about half of the spectrum currently used by the two companies through the elimination of duplicative programming. Many commenters from consumer advocates to programming producers recognize the expansion of programming choices and increase in diversity that will result.⁸ These parties recognize that expanded choices can in turn spur more effective competition with cable and help New EchoStar impose some true discipline on the ability of cable operators to continue to raise their prices.

Indeed, as explained in more detail in Section A below, as a direct result of the merger consumers across the United States will have access to local broadcast channels with digital-quality television picture and CD-quality sound *in every one of the 210 television markets in the United States*. The merger will also permit greatly expanded high-definition television (HDTV) programming, pay-per-view and video-on-demand (VOD) services, educational, specialty, and foreign language programming and interactive services.

⁸ See e.g., Comments of Consumers Union, The Consumer Federation of America, and the Media Access Project (Consumer Groups) at 13-14 (The combination of EchoStar and DirecTV would add substantial satellite capacity and would avoid the redundancy of two competitors having to offer the same local signals in the same markets. As a result, these two competitors will be able to offer substantially more local programming as a combined entity than either of them would be able to do alone.); see also Comments of the National Taxpayers Union at 1; Comments of the League of United Latin American Citizens at 1; Comments of Frontiers of Freedom at 1; Comments of Vivendi at ii.

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Unable to attack these benefits directly, some Petitioners set up “straw-men” by arguing that each company could achieve these benefits on its own, without need for the merger.⁹ The Applicants show below that each of these specific arguments must fail. At a general level too, no Petitioner can deny three straightforward truths about this issue. *First*, thanks to the freed-up spectrum, the combined entity can provide roughly twice as many choices as each company standing alone. *Second*, while Petitioners make many unrealistic claims about each party’s stand-alone capacity, neither company has had any reason to hold back and not make the fullest feasible use of the resources to which it has had access. *Third*, no matter what each party’s stand-alone capacity is, it is the merger and only the merger which will achieve the end result of providing all local stations to all Americans and reclaiming scarce spectrum to increase available capacity.

A. New EchoStar Will Expand DBS-Offered Local Channel Service To Every Television Market in the United States

Subsequent to the announcement of the merger agreement on October 28, 2001, as part of the pre-merger transition process, EchoStar and DIRECTV analyzed the technical and economic feasibility of a “Local Channels, All Americans” plan by which every U.S. consumer can have access to satellite-delivered local television signals. Today, in a satellite application being filed contemporaneously with this Opposition, New EchoStar will make that plan a reality by applying for Commission authority to

⁹ See e.g., NAB Petition at 75-92; NRTC Petition at 56-65; Pegasus Petition at 38-49.

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launch and operate a new spot-beam satellite that, together with the two companies' operational and proposed satellites, will provide local channel service to all 210 Designated Market Areas (DMAs), equaling *all* Americans, and comply fully with mandatory carriage requirements. DIRECTV and EchoStar engineers have designed a system that enables the receipt of local channels, other entertainment services and high-speed Internet access using one consumer-friendly mini-dish. That 18 x 22-inch satellite will be capable of receiving satellite signals from the merged company's multiple orbital positions. New EchoStar will deploy new set-top boxes and satellite dishes that will be made available, free of charge, to all existing EchoStar and DIRECTV subscribers who will require new equipment in order to receive their local channels.¹¹ Consumers across the country will pay the same price for this DBS service, *i.e.*, one nation, one rate card, regardless of a subscriber's location. And implementation of the plan will begin immediately upon regulatory approval of the merger, and the rollout can be completed as soon as 24 months thereafter.

The Local Channels, All Americans plan will feature the new satellite operating in conjunction with DIRECTV 4S, DIRECTV 7S, EchoStar 7 and EchoStar 8 satellites, for a total of 28 spot-beam frequencies, to collectively provide local programming of approximately 1,500 TV channels to the 210 DMAs, with necessary

¹⁰ The proposal will require use of a minimum of four uplink facilities, including DIRECTV's California uplink center and EchoStar's Wyoming facility.

¹¹ This aspect of the Local Channels, All Americans plan should obviate the concern of commenter Steven C. Shapiro that subscribers would be required to bear the cost of equipment replacements occasioned by the merger. *See* Comments of Steven C. Shapiro at 2-3.

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back-up and service expansion capabilities. This Local Channels, All Americans service vision, however, is premised entirely upon the EchoStar-Hughes merger being successfully consummated. Contrary to the claims of some of the parties that have opposed the creation of New EchoStar, the tremendous public interest benefit of being able to serve every television market in the country is *not achievable by either company standing alone*.

Specifically, Pegasus, the NRTC and the NAB each acknowledge the tremendous public interest benefit of providing more local channels to consumers in additional markets, but they seek to attack the merger-specificity of this benefit, and question New EchoStar's commitment actually to provide more local markets with local channel service. Each of these parties has retained an engineering consultant to hypothesize ways in which either EchoStar or DIRECTV on its own might spend hundreds of millions of dollars to expand its system capacity, even to the point of building new greenfield super-systems, in order to offer local channel service in every local television market in the country¹²The merger, these consultants argue, is simply not necessary to achieve this result.

These arguments are without merit for a variety of reasons: *first*, they are based on flawed technical assumptions and require unacceptable quality sacrifices; *second*, and most important, they disregard completely the commercial feasibility of the

¹² See NAB Petition, Exhibit C, Declaration of Richard G. Gould (Gould Declaration); NRTC Petition, Exhibit O, Declaration of Walter Morgan (Morgan Declaration); Pegasus Petition, Attachment B, Affidavit and Report of Roger J. Rusch (Rusch Declaration).

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various proposed satellite projects. To take on the expense and risk of constructing and launching such a satellite under the current structure of fragmented DBS spectrum simply to serve smaller markets does not make economic sense. Thus, the Petitioners' speculation about each company's stand-alone capability is incorrect from a technical and commercial feasibility perspective. Neither party individually has either sufficient spectrum or could make the business case to adopt this plan alone. No one anywhere in the world has deployed a commercial satellite with anything near the capability of such super-satellites. Indeed, if Mr. Rusch's theories had true practical applicability, there would be no reason why Pegasus could not implement its expert engineer's plan and provide the entire nation with local video service from a super-satellite located at one of its licensed Ka-band slots. The simple truth is that nothing short of the proposed merger can enable all Americans to receive all of their local stations by satellites. Neither company alone has sufficient capacity to dedicate a tremendous portion of its scarce spectrum to the expansion of local channel services, and neither company alone could afford to do it.

1. The Petitioners' Technical Arguments Are Based on Flawed Technical Assumptions and Would Require Quality Sacrifices

As explained in more detail in the attached Technical Annex authored by Dr. Richard Barnett of Telecomm Strategies, NRTC, Pegasus and NAB engineering consultants make a variety of incorrect, unwarranted or unproven assumptions about the technical feasibility of their proposals to improve the capacity of the DIRECTV and EchoStar satellite systems. These include:

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assuming compression ratios that either are not presently achievable or that would result in much poorer video quality;¹³

proposing the use of MPEG-4 video coding in place of MPEG-2, which demonstrates a complete misconception about the role and applicability of MPEG-4 to broadcast-quality video transmissions;¹⁴

proposing the use of a new modulation scheme for DBS that is significantly more susceptible to interference, and compounds antenna design issues;¹⁵

proposing super-satellites that would push beyond the mass and power limits of commercial satellite technology, and that would require a super-sized antenna as well as significant advances in antenna design and deployment;¹⁶ and

proposing systems that pose significant risks of failures and poor service quality due in part to erroneous assumptions and misunderstandings concerning satellite spot-beam coverage.¹⁷

The flawed end result of these theoretical exercises is summed up by Dr. Barnett. The capacity calculations of the merger opponents rely on improvements in technology that are either (a) not yet available and unlikely to become available in the

¹³ Gould Declaration (NAB) at 5-11, 14; Rusch Declaration (Pegasus) at 11.

¹⁴ Gould Declaration (NAB) at 14; Rusch Declaration (Pegasus) at 11.

¹⁵ Gould Declaration (NAB) at 12-14; Rusch Declaration (Pegasus) at 10-11.

¹⁶ Morgan Declaration (NRTC) at 23.

¹⁷ Morgan Declaration (NRTC) at 24-36; Rusch Declaration (Pegasus) at 4-9.

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near future, or (b) impractical from a business perspective, while the new satellites proposed are superficial concept designs only and have not been rigorously developed to establish their feasibility, cost, schedule or performance.¹⁸ Thus, Dr. Barnett concludes that [a] predictions of capacity achieved and spectrum used by the new satellite designs of the petitioners are seriously in error.¹⁹

2. None of the Postulated Super-Satellites Is Commercially Feasible

Even if the technical flaws in these analyses are ignored, the submissions by the engineering consultants of Pegasus, NRTC and NAB in essence merely restate the truism that, with enough time and enough money, almost anything is possible on paper. They *disregard entirely* the question of whether the measures and systems they advocate are *commercially* feasible and thus able to be deployed in the foreseeable future under real-world conditions.

As such, these submissions are of no utility to the Commission's analysis here. As recognized in the Department of Justice Merger Guidelines, proper competition analysis is limited to alternatives that are practical in the business situation faced by the merging firms and should not rely on alternatives that are merely theoretical.²⁰ And

¹⁸ Declaration of Dr. Richard J. Barnett on Behalf of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation, Exhibit B, at 1 (Barnett Declaration).

¹⁹ *Id.*

²⁰ Horizontal Merger Guidelines, § 4.

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this principle is embedded in Commission satellite precedent, as well. The Commission has specifically acknowledged that satellite system design is necessarily innovative and involves a variety of business judgments. Thus, the Commission historically has granted substantial deference to a satellite company's business judgment in this complex area. For example, the Commission has declined to conduct comparative hearings to evaluate the system designs of Applicants for mobile satellite spectrum because [s]ystem design decisions involve a complex set of trade-offs among engineering, marketing and financial considerations.²² The Commission stated it preferred not to involve itself in business judgments of this nature.²³ Instead, the Commission found that a cost-benefit analysis of a gold-plated system as opposed to a no-frills system was a determination better left to the marketplace.²⁴ Similarly, with respect to geographic service requirements, even where DBS service is technically feasible from a

²¹ *In the Matter of Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for, and to Establish Other Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of Various Common Carrier Services*, 2 FCC Rcd. 485, 488 ¶ 25 (1987) (*MSS Spectrum Allocation*).

²² *Id.* at 487 ¶ 15.

²³ *Id.*

²⁴ *Id.* In deferring to the business judgments entwined in a mobile satellite company's system design, the Commission followed its precedent of avoiding comparative hearings on system design among Applicants for cellular licenses. See *In the Matter of Amendment of the Commission's Rules To Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearing*, 98 FCC 2d 175, 186 ¶ 19 (1984) (*Cellular Lottery Decision*) (stating [c]ellular design involves a complex set of trade-offs among engineering, marketing and financial decisions that are essentially business judgments a cellular company must make in response to the demands of its customers).

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particular orbital location, the Commission does not require services from that location to be offered if such service would require so many compromises in satellite design and operation as to make it economically unreasonable.²⁵

In this case, the capacity expansion solutions proposed by Pegasus, NRTC and the NAB all ignore economics and business judgment because they focus on one type of programming service local broadcast channels to the virtual exclusion of national programming that DBS providers must continue to provide in order to be competitive. For instance, as Dr. Barnett observes, this preoccupation with local channel service in satellite design ignores, for example, the need to plan for the evolution of HDTV into an essential national programming product with vast audience appeal. Dr. Barnett explains it is not possible today to

accommodate one HDTV channel in each 24 MHz satellite transponder, although it is possible that this could increase to two HDTV channels per transponder with further technical innovations.²⁶

Dr. Barnett further testifies, the increased requirement for transponder capacity capable of carrying national programming is not limited to HDTV. Other areas

²⁵ *Revision of Rules and Policies for the Direct Broadcast Satellite Service*, 11 FCC Rcd. 9712, 9762 ¶ 128 (1995); see *MCI Telecommunications Corp., Assignor and EchoStar 110 Corp., Assignee; For Consent to Assignment of Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using 28 Frequency Channels at the 110° W.L. Orbital Location; American Sky Broadcasting, LLC, Assignor and EchoStar North America Corp., Assignee; For Consent to Assignment of Transmit-Receive Earth Station Authorizations*, 16 FCC Rcd. 21608, 21649 ¶ 42 (1999).

²⁶ Barnett Declaration at ¶¶ 4-6.

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of growth in programming include new national networks and additional pay-per-view, VOD, interactive and educational channels. Therefore, EchoStar and DIRECTV must plan for growth in requirements for transponders with the ability to provide national programming. The more of the scarce orbit-spectrum resource is used up for local programming the less is available to cater for this growth in national requirements.²⁷ The simple but all-important point, of course, is that DBS providers must prioritize different types of programming, and must strike a balance in allocating their scarce capacity among different types of services. Thus, the fact that Pegasus expert Roger Rusch, for example, has designed on paper a theoretical spot-beam satellite operating from a single orbital location that would maximize the goal of carrying every local broadcast television station in the country²⁸ is an academic (but flawed) exercise wholly irrelevant to the question of whether either company could or could not do what he theorizes, or more broadly, whether the creation of New EchoStar is in the public interest. Mr. Rusch has ignored completely the different real-world business considerations involved in balancing capacity demands for local channels with the need to add new and additional national programming, such as HDTV, pay-per-view, VOD, interactive, educational and foreign-language channels. Simply put, without the greatly enhanced capacity, scale and combined subscriber base of New EchoStar, neither company alone would strike a balance that would utilize one-third of its full-CONUS DBS frequencies to provide local broadcast carriage in the manner Rusch suggests.

²⁷ *Id.* at 6.

²⁸ Rusch Declaration (Pegasus) at 7-9.

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3. Neither Company's Stand-Alone Capabilities Allow Local Service to All Americans

As noted above, the Petitioners' extrapolation of universal local channel service from each company's current and planned capabilities suffers from technical flaws and a blatant disregard for commercial feasibility. The decision by a DBS operator to serve a local market involves questions of both technical and economic feasibility. In assessing each DBS operator's standalone ability to offer local channel service to subscribers, rather than deal with fanciful proposals and speculative projections, the Commission must deal with the facts and economics.

a. Current Capabilities

The current capabilities of existing and planned EchoStar and DIRECTV satellites are as follows:

EchoStar currently provides local channel service in 36 DMAs utilizing full-CONUS satellite beams from the 110° W.L. and 119° W.L. orbital positions, as well as satellites at its 61.5° W.L. and 148° W.L. orbital positions;

EchoStar recently launched its EchoStar 7 spot-beam satellite into the 119° W.L. orbital position, and plans to launch EchoStar 8, a second spot-beam satellite, into the 110° W.L. orbital position later this year;

With these spot-beam satellites in place, New EchoStar expects to be able to provide local broadcast signals in approximately 50 DMAs using ten of its fifty licensed full-CONUS DBS frequencies;

DIRECTV currently serves 41 markets with its DIRECTV 4S satellite, which has 6 frequencies dedicated to spot-beam use, and is located at 101° W.L.;

DIRECTV plans to allocate several more frequencies' worth of CONUS capacity on an interim basis (pending the launch of another spot-beam satellite) at the 119° W.L. orbital position in order to achieve coverage of ten more local channel markets this year, for a total of 51;

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DIRECTV also plans to launch another spot-beam satellite, DIRECTV 7S, into the 119° W.L. orbital location in 2003, which could have up to four frequencies allocated for spot-beam use.

In sum, EchoStar will have the capability of offering local channel service in approximately 50 DMAs from its spot-beam satellite, in light of its satellite architecture, economic feasibility considerations and estimated redundancy needs. In this regard, NRTC expert Walter Morgan is incorrect that EchoStar on its own can provide all local stations to 80 DMAs by using EchoStar 7 and 8.²⁹ Although the spot-beams on EchoStar 7 and 8 would have the physical capability of viewing additional DMAs (meaning all or a large portion of each DMA), that capability is meaningless: because of must carry obligations, even under EchoStar's current must carry implementation plan, EchoStar 7 and 8 will be only able to serve a fraction of these DMAs.

For its part, DIRECTV will have the capability of offering local channel service in 51 DMAs without dramatically reducing the carriage of other national programming using CONUS capacity. Assuming that DIRECTV 7S: (i) suffers no technical complications during construction and is not delayed; (ii) is launched successfully; and (iii) is not required to be used for backup capacity in the event that DIRECTV 4S malfunctions, then DIRECTV will have the *technical* capability with its combined fleet to serve 103 DMAs in late 2003 or early 2004. However, the merger opponents' attempt to emphasize this point³⁰ misses the mark. DIRECTV simply cannot

²⁹ See Morgan Declaration (NRTC) at 22.

³⁰ See NRTC Petition at 58 (stating erroneously that DIRECTV can serve 110 DMAs using satellites already in orbit or currently on order).

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serve 103 DMAs because, once again, the issue of technical capability is not meaningful unless it is considered in tandem with the economic realities of providing local channel service. As set forth in more detail below, at most, the DIRECTV 4S and DIRECTV 7S satellites will serve approximately 29 additional DMAs, or approximately 70 DMAs total, and it may likely serve less.

b. The Economics of Providing Local Channel Service

As Dr. Willig observes, in assessing the question of how many DMAs each DBS firm is capable of serving, the merger opponents have only focused on technical feasibility, while ignoring the crucial issue of economic costs and benefits.³¹ In particular, when the DBS firms are determining the DMAs in which local channels should be added, there are at least three major factors which influence that determination. *First*, an attempt is made to calculate the expected return from adding local channels in that DMA,³² and as Dr. Willig notes, a key factor in determining the expected return from adding local channels is the size of the DMA: According to both DBS firms, larger DMAs, all else being equal, are associated with larger expected revenue primarily because the expected increase in total new subscribers are greater in larger DMAs.³³

³¹ Declaration of Dr. Robert D. Willig on Behalf of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation, Exhibit A, at ¶ 9.

³² *Id.* at ¶ 10.

³³ *Id.* Population growth by DMA is also factored into the analysis.

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Second, another important factor in the process of selecting DMAs has been the penetration that the firm has in that DMA, since a significant share of existing subscribers will take local channels. DIRECTV, for example, has been very concerned about losing its installed subscriber base in a DMA to the incumbent cable provider, so DIRECTV has been more likely to introduce local channels in DMAs in which it has a high penetration rate.³⁵

Third, the costs of providing local service are also taken into account. In this regard, much of the cost associated with providing local channel service is fixed that is, it does not vary with the number of subscribers. As explained by Dr. Willig in more detail, the cost factors evaluated by the companies in determining markets in which to provide local channel service include backhaul costs, number of local channels that must be carried, and opportunity costs the competitive impact of reduced national programming or other services.³⁷

In summary then, EchoStar and DIRECTV each evaluate the net present value of adding local channels, and only decide to expand local channel coverage that will bring them a sufficient return. As the size of DMAs decreases, it is less likely that

³⁴ *Id.* As Dr. Willig notes further, DIRECTV has used a high DBS penetration rate as a signal of other factors that could make the introduction of local service more profitable. For example, a high DBS penetration rate may indicate that the local cable provider offers an inferior product. A high DBS penetration rate may also be a signal that the area is conducive to DBS service that is, many households can see the southern sky where the DBS satellites orbit the earth. *Id.* at n.4.

³⁵ *Id.*

³⁶ *Id.* at ¶ 11.

³⁷ *See id.*

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the return from adding local stations in these areas makes financial sense from either company's individual perspective the increased revenue potential decreases as the size of the DMA decreases, but the backhaul and opportunity costs stay relatively constant.³⁸

Notwithstanding its posture here that each DBS firm could serve every television market in the country, the NRTC understands these economics. During the Commission's SHVIA implementation proceedings, the NRTC observed that [e]ven assuming that DIRECTV and EchoStar were to expand their local service to cover 50% more of the DMAs than they have announced, which is highly unlikely, their local service offerings would still cease to exist at Market # 65 due to the facts that [t]here is not enough satellite capacity available to each provider, nor is there a large enough subscriber base.³⁹

The NRTC had it right. Applying these economics to DIRECTV's case, for example, once the company launches its DIRECTV 7S satellite in late 2003, it will have the technical capacity to serve 103 DMAs. The economic reality, however, due to the factors discussed above, is that DIRECTV would not likely serve more than about 70 DMAs⁴⁰ (fairly close to the NRTC estimate) due to the opportunity costs and expected returns, and likely would serve less.

³⁸ *Id.* at ¶ 13.

³⁹ Comments of the National Rural Telecommunications Cooperative, CS Docket No. 00-96 (July 14, 2000) at 4-5.

⁴⁰ DIRECTV expects that DIRECTV 7S could provide local channels to approximately 29 additional DMAs by utilizing state-of-the-art spot-beam technology and three of the 32 frequencies at 119° W.L.

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c. Serving 210 DMAs Makes No Economic Sense for Either EchoStar or DIRECTV As Individual Companies

The economics that Petitioners have ignored in overestimating the number of DMAs that EchoStar and DIRECTV could feasibly serve with their existing and planned satellites also apply with even more force to the fanciful notion that each company would be able to justify building and launching additional satellites simply to provide local channel service to every DMA in the country with their existing scarce channel capacity. As Dr. Willig observes, there are two primary reasons that neither DIRECTV nor EchoStar could serve all 210 DMAs on their own. First, each firm would have to utilize a significantly greater number of additional DBS frequencies to offer local channels to all 210 DMAs, which translates to about 10 programming channels for each frequency that could otherwise be used to provide national programming or expanded advanced video services.⁴¹ The benefits from these national channels (or advanced video services) to each company are extremely significant, since consumers have indicated that the leading reason for switching to DBS has been the provision of more channels. Dramatically reducing each company's spectrum capacity to provide more local channel service thus would likely have a significant adverse effect on the DBS firms' competitiveness and profitability⁴².

⁴¹ Willig Declaration at ¶ 14.

⁴² *Id.* DIRECTV, for example, has 37 full-CONUS frequencies available for national programming and advanced services. Reducing that number by nine frequencies would represent a more than 24-percent reduction in capacity to provide national programming or advanced services. *Id.* at n.9.

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The second factor is cost. Neither EchoStar nor DIRECTV can provide service to more than a limited number of DMAs with their current and expected fleets of spot-beam satellites, and cannot hope to serve every market in the country with them. And even if 103 markets could feasibly be served, to contemplate the provision of local service to the remaining 107 DMAs would require the launch of another spot-beam satellite. As Dr. Willig observes:

Spot-beam satellites typically cost between \$220 million and \$300 million to construct, launch, and insure. The expected benefits of providing local service to these 107 DMAs would therefore have to be large enough to cover the opportunity costs of forgoing national programming (or advanced services) *and* the expected costs of providing the service including the cost of the new spot-beam satellite. Absent the merger, expanding local service to all 210 DMAs would not be profitable.⁴³

These points highlight the error of the NRTC's suggestion that each DBS operator could provide local channel service in many more markets with the addition of just one additional spot-beam satellite beyond those on order.⁴⁴ These additional proposed satellites would cost each provider up to \$300 million to construct, launch and insure, with only limited economic benefits because of their local channel focus, and a reduction in capacity that would be otherwise used for the expansion of HDTV, VOD and other national program offerings. In addition, each company would separately incur backhaul and other costs, and the potential available subscriber base in each market

⁴³ Willig Declaration at ¶ 15.

⁴⁴ NRTC Petition at 58 (citing Morgan Declaration).

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would be reduced. In short, NRTC proffers a completely unrealistic proposition from a technical and economic perspective that neither provider would ever pursue.

By contrast, New EchoStar will have access to a tremendous amount of new DBS capacity freed up by the elimination of duplicative programming content, which directly translates into a sensible and efficient satellite design and configuration that is actually capable of being implemented. Once again, as Dr. Willig states:

Following the merger, however, the economics of providing local service to additional DMAs are altered. The combined current and potential subscriber base of the two DBS firms raises the returns on the investment in providing local service to smaller markets by spreading the fixed cost of providing local service over the larger expected revenue that would come from a larger subscriber base.⁴⁵ Furthermore, the opportunity costs of transferring a significant number of frequencies from use for national programming (or advanced services) to use for local services are sharply reduced.⁴⁶

Moreover, as Dr. Willig observes, the combined current and potential subscriber base of the two DBS firms raises the returns on the investment in providing local service to smaller markets by spreading the fixed cost of providing local service over the larger expected revenue that would come from a larger subscriber base. As

⁴⁵ Besides the revenue from potential new subscribers, the larger-than-expected revenues are generated by two factors: first, the ability to sell the local service to a larger existing subscriber base, and second, the ability to protect a larger subscriber base from switching to cable as noted below in the text, carrying local channels is an important service to maintain extant subscribers.

⁴⁶ Willig Declaration at ¶ 16. (footnote omitted)

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noted above, in the absence of the merger, the individual firms would not be able to serve these communities. Therefore, the merger is necessary to achieve this efficiency.⁴⁷

NRTC has accused EchoStar and Hughes of failing to make specific commitments to serve many more local markets than the companies currently serve,⁴⁸ while the NAB challenges the extent to which the merger will result in a net gain in local channel service relative to the markets EchoStar and Hughes currently plan to serve.⁴⁹ Indeed, the NAB's stated principal concern is that competition between the nation's two DBS providers has driven the expansion of local-into-local and will lead to more carriage of local stations.⁵⁰ Now that merger planning has resulted in the Local Channels, All Americans plan, with a firm commitment by New EchoStar and only New EchoStar to bring it to reality, all such concerns are simply not valid.

B. The Merger Will Increase National Programming Choices and Enhance the Quality of MVPD Service

As set forth in the Application, the merger of Hughes and EchoStar will yield other tremendous benefits to consumers of multichannel video services, such as expanded and new programming choices that include: more national programming networks; greatly expanded HDTV offerings; new and expanded VOD and pay-per-view

⁴⁷ *Id.*

⁴⁸ NAB Petition at 58

⁴⁹ *Id.* at 79-80.

⁵⁰ *Id.* at iii.

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services; additional educational, specialty and foreign language offerings⁵¹; and new interactive services. In the process of providing these benefits to the consumer, New EchoStar will continue to drive the evolution of DBS technology as the incumbent cable operators' most formidable competitor, and will continue to erode these companies' undisputed dominance of the MVPD marketplace.

Indeed, a prime example of this phenomenon is HDTV. Because HDTV is so bandwidth intensive, neither company standing alone will be able to deploy more than a few channels of HDTV programming. By contrast, New EchoStar (in addition to being able to provide local channel service in 210 markets, equaling all Americans) will have the capacity to provide at least twelve HDTV channels, and possibly more. As Thomson Multimedia, one of the world's largest manufacturers of consumer products, observes, New EchoStar's plan to expand the number of available high-definition programming channels on a combined satellite platform is a move that will invigorate other operators in the cable and terrestrial TV business to offer more HDTV programming to consumers.⁵² Similarly, Circuit City Stores, Inc., one of the nation's largest retailers of consumer electronics products, observes that the broader offer of HDTV content by a satellite MVPD provider will most certainly spur competition in this

⁵¹ The Application is supported by the League of United Latin American Citizens, the oldest and largest Hispanic civil rights group. [The League] believes that the proposed merger . . . would provide improved communications services to the nation's Hispanic community . . . EchoStar & DTV have offered a great deal of programming for Spanish-dominant and bilingual households, but the potential exists for even more. Comments of the League of United Latin American Citizens at 1.

⁵² Comments of Thomson Multimedia at 1.

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area from cable operators and necessarily help speed the rollout of this technology nationally.⁵³⁻⁵⁴ As Sharp Electronics Corporation puts it in its letter supporting the merger, [s]uch an increase in HDTV capacity will provide incentives for programmers to increase HDTV programming, consumers to buy more HDTV equipment, and competitors in the cable and broadcast industries to upgrade their HDTV capabilities, all resulting in better service for consumers and a timely return of analog broadcast spectrum to the public.⁵⁵ In sum, as cable systems continue to go digital to compete with the competition that DBS operators have already brought to the MVPD marketplace, New EchoStar will continue to compete aggressively with the cable incumbents and drive them to improve their own products, pricing, and service quality.

The creation of New EchoStar also will not, as the NRTC asserts, result in a loss of choice for rural Americans. Indeed, not only is the NRTC's view not

⁵³ As Dr. Barnett observes, at present, it is only possible to accommodate 1 HDTV channel on each 24 MHz transponder. Barnett Declaration at ¶¶ 4-6.

⁵⁴ Comments of Circuit City Stores, Inc. at 5.

⁵⁵ Letter from Robert Scaglione, Vice President-Marketing, Consumers Electronics Group, Sharp Electronics Corporation, to Attorney General John Ashcroft, U.S. Department of Justice and Chairman Michael Powell, Federal Communications Commission (Feb. 4, 2002).

⁵⁶ NRTC Petition at 30. Nor is it true that the Applicants plan to consign all national programming to the 101° W.L. orbital location, as suggested by the State of Alaska. *See* Comments of the State of Alaska at 8-9 (expressing concern that an eastward shift of key national programming from 119° W.L. to 101° W.L. would eliminate or degrade service to parts of Alaska). The satellite Application filed today by Applicants makes clear that the merger will result in significantly more national programming from 119° W.L. than is currently available. Specifically, under the Applicants' plan, 9 of the 32 DBS frequencies at 119° W.L. will be devoted to spot-beams (one of which will be directed to Alaska). The remaining 23 frequencies will, therefore, be available for national programming. This will likely result in a significant increase in the national programming transmitted from the westernmost full-CONUS slot. Alaska too will (Continued ...)

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shared by other rural constituencies,⁵⁷ the proposition itself falls on its face. First, the elimination of extensive programming duplication by EchoStar and DIRECTV will result in a significant increase in the number and types of national programming, including HDTV programming, made available to DBS subscribers. Subscribers in rural areas will enjoy all the benefits of this expanded programming, benefits that simply could not be made available to them due to spectrum constraints in the absence of a merger. Second, to the extent that NRTC (and its members and affiliates, including Pegasus) currently has the right to distribute DIRECTV programming in competition with EchoStar in rural areas, that contractual right will be recognized by New EchoStar. Accordingly, in those rural territories served by NRTC, there will be no reduction in the number of providers of DBS service.

In addition, as a direct result of New EchoStar's plan to serve every market, equaling all Americans, with local channel service, rural Americans will receive access to local channel service, with digital quality pictures and CD quality sound, that *they have never enjoyed before, and could not receive but for the merger*. Indeed, a significant portion of these subscribers may not even be able to receive quality over-the-air television broadcast signals, such that New EchoStar will actually increase the number

certainly share in the huge benefits of doing away with duplication of national programming services between the two companies.

⁵⁷ See, e.g., Comments of the Louisiana Farm Bureau Federation at 1; Letter to Chairman Michael Powell from M.J. Mike Foster, Jr., Governor of Louisiana (Jan. 17, 2002) (merger will benefit rural residents of Louisiana); Comments of Jeff Hoffman, Champion Rural Economic Area Partnership Alliance Director at 1; Comments of Amy Pastor, Church Point (La.) Chamber of Commerce at 1.

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of television households in rural areas. NRTC's claim that New EchoStar's promised increase in local service ignores rural consumers is incorrect.

Finally, the enhanced ability of New EchoStar to provide more programming choices necessarily means more carriage opportunities for independent programmers who historically have had trouble gaining carriage on cable systems. To maintain its competitive edge against cable operators, New EchoStar would have a clear incentive to differentiate itself through innovative independent programming sources.

C. The Merger Will Make Broadband Service Available to All U.S. Homes

As discussed in more detail in Section III below, the merger will provide New EchoStar with the spectrum capacity and economies of scale to create a true broadband advanced service alternative. In doing so, it will help cure the real problem, which the Petitioners assume away.⁵⁹ That problem is simply the unavailability of true broadband service to millions of rural Americans and the lack of effective broadband competition for all remaining consumers.

The high-speed Ku-band access services provided by the Applicants today do not cure this problem—they do not satisfy the Commission's definition of an advanced service. Nor could either company standing alone deploy on a timely basis an advanced residential service of mass scale and appeal at an affordable price. Partly for

⁵⁸ NRTC Petition at 60.

⁵⁹ See e.g., NRTC Petition at 42-51; NAB Petition at 99-102; Pappas Telecasting Companies Petition at 6.

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these reasons, SPACEWAY has been developed with a focus on the larger commercial, or enterprise, customers, while EchoStar's Ka-band program has remained modest in scope. Both of these Ka-band programs will need to be refocused and integrated with one another to achieve the required economic scale for ubiquitous residential true broadband service. Therefore, the effects of this transaction on the broadband market are more akin to an increase in the number of true broadband competitors from zero to one in many areas and one-to-two or two-to-three in other areas.

Ultimately, the question for the Commission is simple: will it try to tackle the limited availability of advanced services throughout America with a web of costly cross-subsidy and regulation? Or, will it allow a multi-billion dollar private capital initiative to create a true broadband competitor that will provide advanced services to virtually all American homes? The latter alternative clearly is the better one for the public interest.

Given that there are large portions of the country that will not be able to receive cable modem or DSL service any time soon, the roll out of a competitively priced satellite broadband service will result in large consumer benefits. As with the video service, there are incentives to price this service subject to a national pricing policy such that the price for basic broadband service will be set on the basis of competition with cable modem and DSL services, thereby ensuring that rural customers will receive the benefits of this new service.

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D. The Merger Will Allow New EchoStar to Achieve Extraordinary Efficiencies

In addition to the spectrum efficiencies discussed above, the merger will allow New EchoStar to substantially improve existing equipment and services to consumers at a lower cost.

First, New EchoStar will provide a unified DBS firm with a stable and better utilized satellite fleet. In addition to enabling innovative merger-specific efficiencies such as the Local Channels, All Americans plan, the merger will provide much greater flexibility to provide economical in-orbit backups. Over time, New EchoStar will also be able to rationalize its satellite fleet to the licensed frequencies of the combined company. For example, today, DIRECTV is using an entire DBS satellite at the 110° W.L. orbital location to utilize only 3 frequencies of licensed bandwidth at that orbital position. New EchoStar will be able to match its satellites much more efficiently to spectrum that is no longer fragmented between the companies.

The Applicants also anticipate that the standardized equipment and services of New EchoStar will be functionally superior to either company's existing equipment. Moreover, because of the economy of scale resulting from the combined customer base, the Applicants anticipate a tremendous savings in operational and manufacturing costs in providing these improved equipment and services. Finally, the increased customer base will also allow New EchoStar to decrease programming costs and may be the basis for creating a new programming platform. Together, these synergies will create a dynamic company that will be able to vigorously compete with

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cable by offering consumers a more robust service at cost lower than either party could achieve alone.

The combination of EchoStar and Hughes will allow the companies to use the best equipment, technology, practices, and services of each to offer a better and less expensive product to consumers. The Petitioners intend to standardize the equipment used by its customers by combining the best elements of the technology of EchoStar and Hughes. The next generation of DBS and broadband equipment will offer a level of service currently unavailable. One aspect of this will be the Local Channels, All Americans plan described above, but Petitioners anticipate many other efficiencies as well. Functionalities available to EchoStar customers that are not currently available to Hughes customers or vice versa will be incorporated into the standardized equipment thereby improving services to all customers and potential subscribers.

Standardization of components will also create an economy of scale that will reduce costs. For example, New EchoStar will be using a standardized set top box. By increasing the volume of units ordered, New EchoStar anticipates substantial manufacturing cost savings that could be used to reduce charges to customers. The increased potential customer base would also make more economically attractive opportunities to integrate New EchoStar equipment with other services and devices. By increasing the size of the market, companies such as television or computer manufactures may be more interested in creating products that integrate DBS and broadband abilities directly into their products.

Consumers will also benefit from the consolidation of the service departments of EchoStar and Hughes such as customer service and billing operations.

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New EchoStar would take advantage of the most efficient aspects of both companies to raise the level of service it would provide to customers. In addition, because of the economies of scale, it is anticipated that the cost of providing this improved service will decrease on a per customer basis. Similarly, the merger will allow the companies to eliminate duplicative operational practices. For example, the cost and time of programming backhaul and uplink would halved because New EchoStar would only need to perform these functions once where today each company must perform these operations separately.

New EchoStar will also gain tremendous efficiencies as a result of the combination of the EchoStar and Hughes customer bases. By having a greater number of viewers, New EchoStar will be in a stronger position to negotiate with programmers for more programming options at a lower per customer cost. Moreover, the increased number of customers may make the creation of an independent programming platform economically viable where it is currently impractical for either company alone.⁶⁰ With a large enough audience, New EchoStar will be in a position to produce and offer new and alternative programming choices to consumers. Finally, the greater number of viewers will make advertising on New EchoStar more valuable. Thus, by leveraging the size of its customer base, New EchoStar will be able to increase the programming options for its customers while decreasing costs.

⁶⁰ See Section IV.A, *infra*.

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As a whole, the efficiencies of the merger will result in better, more competitive services that will offer consumers greater programming and broadband options in a more cost effective manner.

Nor is it possible, as the NAB suggests, for these efficiencies to be realized through some type of spectrum-sharing joint venture.⁶¹ Such a venture is inherently unworkable outside of a merger scenario, primarily because it would require each company to cede control over a significant part of its crown jewels its core satellite and spectrum resources. No court or agency has ever agreed that a transaction short of merger is a palatable alternative when it requires contribution of each firm s core assets. In fact, in this case there is unusually tangible proof that a joint venture would not work: the parties tried to negotiate one and failed because it was unworkable.

There are only three options for control in an arrangement like the one the NAB proposes control by DIRECTV, control by EchoStar, or shared control with the potential for deadlock. Absent a merger, neither EchoStar nor DIRECTV would cede the essential satellite assets of their businesses to its competitor to control, or to a separate entity that itself would be subject to instability and deadlock. Because spectrum sharing would require numerous decisions that would significantly disadvantage one firm or the other, these control questions are ruinous.

Considering how the transition issues would be addressed in such a joint venture drives home the problem. Spectrum sharing would likely require the replacement of one firm s consumer equipment. The firm that had to replace its equipment would be

⁶¹ NAB Petition at 90-92.

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put at a significant disadvantage, even if the costs were shared, because consumers and retailers would stop buying that firm's equipment as soon as the decision was announced. Similarly, the decision on how to use each firm's satellite assets could significantly and adversely affect one firm or another in the event the agreement was terminated. Issues such as potential satellite failures and back-up plans would also be extremely difficult to address with separately owned diverse fleets of satellites. Finally, the general instability of such an arrangement would make the undertaking prohibitively risky, and would discourage investment in research and development needed to move the platform forward. Only the merger can provide the stability and decision making process to overcome these obstacles.⁶²

E. The Commission Has a Unique Competence to Recognize the Extraordinary Spectrum Efficiencies Flowing from the Merger

The Commission is uniquely positioned to evaluate the extraordinary merger-specific efficiency of eliminating redundant spectrum use. In fact, the Communications Act requires the Commission to ensure the efficient use of the spectrum.⁶³ The Commission recently summed up the importance of spectrum efficiency and its role in achieving it:

⁶² In addition to the control issues, a joint venture would require unwieldy procedural entanglements. The firewalls necessary to avoid sharing of competitive information would massively complicate the relationship of the firms with a stand-alone joint venture entity, exacerbating the control and stability issues.

⁶³ See 47 U.S.C. § 303(g) (requiring the Commission to [s]tudy new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest.); see also 47 U.S.C. § 309(j)(3)(D)

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The growing demand for spectrum by new services and the continuing development of radio communications technologies make spectrum management a unique challenge. Spectrum is a valuable and finite public resource that must be allocated and assigned in a manner that will provide the greatest possible benefit to the American public. At the same time, it is important to encourage the development and deployment of new, more efficient technologies that will increase the amount of information that can be transmitted in a given amount of bandwidth.⁶⁴

Within that policy, across a host of telecommunications sectors, the Commission has consistently treated duplicative use of the spectrum with skepticism.⁶⁵

(in designing competitive bidding methodologies, the Commission shall seek to promote the efficient and intensive use of the electromagnetic spectrum.).

⁶⁴ *In the Matter of Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium*, 14 FCC Rcd. 19868, 19870 ¶ 7 (1999); see also *In the Matter of Principles for Promoting Efficient Use of Spectrum by Encouraging the Development of Secondary Markets*, 22 Comm. Reg. 791 (2000).

⁶⁵ For example, in denying a request for the use of INTELSAT facilities to provide an identical telecommunications service already in existence on domestic satellite facilities, the Commission stated: [g]iven the finite nature of the geostationary orbital locations for communications satellites... and transponder capacity on those satellites, the use of two transponders (one domestic and one INTELSAT) for identical service clearly is not an efficient use of this limited resource. *Transborder Satellite Video Services*, 8 FCC 2d 258, 281 n.30 (1981). See also *In re Revision of Radio Rules and Policies*, 7 FCC Rcd. 2755, 2783 ¶ 57 (1992) (In the radio broadcasting context, reasoning that it saw no benefit to the public [by] permitting commonly owned same-service stations in the same market to substantially duplicate programming, the Commission limited simulcasting by such stations to 25 percent of the broadcast schedule.); *In re Application of State of Idaho for a Waiver of the Rules to Allow Federal Government Agencies to be Provided Service in the Private Operational Fixed Microwave Radio Service*, 3 FCC Rcd. 5910 (1988) (In ruling favorably upon a requested waiver of the Commission's rules by the State of Idaho to enable it to share several Private Operational-Fixed Microwave Radio Service facilities with the United States Forest Service and a federal energy body, the Commission reasoned that the proposed sharing would conserve public funds and

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Notwithstanding the Commission's pro-efficiency policies, the NAB argues that the Application should be denied because the Commission has never agreed to allow a single firm to control 100 percent of an entire spectrum [sic] . . .⁶⁶ This argument is both inapplicable here and incorrect.

First of all, the merger would not give New EchoStar such control. To arrive at its 100% control idea, the NAB offers a gerrymandered definition of the relevant universe of spectrum in its view, it is all CONUS high-power Ku-band spectrum.⁶⁷ This definition excludes the DBS licenses held by R/L DBS and Dominion. Even under its own definition, moreover, the NAB ignores the licenses available for high-power Ku-band FSS satellites for the full-CONUS DBS slots allotted by the ITU to Mexico, Argentina, Canada and other countries. In fact, two Applications are pending before the FCC to allow service to the United States from two orbital locations allotted to Canada.⁶⁸

Second, the Commission's competition analysis is not based on a band-by-band market definition. The inquiry is based on the competition available in the entire market, not only users of a particular spectrum band. As noted in Section II.A, below, the product market is multichannel video programming distribution, not three

spectrum space by avoiding expensive and unnecessary duplication of facilities and service [and that] the public interest clearly favors this result.)

⁶⁶ NAB Petition at 106.

⁶⁷ *Id.*

⁶⁸ See Digital Broadband Applications Corp., File No. SES-LIC-20020109-0023; WSNET Holding, Inc., File No. SES-LIC-200111121-02185.

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DBS slots, not even satellites only. The comparison drawn by the NAB from the DARS licensing proceeding is inapposite for a similar reason. The DARS licensees were then, and are now, the only providers of unbundled nationwide subscription radio. DBS providers, by contrast, have to compete against much larger, entrenched incumbents that do not use the high-power Ku-band spectrum at all. Finally, the Commission has, in fact, sanctioned the use of the spectrum allocated to a particular service by one licensee.⁶⁹

II. THE MERGER WILL HAVE PRO-COMPETITIVE EFFECTS, AND NO ANTI-COMPETITIVE EFFECTS, IN THE MVPD MARKET

A. EchoStar and DIRECTV Compete Primarily Against Cable Operators in the MVPD Market

EchoStar and DIRECTV compete in the market for Multichannel Video Program Distribution (MVPD). This market (and not a DBS-specific one) has been identified by both the Department of Justice⁷⁰ and the FCC⁷¹ as the relevant market for

⁶⁹ When the Commission first established the Mobile Satellite Service (MSS) in the L-band, it received competing Applications from 12 companies, invited all the Applicants to form one consortium, American Mobile Satellite Corporation, and gave one license to that entity. The Commission purposefully elected to license one large consortium as opposed to multiple smaller entities because, among other things: a larger amount of bandwidth would permit a greater variety of services to be provided by an MSS system, and a larger customer base to be served; the high cost of an MSS system and the amount of spectrum available for MSS warranted the licensing of one initial MSS system using the entire allocated spectrum; and joint ownership of an MSS system would best permit a variety of competitive mobile satellite services to be made expeditiously available to the public. These same considerations would justify to a much greater extent here the creation of New EchoStar even if there were not ample other spectrum in the same band available for other competing providers.

⁷⁰ In 1998, the Department of Justice (DOJ) sued to enjoin Primestar, a joint venture of large cable companies, from acquiring rights to an orbital slot for nationwide DBS service that were held jointly by News Corp. and MCI Telecommunications Corp. In the suit, DOJ alleged that allowing cable operators through Primestar to control those DBS assets would eliminate the possibility that those assets could be used to compete

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purposes of evaluating transactions such as the EchoStar-Hughes merger.⁷² Although the MVPD market encompasses a number of different distribution technologies, there can be no doubt that this market continues to be dominated by incumbent cable operators, which continue to hold an approximately 78% share according to the most recent FCC analysis.⁷³

The principal merger opponents and their economists do not take serious issue with the notion that the relevant product market is MVPD, but they quibble around its edges and attempt to distort a number of facts and marketplace developments in order to construct a case that the merger will lessen rather than promote MVPD competition. Specifically, these parties have adopted a four-pronged strategy that seeks to: (i) minimize the degree to which cable operators dominate the MVPD marketplace; (ii) overstate dramatically the degree to which DIRECTV and EchoStar are competitively

against cable. DOJ also alleged that the MVPD market was the relevant product market for the purpose of evaluating Primestar's proposed purchase of the DBS assets. *See United States v. Primestar, Inc.*, Civ. No. 1:98CV01193 (JLG) (D.D.C. May 12, 1998).

⁷¹ *In re Application of MCI Telecommunications Corp.*, 15 Communications Reg. (P&F) 1038 (1999), at para. 9 & n.29 (finding that the MVPD market was the relevant market for purposes of analyzing this DBS transfer of control application, and moreover, that DOJ concurs with the Commission's analysis that the relevant product market is the provision of MVPD services.)

⁷² *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 9 FCC Rcd. 7442, 7474 ¶ 62 (1994) (First MVPD Competition Report) (from the outset, the FCC recognized that DBS would readily compete with cable)

⁷³ *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Eighth Annual Report, FCC 01-389 (rel. Jan. 14, 2002) at Table C-1 (Eighth MVPD Competition Report).

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focused on one another, rather than on dominant cable incumbents; (iii) marginalize the extent of any other existing or potential competition from other MVPD market sources; and (iv) attempt to taunt the merger Applicants with statements lifted from a private lawsuit that never came close to being adjudicated to a conclusion, and that is of little relevance here. Each of these prongs is discussed in more detail below, and when examined, illustrates the degree to which the merger opponents have misrepresented the state of the MVPD market, as well as the competitive effects of the proposed merger.

1. Cable Dominates the MVPD Market

To read the pleadings of the NRTC, Pegasus and the NAB, in particular, one would believe that DBS, and not cable television, was the dominant multichannel video programming distribution technology in the United States. To the contrary, the Commission has recognized that cable is the dominant technology for delivery of video programming to consumers in the MVPD marketplace.⁷⁴ Nationwide, cable controls more than three quarters 78 percent of the MVPD market.⁷⁵ The vast majority of U.S. households is passed by cable, and most households subscribe: 64 percent almost two thirds of all households owning a television subscribe to cable television.⁷⁶ Nor is

⁷⁴ Eighth MVPD Competition Report ¶ 5.

⁷⁵ *Id.* at ¶¶ 6-7.

⁷⁶ *Id.* at ¶ 18.

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cable subscribership falling. Indeed, cable penetration rose by over a million subscribers last year, an increase of almost two percent.⁷⁷

Plainly, this is a market in which the cable companies continue to hold a dominant market position. And to the extent that DBS has emerged as the principal subscription competitor to cable television service⁷⁸, cable's huge installed subscriber base of 70 million households is by far the greatest source of potential growth for the DBS service, and will remain the primary focus of competitive activity by DBS providers, in the future.

As stated in the Application, however, the key determinant to the continued emergence of DBS as a strong MVPD competitor will be the degree to which the service can keep pace with the technological enhancement of incumbent cable television systems. Even analog cable operators historically have had tremendous advantages over DBS operators in terms of system incumbency, consumer resistance to satellite dish installation, and extremely low consumer equipment costs relative to DBS providers. To the extent that DBS has been able to distinguish itself in the marketplace as having certain quality advantages over analog cable systems, such as a diverse number of programming channels offered with a digital quality picture and sound, the rollout of digital cable systems is reducing or eliminating this competitive advantage.⁷⁹

⁷⁷ *Id.* at ¶ 18.

⁷⁸ *Id.* at ¶ 57.

⁷⁹ *See e.g.* NRTC Petition at 20, 22; *see also* NRTC's Appendix, Exhibit I, Declaration of Paul W. MacAvoy at 6 (MacAvoy Declaration).

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Indeed, as noted in the Application, digital cable is profoundly threatening to DBS. Among other things, digital cable:

erases DBS firms' historical quality and channel advantages;

allows cable firms to offer a video/cable-modem bundle that DBS providers cannot begin to match;

has led the large cable multiple system operators to target DBS much more aggressively than in the past, including with cable modem bundles, national advertising targeted at DBS services, dish bounties, and other satellite-specific promotions; and

has introduced true two-way VOD in a number of markets, which currently cannot be matched by one-way only DBS systems, and enables the development of vastly expanded interactive services.

In addition, although DBS has become a more substitutable service to cable now that local channels may be carried on DBS systems, unless the merger is consummated neither DIRECTV nor EchoStar has the capacity or subscriber base, especially in the presence of must carry obligations, to carry local channels in anything close to the 210 DMAs in the United States.

Even the merger opponents agree that digital cable is emerging as a formidable incumbent cable response to DBS,⁸⁰ but they fail, of course, to recognize the

⁸⁰ See Pegasus Petition, Attachment A, Report of Daniel L. Rubinfeld (Rubinfeld Report) at 19; NRTC Petition at 20 (characterizing digital cable as reasonably interchangeable with DBS); MacAvoy Declaration (NRTC) at 6; NAB Petition, Declaration of J. Gregory Sidak Declaration at 9-10 (Sidak Declaration).

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implications of this point. If EchoStar and DIRECTV are to continue to succeed, they must match both the current dominance of incumbent cable operators as well as the dire competitive threat posed by the upgrade of these incumbents' systems. Absent a merger, there is a profound risk that DBS will devolve from its current position in the MVPD market as a quality and innovations leader to a lesser alternative that will cause its customers to abandon the DBS platform. And this development in turn will lessen the competitive pressure on cable firms, enabling them to continue to exercise market power.

2. NRTC, Pegasus and the NAB Greatly Overstate the Degree of Competition Between DBS Providers Relative to Cable

Consistent with their strategy of ignoring the 900 pound gorilla presence of incumbent cable operators in the MVPD market, the Petitioners also use misleading anecdotes and false inferences to suggest that EchoStar and DIRECTV compete very closely with each other, while competition with cable from the DBS firms allegedly is more attenuated. Indeed, each of the NRTC, Pegasus and the NAB go to great lengths to portray EchoStar and DIRECTV as vigorously competitive with one another, in order to suggest that the merger will lead to a dramatic reduction in MVPD competition.⁸² They of course compete, but this competition is dwarfed in comparison to DBS competition with cable. The Petitioners' point is overstated, and the policy conclusion is incorrect.

⁸¹ See e.g., Pegasus Petition at 22.

⁸² NAB Petition at 15-31; NRTC Petition at 31-35; Pegasus Petition at 12-14, 21-29.

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First, NRTC mischaracterizes the testimony of the merger parties' economist, Dr. Willig, as concluding that EchoStar and DIRECTV do not compete in the MVPD market, which the NRTC asserts defies logic.⁸³ This is a strawman that clearly does not track Dr. Willig's statement. What Dr. Willig observed was that DBS pricing decisions appear to be driven by competition with cable companies, that EchoStar and DIRECTV focus on gaining market share by luring consumers away from the leading cable providers, and thus, that DBS companies focus their competitive efforts on cable providers, rather than the other DBS firm.⁸⁴ Such statements, of course, are in no way inconsistent with the notion that DBS providers also compete to an extent with each other as MVPD market participants, they clearly do. But the level of competition between DIRECTV and EchoStar, which together control less than 20 percent of the MVPD marketplace, is dwarfed by the level of competition between DBS and cable.

Second, to the extent that NRTC, Pegasus and the NAB attempt to support their claims of ultra-vigorous intra-DBS competition with evidence, most of it is flawed and misleading.

The Petitioners claim parallel equipment discounting promotion and offers by both companies. In fact, they ignore that these actions describe the gradual move of both DBS companies towards the cable paradigm of free equipment, a clear effort to better

⁸³ NRTC Petition at vii.

⁸⁴ Merger Application, Exhibit A, Declaration of Dr. Robert D. Willig on Behalf of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation at ¶ 11 (Merger Application Willig Declaration).

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compete with cable. The DBS firms realized early on that they could not persuade cable subscribers to switch to DBS if the up-front costs were too high in relation to cable, and this dynamic has increased as they seek to grow deeper into cable's installed base.

The Petitioners claim that five days after DIRECTV announced that it was beginning to offer local service at \$5.99 per month, EchoStar announced it was going to start providing a similar lineup of local channels for \$4.99, events which occurred in late November 1999.⁸⁵ In fact, it was exactly at that time, November 29, 1999, that the Satellite Home Viewer Improvement Act (SHVIA) of 1999 allowed EchoStar and DIRECTV to begin offering local-into-local service for the first time. Given the importance of this regulatory development (and its import in allowing the two DBS companies to begin competing more effectively with *cable operators*), it is hardly surprising that the two companies announced at roughly the same time that they would begin offering local channel service.⁸⁶

The Petitioners claim that both DBS firms announced on December 27, 2001, that they were going to provide additional local channels in each market. In fact, on January 1, 2002, both DBS firms' must carry obligations went into effect, so that both firms were required *by law on the same day* to offer more local channels.⁸⁷

The Petitioners claim that each of EchoStar and DIRECTV generally picked the most populous areas in the country to roll out their local-into-local service. In fact, EchoStar and DIRECTV lists of DMAs do *not* overlap completely, suggesting that each company's local-into-local decisions are based on different considerations, to a much greater extent than overlap cities suggest intra-DBS rivalry.

The Petitioners emphasize that both EchoStar and DIRECTV announced the availability of HDTV-compatible set-top receivers within one day of each other.⁸⁸ Petitioners fail to note, however,

⁸⁵ Willig Declaration at ¶ 57.

⁸⁶ *Id.*

⁸⁷ *Id.* at ¶ 58.

⁸⁸ *See e.g.*, NRTC Petition at 33.

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that each of these announcements occurred at the Consumer Electronics trade show, a venue where such announcements regarding new technologies are commonplace. The timing of this announcement is much more logically ascribed to the promotional benefits of making such announcements at the leading electronic trade shows, rather than competitive response.⁸⁹

The bottom line is that the incidents cited by opponents of the merger simply do not provide persuasive evidence of intense competition between the two DBS firms. Rather, each provider primarily targets cable, and to the extent that they appear to be lowering prices or adding services in approximate tandem, those tandem movements for the most part reflect the response of both operators to predictable extrinsic events.

More broadly, the basic question posed by the Petitioners, *i.e.*, whether the DBS providers compete at all, is misplaced. As Dr. Willig observes, the more relevant question for analyzing the impact of the merger on competition in the MVPD market is not whether EchoStar and DIRECTV compete at all. Rather, it is the *degree* of competition between EchoStar and DIRECTV. . .⁹⁰

3. The Best Evidence Shows That the Degree of Competition Between EchoStar and DIRECTV Is Modest

Notwithstanding the optical illusion of contemporaneous action and reaction that Petitioners try to create, the data show that the DBS services of the Applicants do not compete fiercely against each other, and the loss of existing competition from the merger is correspondingly limited. Perhaps the best witnesses of

⁸⁹ Willig Declaration at ¶ 58.

⁹⁰ *Id.* at ¶ 59.

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this, and certainly the greatest beneficiaries from the lack of perfect competition between the two satellite providers, are NRTC and Pegasus themselves. While these two entities purport to be concerned about the fate of rural consumers, they currently charge rural subscribers \$34.99 \$3.00 more per month for DIRECTV's Total Choice package, an expanded basic service, than DIRECTV charges its subscribers for the same programming package in other areas of the country. This subscription fee is also \$3.00 per month more than the price charged by EchoStar for its equivalent America's Top 100 package⁹¹

As explained above, the reasons for NRTC's and Pegasus's ability to overcharge their subscribers include the huge differentiator associated with sports programming and DIRECTV's brand name⁹² For whatever reason, EchoStar today does not effectively constrain the prices charged by Pegasus and NRTC in rural areas. As the Applicants will show below, national pricing will better constrain the DBS prices charged rural consumers by NRTC and Pegasus than EchoStar can today.

Dr. Willig's examination of churn data confirms the relatively low degree of competition between DIRECTV and EchoStar. For example, using a DIRECTV subscriber survey, Dr. Willig studied the percentage of current DIRECTV

⁹¹ Ironically, it appears that the reason that NRTC and Pegasus are able to charge a supracompetitive price is precisely because, unlike EchoStar and DIRECTV, they do not compete with the major MSOs in urban areas.

⁹² NAB Petition at 63.

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subscribers who were previously EchoStar subscribers.⁹³ The data showed that only nine percent of DIRECTV's current subscribers were previously EchoStar subscribers.⁹⁴ By comparison, roughly 61 percent of DIRECTV's current customers previously subscribed to cable.⁹⁵ Dr. Willig concludes that these figures confirm the views expressed by DBS executives that the objective of each firm is to gain market share by luring customers away from the leading cable providers, not the customers of the other DBS firm.⁹⁶ Analyses by Dr. Willig of other churn data reflect as well that there is only limited competitive interaction between the DBS firms.⁹⁷

4. EchoStar and DIRECTV Have Been Unable to Discipline Cable Prices

The competition from EchoStar and DIRECTV that Petitioners are so eager to see preserved has not been enough to constrain the pricing behavior, improve the service quality, or enhance consumers' perception of most cable companies. One perennial fact observed by the Commission in its annual reports on the status of competition in the MVPD market is that cable operators continue to increase their prices

⁹³ See Willig Declaration at ¶ 61. Each month, DIRECTV surveys a random sample of roughly 350 subscribers and asks them a series of questions, including whether they have ever subscribed to cable or another DBS service. *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.* at ¶¶ 62-66.

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at rates that far outpace inflation.⁹⁸ EchoStar and DIRECTV, by contrast, have only raised their rates *twice* since 1996.

The findings of a Consumers Union survey of cable and satellite subscribers, published in the September 2001 Consumer Reports, highlights the effects on customer satisfaction of an industry with inadequate competition.⁹⁹ The report of this survey summed up its findings on cable service with a lament: In the national surveys of nearly 2,000 cable- and satellite-TV subscribers conducted for this report, cable companies received among the lowest marks of any service providers we regularly evaluate even lower than those for technical support from computer manufacturers.

⁹⁸ Eighth MVPD Competition Report at ¶ 9 (During the period under review, cable rates rose faster than inflation. According to the Bureau of Labor Statistics, between June 2000 and June 2001, cable prices rose 4.24 percent compared to a 3.25 percent increase in the Consumer Price Index (CPI), which measures general price changes.); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 22 Comm. Reg (P&F) 1414 at ¶ 9 (2001) (Seventh MVPD Competition Report) (During the period under review, cable rates rose faster than inflation. According to the Bureau of Labor Statistics, between June 1999 and June 2000, cable prices rose 4.8 percent compared to a 3.2 percent increase in the Consumer Price Index (CPI), which measures general price changes.); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming* 15 FCC Rcd. 978 at ¶ 9 (2000) (Sixth MVPD Competition Report) (During the period under review, cable rates rose faster than inflation, although the difference between the cable price index and the Consumer Price Index (CPI) is not as great as in the previous year. According to the Bureau of Labor Statistics, between June 1998 and June 1999, cable prices rose 3.8% compared to a 2% increase in the CPI, which measures general price changes.); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 14 FCC Rcd. 923 at ¶ 9 (1998) (Fourth MVPD Competition Report) (During the period under review, cable rates rose more than four times the rate of inflation. According to the Bureau of Labor Statistics, between June 1997 and June 1998, cable prices rose 7.3% compared to a 1.7% increase in the Consumer Price Index (CPI), which is used to measure general price changes.)

⁹⁹ See *TV: The Digital Decision, A Guide to Choosing Between Digital Cable and Satellite TV Or Sticking with Regular TV Service*, Consumer Reports (Sept. 2001).

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When the Consumers Union asked the survey respondents if they had been charged a substantial rate increase in the last year, more than three times as many cable customers answered affirmatively than did satellite customers (40% to 13%). And when asked if their service was an excellent value, more than three times as many satellite subscribers responded affirmatively (fewer than 10% of cable subscribers to 30%). Cable customers were also much more likely to report frequent service disruptions, unwanted changes in program packages, and frequent channel-listing changes.

While cable rates have risen steadily and faster than the rate of inflation since they were deregulated in the early 1990s,¹⁰⁰ what follows are a few examples of some recent cable rate hikes in a few representative cities.¹⁰¹

In Austin, Texas, AOL/Time Warner recently raised the monthly fee for expanded basic cable service to \$41.67. They had charged \$34.20 in 1999, \$37.74 in 2000, and \$39.69 in 2001. This is an increase of more than 21% in just three years. For a converter box, the increase over the same period was 93.8%, and the price for service charges increased 77.6%.¹⁰²

Cable customers in Reno, Nevada saw Charter raise its expanded basic rates approximately 15% this year, to \$39.99 per month. Monthly service charges had been just \$16.45 in 1990, increasing 143% over the next eleven years.¹⁰³

¹⁰⁰ See Comments of Consumer Groups at 7-10.

¹⁰¹ See Attachment D for news articles announcing recent rate hikes.

¹⁰² Austin American Statesman, Time Warner is upping cable rates, Nov. 28, 2001.

¹⁰³ The Associated Press State & Local Wire Reno, Nevada, Cable television rates to jump in northern Nevada, Nov. 26, 2001.

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Monthly cable fees in Syracuse, New York have been repeatedly raised by AOL/Time Warner by 5.4% in January 2001, 5.4% in August 2001, and another 5% in January 2002, with the number of channels remaining the same.¹⁰⁴

AT&T Broadband raised its monthly rates for expanded basic service an average of about 8% around the country, after two similar rate hikes in 2001.¹⁰⁵

When Comcast recently increased its rates in line with the other dominant cable operators around the country, cable consumers in the Washington, D.C. area experienced this lack of effective competition first-hand.¹⁰⁶ Comcast's Basic Plus package went from \$36.04 to \$38.17 a month, another 6% increase. This particular Comcast package compares closely to EchoStar's Top 50 programming package with local channels, except in price: EchoStar still charges only \$28.98 per month. That's a yearly difference of over \$110.

Mark Cooper, director of research for the Consumer Federation of America, correctly observes that the primary reason for these enormous rate hikes is the lack of effective competition: The simple fact of the matter is that they [cable operators] know they can pass through all those increases. The only people who raise prices in the middle of a deep recession are the monopolists. They use market power to force those

¹⁰⁴ The (Syracuse, NY) Post-Standard, "Time Warner raises cable rates again," Dec. 1, 2001.

¹⁰⁵ The Boston Globe, "AT&T will hike cable rates 8.7%," Nov. 22, 2001; The Miami Herald, "AT&T to raise cable rates," Nov. 3, 2001; Atlanta Journal and Constitution, "AT&T Broadband to raise cable TV fees for metro Atlantans," Nov. 3, 2001.

¹⁰⁶ See Attachment E, *Dear Comcast Customer Letter*.

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increases through to the public.¹⁰⁷ Gene Kimmelman, co-director of Consumer Union's Washington, D.C. office, agrees: "This reflects ongoing price gouging by cable monopolies. It is particularly astounding that they're raising prices at a time when the economy is stalled."

It is against the backdrop of these quintessential elements of cable market power that the Commission must analyze the proposed transaction. As reflected in the views of the Consumers Groups and others,¹⁰⁹ as well as the attached economic analyses,¹¹⁰ the proposed merger is the only clear path to introducing effective competition to cable operators throughout the country.

In sum, EchoStar and DIRECTV both compete in the MVPD market, and to some limited degree they compete against one another. But the undeniable facts remain that the MVPD market is dominated by incumbent cable operators, both EchoStar and DIRECTV compete primarily against those cable operators, and the two firms must merge to stay competitive with those cable operators.

¹⁰⁷ The (Albany, NY) Times Union, "Higher cable TV bills coming," Nov. 22, 2001.

¹⁰⁸ The Seattle Times, "AT&T to raise cable fees 5.5%," Nov. 3, 2001.

¹⁰⁹ See e.g., Comments of Consumer Groups at 21; Comments of the National Taxpayers Union at 1; Comments of the Missouri Chamber of Commerce at 1; Comments of the Competitive Enterprise Institute at 1; Comments of Frontiers of Freedom at 1; Comments of Farm Bureau Financial Services at 1; Comments of the Third Millennium Communications & Electronics Co. LLC at 4; Comments of the Small Business Survival Committee at 1.

¹¹⁰ Willig Declaration at 4, 70-71.

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5. The Merger Opponents Wrongfully Ignore Other MVPD Providers and Potential Entrants

Another part of the strategy of the merger opponents is to argue that, apart from cable and DBS, other MVPD competitive services are fringe technologies,¹¹¹ with no prospect of entering the market on a time frame or a scale sufficient to constrain a DBS monopolist!² Again, such statements miss the mark.

First, the statements are inaccurate. There are other MVPD services across the country that retain significant subscribership. C-band satellite, Multichannel Multipoint Distribution Service (MMDS) providers, Satellite Master Antenna Television (SMATV) systems, and cable overbuilders all compete with DBS and incumbent cable systems. In fact, the combined MVPD market share of these technologies surpasses 3.25 million households nothing like the dominance of cable, of course, but about one fifth of the total share of DBS subscribership!¹³ In addition, the merger opponents do not accurately characterize the extent to which new MVPD market entry is possible or probable. Thus, the Commission itself has recognized that competitive [MVPD] alternatives continue to develop!¹⁴

Second, even if there were no other competitive distribution technologies or prospects for additional near-term entry in the MVPD market neither of which is the

¹¹¹ NRTC Petition at 23. It is odd that NRTC would make this characterization as it is one of the four major distributors of C-Band programming. Eighth MVPD Competition Report at ¶ 67.

¹¹² Pegasus Petition at 36.

¹¹³ Eighth MVPD Competition Report at ¶¶ 67-76, 107-112.

¹¹⁴ *Id.* at ¶ 5.

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case the fact remains that the dominant providers in the market remain cable operators, who have a 78% share. These are the providers that need constraining, and New EchoStar will achieve that goal.

(a) *Satellite Competition.* As indicated above, the formative years of the DBS industry have demonstrated that effective competition against the dominant cable providers in the MVPD market now requires the combination of the facilities and spectrum to which EchoStar and DIRECTV have access. At the same time, other companies have ample opportunity to use satellite spectrum and orbital locations, as well as other technologies, in an attempt to introduce additional competition in the MVPD market. Nothing in this merger will act to preclude such additional entry.

In this regard, Mr. Sidak is simply wrong in his assessment that [b]ecause orbital slot allocation is governed by the International Telecommunication Union, not the FCC, the number of orbital locations is fixed.¹¹⁵ In fact, several orbital locations allotted by the ITU to other countries in the Western Hemisphere have the technical capability to serve the entire continental United States. Two of these countries, Mexico and Argentina, have reached agreements with the U.S. allowing satellites from these orbital locations to serve the U.S. direct-to-home market subject to the same FCC licensing requirements that apply to the U.S. DBS orbital slots.¹¹⁶ Canada also has an ITU allocation for two DBS orbital locations that could be used to serve the U.S. market.

¹¹⁵ Sidak Declaration (NAB) at 20.

¹¹⁶ See *International Bureau Announces Conclusion of U.S.-Argentina Framework Agreement and Protocol for Direct-to-Home Satellite Services and Fixed-Satellite Services*, 13 FCC Rcd. 16581 (1998); *International Bureau Announces*

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MVPD competition could be brought to bear by any number of Ka-band licensees. Pegasus, for example, is free to use its valuable Ka-band licenses to provide MVPD service throughout the United States. Far from the dire picture of spectrum warehousing painted by opponents of the merger,¹¹⁷ there is wide dispersion of Ka-band and other FSS licenses among a variety of licensees.¹¹⁸ In fact, of the full CONUS Ka-band and FSS orbital locations (those from 83° W.L. to 133° W.L. according to Pegasus),¹¹⁹ licensees other than New EchoStar would hold a majority of the assets.¹²⁰

Non-full CONUS licensees, such as R/L DBS and Dominion, also will pose a competitive threat to New EchoStar. R/L DBS has proclaimed its ability to serve nearly every corner of the United States with regional programming from the 61.5 W.L. orbital location.¹²¹ Assuming this is true, it and its progeny will be able to compete head-to-head with New EchoStar.

Conclusion of U.S.-Mexico Framework for Agreement and Protocol for Direct-to-Home Satellite Services, 12 FCC Rcd. 13105 (1996).

¹¹⁷ NAB Petition at iii, 11-12; Pegasus Petition at 63-69; NRTC Petition at 50-56.

¹¹⁸ Even medium-power FSS satellites still lend themselves to various DTH initiatives, as shown for example by BellSouth's recent plan for a DTH offering. While BellSouth has not gone forward with that plan, the fact remains that ample FSS spectrum remains available for medium-power and high-power satellite DTH initiatives.

¹¹⁹ See Pegasus Petition at 71.

¹²⁰ Eleven other entities affiliated with neither EchoStar nor Hughes currently control orbital slots in the 83° W.L.-103° W.L. arc, which demonstrates that there are more than enough prime Ka-band slots controlled by others to ensure that the merger will not stifle competition in providing broadband services. See FCC International Bureau Authorizes Second Round Ka-Band Satellite Systems, Press Release (Aug. 2, 2001).

¹²¹ See Ex Parte Presentation by Howard J. Symons, Petition of R/L DBS Company L.L.C., For Extension of the R/L DBS Direct Broadcast Satellite Construction Permit, Spot Coverage Map (June 6, 2000).

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NRTC and its affiliate Pegasus will also likely compete against New EchoStar by using certain facilities of the combined entity if they desire to do so. Specifically, to the extent that DIRECTV's contract with NRTC grants NRTC the right to distribute certain video programming in certain areas, the merger would not alter its contractual rights. Since NRTC and Pegasus would not in those circumstances be constrained by New EchoStar's national pricing commitment, they would be able to continue to charge more to rural subscribers, as they do now, than DIRECTV or EchoStar, separately or together. In fact, however, the DIRECTV/NRTC agreement makes clear that NRTC's *exclusive* rights are limited and will expire in the future. As a consequence, New EchoStar will be able to compete fully with NRTC/Pegasus throughout those areas where NRTC and Pegasus have distribution rights under their contracts. This may in turn mean that, for commercial reasons, NRTC and Pegasus no longer will be able to charge more than New EchoStar for the same service, but such a result would be a benefit, not a loss, for rural consumers.

C-band satellite services are maintaining efforts to attract rural subscribers. While C-band is certainly not an effective alternative in urban areas, it should not be discounted as an alternative in rural areas. NRTC itself is a major distributor of C-band service even as it resells DBS service. While acknowledging that the number of C-band subscribers has fallen over the past few years, PrimeTime 24, the self-proclaimed leading provider of network television programming to the C-band

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marketplace, claims that, as of November 2001, there were almost 900,000 C-band subscribers in the United States.¹²²

(b) *Terrestrial Competition.* The Commission has also observed that entrants using a number of different technology platforms are having an impact on MVPD competition that cannot be ignored. Terrestrial services such as MMDS are capable of serving an estimated 36 million homes.¹²³ Although MMDS subscribership remained steady in the past year, the competitiveness of MMDS video offerings will likely be enhanced by MMDS operators' roll out of high-speed Internet access service, which can be paired with video to create the type of bundled service offering that consumers increasingly find attractive.¹²⁴

The Commission recently recognized the growing importance of providers that are overbuilding existing cable systems with state-of-the-art systems that offer a bundle of telecommunications services, including video, voice, and high-speed Internet access.¹²⁵ The Commission has termed these overbuilders Broadband Service Providers (BSPs), and noted that despite the challenges inherent in BSPs' strategy of entering markets with entrenched competitors, BSPs such as RCN and Knology are continuing to grow in terms of revenue and subscribership.¹²⁶

¹²² Comments of PrimeTime 24 Joint Venture at 3.

¹²³ Eighth MVPD Competition Report at ¶ 71.

¹²⁴ *Id.*

¹²⁵ *Id.* at ¶ 13.

¹²⁶ *Id.* at ¶ 109, 111.

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Electric and gas utilities are moving forward with ventures involving video distribution. The Commission noted that although the utilities are not yet major competitors in the telecommunications or cable markets, characteristics of these entities, such as ownership of fiber optic networks and access to public rights-of-way, could make them competitively significant.¹²⁷ Importantly, utilities appear to hold great promise for competition in rural areas, as the Commission observed that utilities, particularly some municipal utilities in rural areas, are willing to build advanced telecommunications networks offering a full range of services where incumbent cable operators and telephone companies are not.¹²⁸

Finally, the Commission has reported that it is technically feasible for a new terrestrial service, which the Commission has dubbed Multichannel Video Distribution and Data Service (MVDDS), to share spectrum allocated to DBS in the 12.2-12.7 GHz band.¹²⁹ The Commission has adopted a Further Notice of Proposed Rulemaking seeking comment on technical and service rules for licensing the new services.¹³⁰ Four companies, Northpoint Technologies, MDS America, Satellite Receivers, Ltd. and PDC Broadband Corporation have sought licenses or otherwise expressed interest in providing such a service. While EchoStar and DIRECTV have opposed the interference levels posited by proponents of MVDDS, they also have stated

¹²⁷ *Id.* at ¶ 104.

¹²⁸ *Id.*

¹²⁹ *Id.* at ¶ 64.

¹³⁰ *Id.*

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on the record that competition from such services is welcome so long as no interference occurs.¹³¹

(c) *Analogous examples of intermodal competition.* The broad view of MVPD as the relevant market is consistent with that of other agencies regulating different but competing technologies. In their competitive analysis, agencies typically consider not only the provision of service by the particular mode of carriage utilized by the company at issue, but also other competing forms of carriage (frequently referred to as intermodal competition).¹³²

In an analogous case, for example, the Interstate Commerce Commission (ICC) took a broad view of the relevant market in approving the merger of the

¹³¹ *Cable and Satellite Broadcast Competition: The Status of Competition in the Multi-Channel Video Programming Distribution Marketplace Before the House of Representatives Energy and Commerce Committee, Subcommittee on Telecommunications and the Internet* (statement of Charles Ergen, Chairman and CEO, EchoStar Communications Corporation) (Dec. 4, 2001) (While EchoStar does not oppose the emergence of new competitors in the MVPD market, we are opposing the proposal by Northpoint, because Northpoint's current proposal would cause electrical interference with the satellite reception of our established satellite TV customers as confirmed by the MITRE Corporation's testing.); *see also* Comments of EchoStar Satellite Corporation in CS Docket No. 99-250 (Aug. 16, 1999) at 1, 3 (EchoStar welcomes new entry into the MVPD market and applauds the Commission's proposal to open the 12.7 – 13.2 GHz band for use by all MVPD providers... [T]he Commission should consider this band as yet another possible home for the service planned by Northpoint Technology.)

¹³² *Market Dominance Determination & Consideration of Product Competition*, 365 I.C.C. 118, 130 (1981); *see also Market Dominance Determinations – Product and Geographic Competition*, STB Ex Parte No. 627, 1 n.2 (served April 6, 2001)(noting that Board's market dominance analysis considers, among other things, whether the complaining shipper can use other transportation modes, such as trucks or barges, to transport the same commodity between the same points); *Williams Pipe Line Co.*, 68 F.E.R.C. ¶ 61, 136, at 61, 660 (1994).

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Trailways bus line into Greyhound, at a time when those two lines accounted for the vast majority of intercity bus transportation in the U.S. As the ICC stated, the relevant product market is the intercity transportation of passengers, including private automobile, airlines, intercity bus, and Amtrak.¹³³ The Commission went on to explain that, essentially, the national pricing of bus transportation was a sufficient safeguard: bus passengers, even those with limited access to air, Amtrak, or private auto will continue to be protected from unreasonable rates by the market discipline of intermodal competition since remaining bus firms must set rates and service to attract passengers who do have these options.¹³⁴ In affirming, the Court of Appeals for the D.C. Circuit cited approvingly the ICC's findings that the market included other modes of transport, that competition in the national market was necessary to promote the public interest, and that even in rural markets, the consolidation would have little effect because intermodal competition would provide a sufficient cap on unreasonably high prices or inadequate services.¹³⁵

Like the Greyhound/Trailways transaction, the proposed merger should be evaluated in the broader market. Here, as there, all consumers will be protected because New EchoStar must set rates and service to attract [consumers] who do have these options.

¹³³ *GLI Acquisition Company Purchase Trailways Lines, Inc.*, ICC Decision No. MC-F-18505, at 7 (May 27, 1988).

¹³⁴ *Id.* at 10.

¹³⁵ *Peter Pan Bus Lines, Inc. v. ICC*, Nos. 88-1532, 88-1566, 88-1567, slip op. at 5 (D.C. Cir. May 8, 1989).

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6. Petitioners Cannot Prove the Existence of a DBS Market from Echostar's Pre-Trial Position in a Dismissed Proceeding

Petitioners NAB and Pegasus, among others, try to prove their economic case by recourse to statements that EchoStar made in a 2000 pre-trial request for extension of time in a now dismissed antitrust dispute with DIRECTV.¹³⁶ The Petitioners use these statements to suggest that EchoStar believes in the existence of a separate DBS market, that therefore there must be such a market, and that EchoStar has reversed course now only to serve its interest in approval of the merger Application. The Petitioners misread these litigation statements, and in any event their reliance on them to prove their economic case is misplaced, particularly since none of their own economic experts has argued in favor of a separate DBS market.

First, it is certainly not true that EchoStar's belief in a single MVPD market is of recent origin. EchoStar has always held the same view: that there is one MVPD market, in which cable is the incumbent and dominating player, and that DBS competes, although presently with distinct disadvantages, against cable within the MVPD market. It has also consistently recognized that certain factors have historically inhibited DBS from robustly competing with cable.

EchoStar has expressed that view on dozens of occasions, starting as early as 1995. In 1996, for example, EchoStar asserted that the relevant market includes all

¹³⁶ NAB Petition at 37-40; Pegasus Petition at 12-14.

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multichannel video programming distributors, not just DBS service providers.¹³⁷ In 1997 EchoStar wrote in comments to the Commission: Ever since it commenced DBS service in the spring of 1996, EchoStar has viewed cable subscribers as its primary target market. Accordingly, EchoStar has priced and structured its offering with the primary purpose of attracting cable subscribers.¹³⁸

In December 1998, EchoStar expressed a similar view with respect to the potential impact of its transaction with MCI: EchoStar emphasizes that the MVPD market – not any subset of that market – is the relevant market for analyzing the public interest impact.¹³⁹ It also noted that DBS service has emerged as the most likely alternative with the potential for introducing full-fledged competition against dominant cable operators in the MVPD market, but is still a long way from realizing that potential because of various spectrum-related and regulatory constraints.¹⁴⁰ Appearing before a congressional committee in 1999 regarding EchoStar's efforts to compete with cable systems, EchoStar's Chief Executive Officer Mr. Ergen testified: The relevant market for our service is the MVPD market. DOJ has found extensive evidence of customers

¹³⁷ *In re Application of Direct Broadcasting Satellite Corp.*, 11 FCC Rcd. 10494 (1996) at ¶ 8.

¹³⁸ Comments of Echostar Communications Corp., *In re Annual Assessment of the Status of Competition in Market for the Delivery of Video Programming*, CS Docket No. 97-141 (July 23, 1997) at 2.

¹³⁹ *In re Application of MCI Telecommunications Corp. and EchoStar 110 Corp.* (Dec. 2, 1998) at 7.

¹⁴⁰ *Id.* at ii.

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switching from cable to DBS, contrasted with the early days of DBS, when subscribers most often came from uncabled areas.¹⁴¹

While this view of the relevant market was certainly the prevalent one in 2000, this does not mean that it was free from any doubt. As zealous advocates, EchoStar's lawyers in the litigation had the duty to explore fully the extent to which any such doubt could be used to bolster EchoStar's case. This was the context of the statements seized on by Petitioners in EchoStar's request for more discovery to shed additional light on the factual issues. In its *Request for Rule 56(f) Continuance to Respond to Defendants' Motion for Summary Judgment*, EchoStar argued that the summary judgment requested by DIRECTV was inappropriate pending ongoing discovery and in light of the need for additional discovery on highly complex issues such as market definition. The statements cited by Petitioners described only beliefs about what the evidence could establish, and they did not purport to be statements of proven fact. Indeed, EchoStar explicitly noted that its assertions were based on a preliminary understanding of the case, stating that expert witnesses will play an important role on several issues, including the definition of the relevant market.¹⁴²

Finally, even if there were any potential counter-argument about the relevant market in 2000, it has been dispelled by developments that were then in their early stages and that have since matured decisively. As explained above, these

¹⁴¹ Charles W. Ergen, Testimony Before the Subcommittee on Antitrust, Business Rights, and Competition, Committee on the Judiciary, U.S. Senate (Jan. 27, 1999) at 3.

¹⁴² *Request for Continuance*, at 3.

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developments include: on the one hand, the fuller extent to which DBS providers have since been able to capitalize on the local-into-local opportunity afforded by SHVIA since the end of 1999; and, on the other hand, the aggressive roll-out of digital cable.

B. NRTC, NAB and Pegasus Criticisms Of The FCC s Homes Passed Estimate Are Not Persuasive and Rely on Inaccurate Data Sources

In discussing the lack of anti-competitive impact on rural markets of the proposed transaction, the Application referenced the Commission s then-current statement on cable availability, which observed that over 96% of all television households in the United States are passed by cable television systems and that these cable operators continue to be the dominant distributors in the national MVPD market.¹⁴³ The Commission has since released its Eighth Annual MVPD Competition Report which places the current percentage of television households passed by cable at 97.1%.¹⁴⁴ NRTC, NAB and Pegasus argue that the statistics cited by the Commission overstate the percentage of TV households that have access to cable. These Petitioners, however, provide nothing but speculation to support their claims. And, even if the parties in this proceeding could agree on a percentage of homes not passed by cable, the practical

¹⁴³ Merger Application at 39-40 (citing Seventh MVPD Competition Report, 16 FCC Rcd. 6005, at App. B., Table B-1).

¹⁴⁴ Eighth MVPD Competition Report at ¶ 17.

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significance of this number would be insignificant, since New EchoStar effectively would be unable to isolate such consumers for an anticompetitive action.¹⁴⁵

In every Annual Report on the status of competition in the MVPD market since the Commission first began issuing them, the Commission has relied on data collected by Paul Kagan Associates, Inc. for the number of homes passed by cable.¹⁴⁶ Likewise, each year the Commission has compared the number of homes passed with the number of television households to obtain a sense of the availability of cable services to television viewers.¹⁴⁷ No Petitioner argues that this is the incorrect comparison for the Commission to make; nor could they, since the availability of cable to unoccupied housing units and occupied households without a television is indisputably irrelevant. Instead, the Petitioners argue that the Kagan data relied upon by the Commission overstates the number of television households in determining the number of homes passed, and that as a result, the percentage of television households passed by cable may

¹⁴⁵ See Willig Declaration at ¶ 98 (explaining that the percentage of homes passed by cable is only relevant if New EchoStar is able to find the non-cable passed homes, a process that would be extremely difficult and costly).

¹⁴⁶ *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 11 FCC Rcd. 2060, 2068 n. 19 (1995) (Second MVPD Competition Report) (explaining source of data for First MVPD Competition Report); Third MVPD Competition Report, 12 FCC Rcd. 4358, 4368, 4465; Fourth MVPD Competition Report, 13 FCC Rcd. 1034, 1049, 1174; *In the Matter of Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Fifth Annual Report, 13 FCC Rcd. 24284, 24322 (1998) (Fifth MVPD Competition Report); Sixth MVPD Competition Report, 15 FCC Rcd. 978, 990, 1080; Seventh MVPD Competition Report, 16 FCC Rcd. 6005, at ¶ 18, App. B. Table B-1; Eighth MVPD Competition Report, FCC 01-389, at ¶ 17, App. B. Table B-1.

¹⁴⁷ *Id.*

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be inaccurate and could be as low as 81% instead of the 97% figure cited by the Commission.¹⁴⁸

The Petitioners' entire argument in this regard is based on the assertion that cable operators include unoccupied housing units and non-television households in the homes passed data that they provide to Kagan.¹⁴⁹ The assumption underlying this theory is that cable operators have no way to determine the number of television households in their service area.¹⁵⁰ Yet, this assumption is entirely unsupported by the Petitioners. Cable operators have every incentive to determine this figure because it defines their potential local customer base. The figure is relevant to any number of budgeting, marketing and other financial efforts undertaken by cable operators. Moreover, the number of television households in a service area is not unknowable. To the contrary, Nielsen Media Research publishes yearly estimates of TV households on a county-by-county basis for the entire U.S.,¹⁵¹ and provides studies at an even finer level of granularity at the request of private entities. There is every reason to believe that cable operators are well informed concerning their potential customer base when they respond to Kagan data requests.

Indeed, the Petitioners' own attack on the numerator of the calculation shows that the Kagan number of homes passed may in fact be *understated* in one

¹⁴⁸ NRTC Petition at 9; Pegasus Petition at 16; NAB Petition at 46.

¹⁴⁹ NRTC Petition at 9; NAB Petition at 46.

¹⁵⁰ NRTC Petition at 9-10 (quoting NTIA/RUS Report at 19 n. 62)

¹⁵¹ See Broadcasting & Cable Yearbook 2001 at B-160 B241.

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important respect. NRTC attacks the data based on each cable operator's uncertainty about which of several possible homes passed criteria to use: feeder cables in place nearby; cable television readily available; potential to be connected; or, households capable of receiving service.¹⁵² Dr. Willig notes, the correct criterion is the broadest one, i.e., the number of homes with the potential for being connected to the cable system.¹⁵³ The potential for a home to be connected to a cable system is enough for the purpose of disciplining a satellite provider's conduct. All of the other criteria listed by the NRTC may be read as requiring *more than that* for a home to be considered passed. To the extent that a cable operator may be using a more restrictive homes passed criterion, the number of homes passed may in fact be *understated* from the economic point of view.

Petitioners also attempt to support their theory regarding the Kagan data by citing data from Warren Communications (Warren) on homes passed in six states, which exceeds the 2000 Census Bureau data on the number of occupied households in those states.¹⁵⁴ However, as Dr. Willig observes, Petitioners make no attempt to explain how data and collection practices by Warren Communications support their theory that *the Kagan* data is erroneous.¹⁵⁵ Petitioners also compare the Kagan data on homes

¹⁵² See NRTC Petition at 10.

¹⁵³ See Willig Declaration at ¶ 98, n.119.

¹⁵⁴ NRTC Petition at 11-12; NAB Petition at 46.

¹⁵⁵ See Willig Declaration at ¶ 98 (No commenter has provided any evidence that the Warren data are more accurate than the Kagan data.)

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passed in the U.S. with Census Bureau data on occupied households in the U.S., but this comparison is likewise unavailing in support of Petitioners' theory because there is no indication that the data collection and analysis practices of Kagan and the Census Bureau are the same or even similar. Simply put, the Petitioners do not make a persuasive case supported by hard evidence that the Kagan data, on which the Commission, industry and investors have relied for years, is incorrect or overstated.¹⁵⁶

Certainly, the opposite appears to be true for the figures proffered by the NRTC the NAB and their economic experts. As Dr. Willig explains, Dr. MacAvoy and Mr. Sidak both present a series of maps that purport to show areas where cable is available and where cable is not available and purport to show that it is possible to identify these areas with a great deal of precision.

As an initial matter, it is important to realize that these maps are based on information that is provided to Warren Communications by the cable companies. To the extent this information is inaccurate or not kept current, Warren's information will not be accurate.¹⁵⁷

Dr. Willig independently tested the accuracy of the Warren data in two ways: First, he analyzed DIRECTV churn data and examined whether any customers who lived in zip codes that the Warren data suggest were not passed had churned from

¹⁵⁶ NRTC also attempts to manipulate the numbers to its own advantage by arguing that 23 million homes do not have access to cable. NRTC Petition at 14; *see also* Pegasus Petition at 17. By NRTC's own analysis this 23 million home figure includes unoccupied housing units and homes without televisions. *Id.*

¹⁵⁷ Willig Declaration at ¶ 95.

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DIRECTV to cable. The data that Dr. MacAvoy and Mr. Sidak present suggest that a large number of zip codes are not passed by cable. But the DIRECTV data indicate that *more than one quarter* of the customers who lived in these supposedly non-cable passed zip codes and who left DIRECTV, *left for a cable provider*.¹⁵⁸

Next, to ensure that the problem is not with misreporting in the DIRECTV churn data, Dr. Willig asked Ginsberg Lahey, LLC, a Washington-based research firm, to check the accuracy of these results by contacting the local cable firms to ensure that subscribers in these zip codes could receive cable service. For a significant number of these zip codes, Ginsberg Lahey was able to confirm the accuracy of the DIRECTV churn data by verifying with the local cable provider that cable service was indeed available.¹⁵⁹ Ginsberg Lahey also contacted local cable firms in zip codes that the Warren data suggested were not passed by cable. In two weeks alone, Ginsberg Lahey discovered that *at least 20 zip codes that Warren indicated were not passed by cable were in fact cable passed*.¹⁶⁰

In any event, even assuming *arguendo* the correctness of Pegasus's characterization that [t]here is a range of estimates and some controversy over the number of U.S. homes that lack access to cable,¹⁶¹ the homes passed issue is only

¹⁵⁸ Id. at ¶ 96.

¹⁵⁹ Id.

¹⁶⁰ Id. Ginsberg Lahey found that cable service was available in the following zip codes: 13635, 13690, 24649, 25040, 25205, 30045, 30297, 30127, 37191, 40165, 46175, 47145, 42085, 55783, 63966, 66040, 70577, 72073, 77561, and 77650. The Warren database suggests that each of these zip codes is not passed by cable.

¹⁶¹ Pegasus Petition at 17.

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relevant to the extent that New EchoStar would be able to discriminate against consumers in those areas not served by cable. This is not possible for at least three reasons. First, as described more fully by Dr. Willig, economic theory predicts that in the situation that Pegasus describes, where homes passed data may be unsound and yield uncertainty regarding the identification of customers in non-cable passed areas, a firm is not likely to engage in price discrimination.¹⁶² In particular, New EchoStar would need to be wrong only in a relatively small number of cases to make it unprofitable to charge different prices to non-cabled and cabled customers.¹⁶³

Second, as originally described in the Application, the geographical diversity of those television households not served by cable makes discrimination between television households that are served by cable and those that are not very difficult.¹⁶⁴ Indeed, this latter point is aptly demonstrated by the maps of the fourteen clusters of rural areas included in the MacAvoy Declaration.¹⁶⁵ Those maps quite clearly show that census blocks without access to cable are interspersed with census blocks that do have access to cable in a way that would not permit a DBS provider to discriminate between cabled and non-cabled areas. In short, as Dr. Willig observes, even if the Warren (or Kagan) maps and data were accurate, cable franchise areas do not correspond to geographic designations such as DMAs, counties, or even zip codes. Thus,

¹⁶² See Willig Declaration at ¶¶ 94.

¹⁶³ *Id.* (citation omitted).

¹⁶⁴ Merger Application Att. A, Willig Declaration at ¶¶ 37.

¹⁶⁵ MacAvoy Declaration (NRTC) at 10-25.

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even if New EchoStar were to price differently based on the zip code of a customer, the zip code of a customer will not tell New EchoStar precisely whether that customer is passed by cable or not. Therefore, Dr. Willig found, it cannot be concluded from these maps that New EchoStar could implement a price discrimination scheme based on whether customers had cable available or not.¹⁶⁶

Finally, New EchoStar's commitment to the one nation, one rate card plan, which is addressed in more detail below, also will ensure that no discrimination occurs. At bottom, the question that the NRTC and others have injected into this proceeding over the number of homes passed by cable is a red herring that is not decisionally significant.

C. Petitioners' Analyses Begin From a False Baseline of Healthy Competition in the MVPD Market

The proposed merger will have significant pro-competitive effects in the relevant MVPD market, and the Applicants' one nation, one rate card commitment can demonstrably address any alleged anti-competitive effects on this market. The Petitioners' assertions that the merger will result in higher prices for consumers are wrong from the starting point. They are based on false, rosy assumptions about the welfare of MVPD consumers today. In particular, as shown above, Petitioners disregard at least two crucial facts: (1) EchoStar's and DIRECTV's services are *not* perfect substitutes for each other; and (2) neither company on its own has been able to rein in the

¹⁶⁶ *Id.* at 63.

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behavior of large cable MSOs, which continue to raise their prices well in excess of the Consumer Price Index.

Instead of recognizing these facts, the Petitioners assume implicitly that there is now full-blown competition in the MVPD market between DBS and cable. Starting from that premise, they attempt to show that the merger will destroy much of this competition to the detriment of consumers. The premise is false, however.

To the question of whether MVPD consumers are well off today, the consumers' representatives correctly answer, no.¹⁶⁷ The Commission should not base its evaluation of the merger on the contrary assumptions entertained by the NAB, Pegasus and NRTC that all is basically well today in the MVPD market.¹⁶⁸

D. The Merger Will Result In Lower Prices for MVPD Consumers In Urban And Rural Areas

Some Petitioners argue that the merger will decrease the number of competitors from 2 to 1 in some areas, and 3 to 2 in others, thereby resulting in increased prices for MVPD consumers and a net public welfare deficit.¹⁶⁹ In support of this

¹⁶⁷ Comments of Consumer Groups at 4-7.

¹⁶⁸ NAB Petition at 13-15; Pegasus Petition at 9-10; NRTC Petition at 1-2.

¹⁶⁹ See, e.g., NAB Petition at 52-56 (a horizontal merger may create a single firm with substantial market power, enabling that firm to unilaterally raise prices. . . (quoting ABA Section of Antitrust Law, Antitrust Law Developments 493 (4th ed. 1997)); NAB's Sidak Declaration at 21-30 (calculating supposed price increase that would result from duopoly-to-monopoly merger and from a 3-to-2 merger); NRTC Petition at 30 (merger would lead to monopoly prices to rural Americans); NRTC's MacAvoy Declaration at 47-51 (predicting price increases as a result of merger); Rubinfeld Report (Pegasus) at 3.

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proposition, Petitioners pursue two somewhat inconsistent lines of attack: (1) that New EchoStar will seek to maximize profits by instituting a patchwork of different prices in different areas of the country; or (2) that even with a national price commitment, New EchoStar will be able to raise its prices unilaterally in both urban and rural areas; and that the merger will facilitate collusion and allocation of territories between New EchoStar and cable operators.¹⁷⁰ The first category of arguments ignores the Applicants' national pricing commitment, the Applicants' past pricing practices, and the reasons why national pricing makes as much sense for satellite television services as it does for national offerings of Internet access and cell-phone services. The second category of arguments disregards that New EchoStar must set its price to be competitive in the most competitive markets where the largest number of potential subscribers are located. By setting its price above competitive rates or colluding with a cable operator, New EchoStar would forego large pools of U.S. consumers and fail to maximize its profits.

1. The One Nation, One Rate Card Plan Will Be an Effective Constraint on New EchoStar

The Petitioners question the value of New EchoStar's commitment of national pricing as a constraint on prices.¹⁷¹ Their arguments ignore the fact that national pricing is consistent with the Applicants' efficiency-enhancing incentives and with their prior practices. It is also consistent with the practices of other national providers in

¹⁷⁰ NAB Petition at 96-98 (Sidak Declaration at 34-35); Pegasus Petition at 53-55; NRTC Petition at 35-38 (MacAvoy Declaration at 52-55).

¹⁷¹ NAB Petition at 96-98; Pegasus Petition at 53-55; NRTC Petition at 35-38.

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comparable network industries. The ability to offer local promotions for installation and equipment will not undermine the effectiveness of national pricing as a constraint. Discrimination in the quality of service has not been a problem in the past, and the same incentives that have prevented the Applicants from practicing such discrimination to date will remain in place after the merger to prevent it in the future.

As set forth in the attached Declaration of Dr. Willig, national pricing, which both EchoStar and DIRECTV have always used, makes sound economic sense. Offering a national price will allow New EchoStar to take advantage of this national footprint when marketing its services using television advertising, for example, and making the price of the service part of such campaigns. In contrast, tailoring packages to particular areas would cause the loss of the economies of scale inherent in a national marketing campaign.¹⁷² Moreover, customer service and direct sales are also done on a national basis, and implementing local price variations would require customer service representatives to be knowledgeable about a wide range of prices, only some of which would be available to any particular customer.¹⁷³

Even if these efficiencies did not attend national pricing, it would be extremely difficult to charge different programming prices in different areas. As Dr. Willig explains, evidence of this difficulty is demonstrated in areas where NRTC sells DIRECTV service at a price \$3 per month higher than DIRECTV charges for the same

¹⁷² See Willig Declaration at ¶ 94. As Dr. Willig observes, while it is true that some local variations exist with respect to promotions, these are largely with respect to equipment, installation and value-added gifts, for example, an umbrella. *Id.* at 60-61.

¹⁷³ *Id.*

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service. In such areas, EchoStar could maintain or perhaps strengthen its competitive position vis-à-vis DIRECTV and charge an extra \$1 or \$2 in NRTC areas (which are easily identifiable). However, EchoStar has not reacted to this price disparity by charging higher prices, providing additional evidence of the inefficiencies of regionally pricing DBS services.¹⁷⁴

Nor could New EchoStar implement a price discrimination scheme based on whether customers had access to cable or not.¹⁷⁵ Dr. Willig shows that the task of isolating consumers without cable is inherently difficult and imprecise (for example, the Warren data used by Sidak and MacAvoy are rife with inaccuracies). And as Dr. Willig explains, it would only be necessary for New EchoStar to be wrong in a relatively small number of cases before it would become unprofitable to charge different prices on this basis.¹⁷⁶ Such a price discrimination scheme, therefore, simply would not make good economic sense.

The fact that in the past the Applicants have used a limited number of local promotions to attract new subscribers in no way undermines their national pricing commitment. In a Catch-22, the Petitioners attack the notion of national pricing both if New EchoStar renounces the ability to offer local promotions (they say it would be inefficient) and if New EchoStar retains that ability (they say local promotions will

¹⁷⁴ Willig Declaration at ¶ 93.

¹⁷⁵ Sidak Declaration (NAB) at 34-35; MacAvoy Declaration (NRTC) at 52-53.

¹⁷⁶ Willig Declaration at ¶ 94.

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undermine the value of the national pricing commitment).¹⁷⁷ The truth is that local promotions can be a valuable tool to the same limited extent that Applicants have used them in the past, for example, in testing a promotion before taking it national, and that such limited promotions will not detract from the effectiveness of national pricing as a safeguard against price discrimination.

The local promotions that EchoStar and DIRECTV have offered over the years have been limited in geographic scope, time, value and number of subscribers affected. In the last year, for example, EchoStar and DIRECTV have offered local promotions in only a handful of areas. These areas have been targeted due to localized, specialized reasons such as cable bounty programs targeted at local rate increases. Importantly, the promotions have been limited in duration and very limited in scope. Over the last year, for example, subscribers gained by local promotions were a very small percentage – less than 5% of EchoStar’s total new subscribers for that period. Such limited local promotions for installation or equipment have not affected at all the levels at which the Applicants have set their national rates in the past and, according to Dr. Willig, will not do so in the future. For example, the effect on the profit-maximizing national pricing level would be negligible if New EchoStar were to offer in the first year of its operations only promotions of the same scope as those EchoStar and DIRECTV offered in the past. Indeed the Applicants are willing to commit to reasonable requirements to ensure that national pricing is an effective constraint on pricing behavior, consistent with efficiency and market dictates.

¹⁷⁷ NAB Petition at 94-95; NRTC Petition at 31-35.

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The Applicants also have engaged in no regional discrimination in the quality of service for several reasons. These reasons include the importance of national brand building and the significance of the DBS quality rankings by national consumer services evaluating quality on a national basis, such as J.D. Power. Some Petitioners nonetheless assert that New EchoStar will have an incentive to discriminate in the quality of the service it offers to subscribers with fewer MVPD alternatives.¹⁷⁸ The facts, however, disprove this assertion. Dr. Willig analyzed DIRECTV's customer satisfaction survey to determine whether DIRECTV currently engages in any form of non-price discrimination. Dr. Willig found that the results suggest that rural customers are just as satisfied with DIRECTV's overall service and customer service as non-rural customers.¹⁷⁹ EchoStar, for its part, has generally received significantly fewer complaints, both on an absolute and a proportionate basis, from consumers in rural areas than from urban households. This fact alone disproves the Petitioners' assertion that New EchoStar will have an incentive to discriminate against customers with fewer choices, for if this speculation were valid, each company today would have the incentive to reduce its service quality in those rural areas. EchoStar has not done so, proving that it values the image of its brand over the alleged incentive to pick and choose to whom it offers its top-ranked customer service.¹⁸⁰

¹⁷⁸ Rubinfeld Declaration (Pegasus) at 16; NAB Petition at 98, Sidak Declaration (NAB) at 36; NRTC Petition at 31, MacAvoy Declaration (NRTC) at 55.

¹⁷⁹ Willig Declaration at ¶ 69.

¹⁸⁰ American Customer Satisfaction Index of the University of Michigan Business School, Aug. 20, 2001. See <http://www.theacsi.org>.

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2. One Nation, One Rate Card Will Translate Effective Competition in Urban Areas Into Benefits to All Households and Renders the 3 to 2 and 2 to 1 Arguments Baseless

Petitioners allege that, even with a national price commitment, New EchoStar would raise its prices or collude with cable operators to maximize its profits. Petitioners specifically argue that the merger will reduce the number of competitors from 2 to 1 in areas without access to a non-satellite MVPD provider, which will permit New EchoStar to charge monopoly prices, and that it will also reduce the number of competitors from 3 to 2 in areas served by non-satellite MVPD, leading to higher duopoly prices and facilitating collusion. The cost/benefit analysis posited by Petitioners to reach this conclusion, however, assumes that New EchoStar would have no interest in growing its base of subscribers, and the only question would be how to maximize its profits from its existing subscriber base. Under Petitioners' analysis, New EchoStar would increase its prices if the additional profits from *existing* subscribers that have no realistic alternative service exceed the lost revenues from *existing* subscribers

¹⁸¹ See, e.g., NAB Petition at 52-56 and Sidak Declaration (NAB) at 21-30 (calculating supposed price increase that would result from duopoly-to-monopoly merger and from a 3 to 2 merger); NRTC Petition at 30 and MacAvoy Declaration (NRTC) at 47-51 (predicting price increases as a result of merger); Pegasus Petition at 21-22, 29-30 (speculating that the merger will lead to unilateral anti-competitive effects enabling a single DBS firm to increase price independently of how rivals behave, or will enable one satellite and one cable firm to coordinate behavior resulting in greater freedom to raise prices); CWA Petition at 2 (the reduction of competitors from 2-to-1 or from 3-to-2 will allow the merged firm to raise prices); Letter from the National Consumers League, National Farmers Union and the National Grange to William F. Caton, Acting Secretary, FCC (Feb. 4, 2002), at 1 (merger to monopoly will lead to higher prices).

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choosing to cancel New EchoStar's service. However, Dr. Willig explains that such an approach would not be in New EchoStar's economic interests, for the simple reason that New EchoStar would not be maximizing revenue if it restricted itself to existing subscribers.

A subscriber growth strategy is far more profitable for a firm such as New EchoStar that would serve a little more than 20% of the nation's MVPD households with a relatively high cost satellite fleet and uplink centers and relatively low marginal costs. As Dr. Willig explains, given the national pricing commitment, the prospect of gaining even a small percentage of new subscribers from the largest DMAs in the country would be much more valuable to New EchoStar than any prospect of extracting extensive rents from rural subscribers.¹⁸² In other words, the benefits of gaining additional subscribers in the largest DMAs by charging a competitive price would be much more valuable to New EchoStar than the additional margin from any conceivable rate increase above a competitive price. And this comparison does not even take into account the revenue streams from advertising or from pay-per-view, VOD, and interactive services. These services are likely to be relatively more attractive in more affluent, urban areas, and they are more reason why New EchoStar would not want to forgo the huge pools of urban subscribers.

This profit maximizing strategy is consistent with the way in which both DBS companies have uniformly favored growth to date, even though the prospects of growth are dampened by the constraints on EchoStar's and DIRECTV's ability to take on

¹⁸² Willig Declaration at ¶¶ 39-41.

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digital cable as an equal and from their ability separately to offer local channels to all DMAs and thereby compete more effectively with cable providers in all markets. EchoStar, for example, aggressively prices its America's Top 50 and 100 packages at \$22.99 and \$31.99 per month in order to convert cable subscribers, even though Pegasus and NRTC charge a full \$3.00 more per month in rural areas, leaving EchoStar ample room to raise its prices in those areas without losing rural subscribers. This growth strategy will make even more sense post-merger as New EchoStar takes advantage of the spectrum and other efficiencies gained by combining the two companies' resources in order to better compete with digital cable and therefore increasing the prospects for urban subscriber growth.

Therefore, based on current and past practices in the DBS industry, as well as sound economic theory and modeling, there is no question that New EchoStar will set its national price at a competitive level based on the MVPD prices prevailing in the most populous markets in the nation. Precisely because of these profit-maximizing incentives, national pricing will act as a means of bringing to all Americans, wherever they are located, the benefits of MVPD competition, wherever in the country it is the most intense. Competitive pressures from MVPD distributors operating in the largest cities will translate into benefits for consumers that are not directly served by these distributors.

Accordingly, the merger will not, as alleged by Petitioners,¹⁸³ be a 2 to 1 in any respect that matters for any area that is not passed by cable any more than it will

¹⁸³ NAB Petition at ii, Sidak Declaration (NAB) at 12); NRTC Petition at v; ACC Satellite TV Comments at 5.

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be a 3 to 2 for any household that is served by a cable system. To maximize its profits, New EchoStar will have to set its prices at levels allowing it to compete for subscribers in the most densely populated and most heavily contested markets.

3. There Is No Realistic Possibility of Collusion Among the Cable MSOs and New EchoStar

For the same reasons that New EchoStar will attempt to maximize its profits by competing vigorously with those MVPD distributors serving the largest DMAs, the concerns expressed by Petitioners about collusion among New EchoStar and cable operators are unfounded. First of all, this particular tango would require New EchoStar to dance with as many as 10 cable MSO partners simultaneously. New EchoStar would have to coordinate not only with one cable operator but at least with most, if not all, of the largest cable MSOs operating in the nation's most populated areas.

As explained by Dr. Willig, if any one of the major cable MSOs—AT&T/Comcast, AOL/Time Warner, Cablevision, Charter or Adelphia—were to refuse to participate in a deal to set prices at artificially high levels, a pool of millions of potential customers would automatically become unavailable to New EchoStar, making such a deal among the remaining parties economically unattractive.¹⁸⁴ Nor is Mr. Sidak's postulation of a tacitly collusive strategy of market allocation where DBS would keep the rural customers and cable would be free to take the urban customers, a realistic

¹⁸⁴ Willig Declaration at ¶¶ 72-73.

¹⁸⁵ Sidak Declaration (NAB) at 34-35.

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possibility. Such a deal could not happen for a simple reason, among others: the failure of consideration. New EchoStar would be giving up a huge pool of potential subscribers without getting anything in return. In particular, a promise on the part of large cable operators to hold back from expanding into the few truly unpassed rural areas would be meaningless, as cable operators would be unlikely to find such expansion profitable anyway. In short, under this theory, New EchoStar would be willing to act irrationally by forgoing the opportunity to gain subscribers in the nation's most populated urban areas and getting nothing in return.

Ever since the inception of their services, both EchoStar and DIRECTV have consistently followed a strategy of making their services increasingly competitive with cable systems in order to convert cable customers and obtain a large percentage of new MVPD subscribers. The proposed merger is the next logical step in that direction in order to keep pace with digital cable, and it is illogical to view it as an attempt to revert to the bygone era of rural-only satellite television. Such a strategy would be equivalent to economic suicide for New EchoStar.

E. Rural Cable Operators Will Continue To Be A Competitive Factor

The fear expressed by the American Cable Association that rural cable operators may be forced to discontinue operations is both overblown, inconsistent with the cable industry's representations to the Commission in other proceedings, and ultimately irrelevant.¹⁸⁶ Apparently, what these rural cable companies fear most is that

¹⁸⁶ ACA Petition at 2, 13-20.

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due to the efficiencies of the proposed merger, New EchoStar will be able to bring more services to rural America at lower prices. It is this threat of enhanced competition from DBS that they believe will make it more difficult to maintain and expand their customer base.¹⁸⁷

First, as the cable industry has repeatedly pointed out in the broadband and open access proceedings, rural cable operators can incorporate digital upgrades at an affordable cost, and have increasingly been doing so.¹⁸⁸ Using such technological innovations as the much touted Headend in the Sky, small analog cable companies unable or unwilling to invest in new facilities can expand their channel capacity to compete with other MVPD providers. Indeed, in its comments to the Commission in the open access proceeding, the American Cable Association asserts that its ACA Cable Modem Survey shows members are making substantial progress in deploying cable modem service and that

[t]he efforts of ACA members are providing hundreds of thousands of consumers the option of high-speed cable modem service in smaller markets. The number of homes passed by ACA members surveyed should exceed 1.7 million within 24 months. Other facilities-based providers have chosen not to invest in these markets. In this way, ACA members deliver a choice of broadband Internet access where none would otherwise exist . . . Emerging

¹⁸⁷ ACA Petition at 14-23.

¹⁸⁸ See Comments of the American Cable Association, CS Docket No. 00-30, at 5-8 (Apr. 25, 2000) (describing progress by ACA members, including Mediacom Communications Corporation, Galaxy Cablevision, Pine Tree Cablevision and Rural Route Video in providing cable modem service to small markets.)

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competition from satellite delivered Internet access should add to consumer choice in even the smallest markets.¹⁸⁹

And just this past month, NCTA and several smaller rural cable operators lobbied the Commission on their digital upgrades seeking to demonstrate to policy-makers that cable TV companies were rolling out broadband services in markets outside major metropolitan areas.¹⁹⁰ NCTA's president and CEO is quoted as follows:

Cable operators—even those serving midsize and rural markets—are widely delivering on the deployment of high-speed Internet service and other broadband services.¹⁹¹

Second, even if a particular cable operator were to discontinue operations, the cable plant would remain available for use and would likely be used by a successor entity that could run it more efficiently and avail itself of the decreasing cost of digital upgrades. The possibility of harm to a particular competitor does not constitute the type of harm to competition that the Commission is called upon to evaluate.

III. THE MERGER WILL MAKE TRUE BROADBAND SERVICES AVAILABLE FOR THE FIRST TIME TO ALL AMERICAN HOMES

A. The Merger Will Create The First True Satellite Broadband Service

¹⁸⁹ See Petition to Deny of the American Cable Association, ET Docket No. 00-185, at 12 (Dec. 1, 2000).

¹⁹⁰ See Telecommunications Reports, NCTA Touts Cable Modem Deployment in Rural Areas, (Feb. 4, 2002). See also *Ex Parte* Letters from Lisa A. Schoenthaler, NCTA Senior Director, Office of Rural/Small Systems and Association Affairs to William Caton, Acting Secretary, Federal Communications Commission (Feb. 8, 2002).

¹⁹¹ *Id.*

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Some commenters claim that the merger will result in an elimination or reduction of competition by reducing the number of broadband competitors from two to one in some areas, and from three-to-two in other areas.¹⁹² These commenters completely miss the point. They appear to begin with the assumption that all Americans enjoy vibrant competition among providers of true broadband services *today*; they then seek to prove that this competitive marketplace will suffer as a result of the proposed merger.

In fact, however, the merger of EchoStar and Hughes will *create* for the first time a truly competitive broadband alternative to DSL and cable modem service. In doing so, it will help alleviate the real problem, which these commenters assume away:

by any measure, the broadband revolution is far from reaching every corner of the United States. For many Americans living in remote areas, DSL or cable modems remain out of reach. Satellite high-speed service is the only platform with a national footprint, yet today's satellite broadband services are not comparable in price or quality to DSL or cable modem services, resulting in a low level of subscription to satellite services by rural Americans; and

even the remaining consumers today located in areas served by DSL or cable modems lack access to effective satellite broadband competition.

The high-speed Ku-band access services provided by the Applicants today do not cure either part of this problem. As a threshold matter, they do not satisfy the Commission's definition of an advanced service.¹⁹³ Nor could either company

¹⁹² See, e.g., Comments of the State of Alaska at 6; NAB Petition at 102; NRTC Petition at 50.

¹⁹³ See *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Third Report, CC Docket No. 98-146, FCC 02-33 (rel.

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standing alone deploy on a timely basis an advanced residential broadband service of mass scale and appeal at an affordable price. Partly due to these issues, SPACEWAY has been developed with a focus on the larger commercial, or enterprise, customers while EchoStar's Ka-band program has remained modest in scope. Both of these Ka-band programs will need to be refocused and integrated with one another to achieve the required economic scale for ubiquitous residential true broadband service.¹⁹⁴ Therefore, the effects of this transaction on the broadband market are more akin to an increase in the number of broadband competitors from zero to one in most areas and one-to-two or two-to-three in other areas of the country. New EchoStar is the best hope for true and competitive satellite broadband service to virtually all Americans at an attractive price.

Ultimately, the question for Congress and the Commission is simple: will the government try to tackle the limited availability of advanced broadband services across America only through a costly web of cross-subsidy and regulation? Or, will it allow a multi-billion dollar private capital initiative to create a true broadband service competitor that will provide service virtually to every home in America? The latter alternative is the better one for the public interest. Indeed, the approval of the proposed

Feb. 6, 2002), at ¶ 60 (none of these [satellite] lines satisfies the Commission's definition of advanced services.) (Third Advanced Services Report).

¹⁹⁴ As discussed in more detail below, the estimates about the stand-alone Ka-band capacity of each company made by one Petitioner's expert are over-inflated by a host of inaccurate assumptions, such as the collocation of two SPACEWAY satellites in one orbital location and the mistaken belief that EchoStar can use the spectrum licensed to another company through its minority investment in that company.

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merger will help fulfill several of the Commission's stated broadband principles and policy goals by⁹⁵

encouraging the ubiquitous availability of broadband access to the Internet to all Americans;

promoting competition across different platforms for broadband services; and

ensuring that broadband services exist in a minimal regulatory environment that promotes investment and innovation.

The importance of being able to offer a seamless bundle of video and broadband services cannot be overemphasized in considering what tools will be necessary to become and remain competitive with cable companies capable of leveraging their tremendous power in video into the broadband market. The Commission recognized years ago that "[m]ulti-service offerings and bundling services for sale seems to enhance subscription to alternative services offered by cable companies. . . . Indications are that consumers value receiving those services through one-stop-shopping.⁹⁶ Cable is far ahead of any other service in fulfilling consumers' demand for one-stop-shopping, thanks to its bandwidth advantages and market power in the MVPD market. Cable's strategy was succinctly described by one commenter in the Commission's cable modem open access proceeding:

The cable industry has informed everyone else outside the Commission that it is *cable itself* that is advantageously

¹⁹⁵ See FCC Launches Proceeding to Promote Widespread Deployment of High-Speed Broadband Internet Access Services, News Release (Feb. 14, 2002).

¹⁹⁶ Fifth MVPD Competition Report at ¶ 60.

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positioned to leverage *cable*'s dominant incumbent position in *cable*'s existing video markets, in order to secure *cable*'s dominance of the broadband market. Cox openly declares that it has outlined a clear strategy: Leverage the power of our delivery network to offer customers not just cable television, but advanced services including . . . high-speed Internet access.

* * *

The cable industry expects its leveraging to solidify *cable*'s dominance of existing video markets, as well.¹⁹⁷

Present-day, spectrum-constrained, satellite providers simply cannot offer a bundled video, broadband and interactive service comparable to that being rolled out by those cable companies offering digital cable service.

1. The Current State of Deployment of Advanced Telecommunications Capability

The problem with broadband is a threshold one: availability. Many areas of the country still have *no access whatsoever* to what the Commission has described as advanced telecommunications capability (referred to here as true broadband services).¹⁹⁸ Such services are defined by the Commission as having upstream (customer-to-provider) and downstream (provider-to-customer) transmission speeds of

¹⁹⁷ Reply Comments of SBC Communications, Inc. and BellSouth Corporation, *In the Matter of Inquiry Concerning High Speed Access to Internet Over Cable and Other Facilities*, GN Docket No. 00-185 (filed Jan. 10, 2001), at 6 (citing a Cox Communications press release).

¹⁹⁸ The Commission has also used the terms advanced service and advanced telecommunications service to refer to these capabilities. See Third Advanced Services Report at ¶ 8, n.23 (noting the Commission's adoption of the terms advanced telecommunications services or advanced services in its Second Report on such services, because it determined that the term broadband services had come to include a much broader range of services and facilities than those examined by the Commission.)

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more than 200 kbps.¹⁹⁹ The Commission distinguishes true broadband services from those having 200 kbps capacity in only one direction, such as currently available satellite offerings, which the Commission defines as high speed.²⁰⁰ The Commission's data make clear that in terms of actual levels of subscribership, true broadband is less broadly deployed than high-speed services. In other words, a significant number of Americans, both urban and rural, still do not subscribe to true broadband service, whether because it is not available to them, the service is too costly, or for other reasons.

The present patchwork quilt of true broadband availability demonstrates that while the pace of deployment is acceptable, *the coverage is far from complete*. Even in areas served by cable, the availability of true broadband service remains limited. For example, out of more than 60 million homes passed by cable modem plant in July 2001, only about 5.2 million had high-speed cable modem lines and less than two-thirds of these met the definition of advanced service.²⁰¹ This number is, of course, a subset of

¹⁹⁹ *Id.* at ¶ 8. According to the Commission, a transmission speed of 200 kbps is enough to provide the most popular applications, including web-browsing at the same speed as one can flip the pages of a book. *Id.* at ¶ 11.

²⁰⁰ *See id.* at ¶ 9.

²⁰¹ The Commission reported that of the 5.2 million high speed cable lines existing in June 2001, 64 percent met the definition of advanced services, *id.* at ¶ 44, meaning that there were approximately 3.3 million such lines. Relying on a report by the National Cable Television Association (NCTA), the Commission reported that more than 60 million homes were passed by cable modem plant in July 2001. *See id.* at ¶¶ 44-45 & n.93. These figures yield a penetration rate of roughly 5.5 percent of cable modem capable homes assuming 60 million homes are passed by cable modem service. The NCTA has reported that as of November 2001, there were 6.4 million cable modem subscribers and 70 million homes passed by cable modem service. *See* http://www.ncta.com/industry_overview/indStat.cfm?indOverviewID=2 . Estimates vary as to the percentage of U.S. homes that have access to cable modems, ranging from 66

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the total number of homes passed by cable,²⁰² which in turn is a subset of the total number of U.S. homes. Thus, while the availability of advanced services via cable modem is growing, with the number of subscribers predicted to double in one year's time,²⁰³ advanced service via cable modem is currently being provided to only a small fraction of all U.S. homes.

Likewise, the Commission has noted that service via asymmetric digital subscriber line (ADSL), the most popular residential wireline offering, is available to less than half of all U.S. homes.²⁰⁴ Moreover, only about 37 percent of the 2.7 million ADSL lines reported at the end of June 2001 met the Commission's definition of advanced services.

While satellites offer the best hope for filling the gaps left by cable modem and DSL, satellite broadband today is not fully comparable to cable modem and DSL, leaving many Americans without a true broadband alternative. The Commission found that none of the current satellite offerings qualifies as an advanced service under its

percent to roughly 80 percent of U.S. households by year-end 2001. Third Advanced Services Report at ¶ 46 & n.98.²⁰² See Eighth MVPD Competition Report at ¶ 17 (reporting that by the end of June 2001, the number of homes passed by cable was estimated at 104 million).

²⁰³ See Third Advanced Services Report at ¶ 66 (citing a Morgan Stanley report on broadband cable that estimated growth in subscribers from year-end 2000 to year-end 2001).

²⁰⁴ See *id.* at ¶ 51 (quoting an estimate that ADSL was available to about 45 percent of U.S. homes at the end of 2001). Assuming that there are 107 million households, the number of households without ADSL access amounts to 58.85 million.

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definition.²⁰⁵ It follows that in areas where advanced services via cable modem or DSL are not available, the number of competitors providing true broadband services is essentially zero. Nor is the situation likely to change soon. A number of reports have suggested that a sizable number of homes in the U.S. will not have access to cable modem or DSL technology in the near future, if ever. A report cited by the Commission puts the number of homes that may never have such access at 20 to 30 million.²⁰⁶ Many of these homes will be in rural areas, as reflected in another study cited by the Commission which found, for example, that about 25 to 30 percent of rural telephone subscribers are not likely to have access to high-speed services in the near future.²⁰⁷

This conclusion is consistent with the Commission's general finding that there is a positive correlation between population density and the presence of high-speed subscribers.²⁰⁸ With respect to advanced and high-speed services in the aggregate, the Commission reports that such services are currently utilized in fewer than 40 percent of the most sparsely populated zip codes, in contrast to the most densely populated zip codes, nearly all of which report use of such services.²⁰⁹ As the NRTC

²⁰⁵ *Id.* at ¶ 60 (none of these [satellite] lines satisfies the Commission's definition of advanced services.).

²⁰⁶ *See id.* at ¶ 78 (citing studies by Salomon Smith Barney and Merrill Lynch).

²⁰⁷ *Id.* at ¶ 113 (citing a study by the National Telephone Cooperative Association).

²⁰⁸ *Id.* at ¶ 109.

²⁰⁹ *See id.* at ¶ 35 and App. C, Table 11 (observing that well over 90 percent of the most densely populated zip codes have high speed subscribers. The Commission defined the most densely populated zip codes as those in the top three deciles of its study in terms of density. Those most sparsely populated zip codes were those in the bottom three deciles. *Id.*, App. C at 4, n.13. It should be noted that the Commission's data report

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observes, a joint report by the National Telecommunications and Information Administration (NTIA) and the Rural Utilities Service (RUS) in 2000 noted that only 5% of towns with fewer than 10,000 residents have access to cable modem service, and only 1.4% of such towns have access to DSL service.²¹⁰ And as discussed above, not all of these cable modem and DSL lines meet the definition of advanced services. In one important respect, however, rural areas with no access to true broadband are in the same position as urban and suburban areas without this service the current number of providers offering this service in these areas is essentially zero.

Even in those areas where cable modem and DSL services are available, real broadband competition has not been effective in restraining prices that are high and rising. This likely reflects the current lack of effective broadband competition even in urban markets. As the Commission has found, cable modem service is by far the most widely used mode of high-speed and advanced service. According to the Commission, cable modem lines accounted for 54 percent of the estimated 9.6 million high-speed lines reported as of June 2001,²¹¹ with subscribership figures expected to double in one year s

the presence of subscribers in a zip code, and that this data cannot necessarily be used to precisely calculate the percentage of the population to whom a service is available. *See id.* at ¶ 25.

²¹⁰ NRTC Petition at 44 (citing NTIA/RUS Report at 18-21).

²¹¹ *See* Third Advanced Services Report at ¶ 44 and App. C, Table 1.

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time according to a report cited by the Commission.²¹² ADSL lines accounted for roughly 28 percent of all high-speed lines.²¹³

On the other hand, satellite-based and terrestrial fixed wireless systems accounted for only 2 percent of all high speed lines, with less than 195,000 subscribers.²¹⁴ These data reflect that subscribership for high-speed satellite services, which again do not meet the definition of true broadband, with only approximately 140,000 residential and small business subscribers to Hughes DIRECWAY and EchoStar's StarBand combined,²¹⁵ pales in comparison to the figures for high-speed cable and wireline technologies.

Cable likewise dominates in providing true broadband service, accounting for approximately 56 percent of the reported 5.9 million true broadband lines in service

²¹² See *id.* at ¶ 66 (citing a Morgan Stanley report on broadband cable that estimated growth in subscribers from year-end 2000 to year-end 2001).

²¹³ *Id.* at ¶ 48 & ¶ 71. Other wireline technologies, such as T1, symmetric DSL, and optical fiber services, which are used primarily by businesses, accounted for approximately 16 percent of all high-speed lines. *Id.* at ¶ 48.

²¹⁴ See Third Advanced Services Report, App. C, Table 1 (data for satellite and fixed wireless services, which was aggregated by the Commission due to confidentiality concerns, reflect that such services accounted for 194,707 of the nation's 9,616,341 high speed lines).

²¹⁵ As a percentage of homes with Internet service, the figure for satellite service is even smaller. The NTIA's most recent study reflected that only 0.5 percent of all Internet homes utilized high-speed services other than cable and DSL, while 12.9 percent of such homes used cable modem, and 6.6 percent used DSL. See U.S. Department of Commerce, National Telecommunications and Information Administration and Economics and Statistics Administration, *A Nation Online: How Americans Are Expanding Their Use of the Internet* (Feb. 3, 2002), at 39 (reporting that technologies other than standard dial-up, cable modem, and DSL, were used by only 0.5% of Internet households).

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as of June 2001.²¹⁶ The Commission reported that cable companies increased residential subscribership for advanced services by 261 percent in the 18 months preceding its *Third Advanced Services Report*.²¹⁷ Wireline technologies including ADSL accounted for 35 percent of all true broadband lines, and residential subscribership to ADSL advanced services grew by 683 percent in the 18 months leading up to the Commission's *Third Advanced Services Report*.²¹⁸ Fiber accounted for less than 8 percent of all true broadband lines.²¹⁹ As noted above, none of the satellite operators currently offers true broadband service, reflecting the fact that satellite providers account for zero percent of this market. With cable far outstripping other high-speed technologies in terms of availability, it comes as no surprise that competition is lacking in the high-speed and advanced services market, and that, as NRTC has observed, prices for such services are high and rising.²²⁰

²¹⁶ See Third Advanced Services Report, App. C, Table 1.

²¹⁷ *Id.* at 16, n.70.

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ See NRTC Petition at 50 (citing reports that conclude price appears to be a key obstacle to broadband penetration.)

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2. EchoStar s and Hughes Current Ku-Band Broadband Offerings Are Competitively Inadequate

a. Current Ku-Band Offerings Are Simply Not Competitive in Today s Market

What many Petitioners describe as a loss of competition from the merger²²¹ relates to two interim alternatives that have not been able to realize anything close to the full potential of satellite broadband offerings. The Commission itself has described the DIRECWAY and Starband offerings as still in the early stages of deployment,²²² and although each company has tried to make the most of these delivery modes, it is clear that these services are subject to significant constraints that will limit their long-term viability, especially in light of the emergence and rapid deployment of more advanced broadband service alternatives.

Foremost among these constraints are transmission speeds, capacity limitations and overall cost. As noted above, current satellite offerings do not meet the Commission s definition of advanced services because the satellite offerings are not capable of providing transmission speeds in excess of 200 kbps in both directions.²²³ These Ku-band offerings have limited capacity. As discussed in the attached Declaration of Mr. Arnold Friedman (Friedman Declaration) attached as C hereto, there are

²²¹ See NRTC Petition at 50-52; Pegasus Petition at 30; NAB Petition at 98-104.

²²² Third Advanced Services Report at ¶ 60.

²²³ *Id.*

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operational limits on the number of subscribers that can be served on the Ku-band transponders that Starband and DIRECWAY lease from existing Ku-band satellite operators.²²⁴ Although satellite broadband providers seek to group transponders on the same satellite for operational efficiencies and customer service quality, there are limits on their ability to successfully do so. The Ku-band is used for many commercial purposes other than DIRECWAY and Starband services, and satellite operators have already committed many Ku-band transponders for such other uses. Moreover, Starband and DIRECWAY directly compete with other users for access to the available Ku-band capacity. As a result, it is not always possible to obtain additional capacity on the same spacecraft where DIRECWAY and Starband have already located existing broadband subscribers.²²⁵ These limitations directly impact the economics of the currently provided Ku-band services.

Obtaining Ku-band capacity is also expensive. In today's market, the cost to lease a single 36 MHz transponder is approximately \$2,000,000 per year. The cost of acquiring space segment capacity from third parties is a large component of the total cost of the monthly service cost for satellite broadband service. Thus, the cost of leasing Ku-band capacity increases the cost to provide DIRECWAY and Starband service, relative to the cost to provide DSL and cable modem service.²²⁶

²²⁴ Friedman Declaration at ¶ 12.

²²⁵ *Id.* at ¶¶ 13-14.

²²⁶ *Id.*

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The long-term ability of services of this nature to compete with faster, true broadband services is therefore questionable, especially since, as the Commission observes, new and unforeseen capacity hungry applications that require advanced service platforms will drive demand, and in turn deployment, in the future.²²⁷ For example, the Commission notes that one report forecasts that by 2005, the average broadband household will download about 70 megabits [sic] of files, consume more than 20 minutes of video streaming per day, and download three two-hour long movies per month.²²⁸ Consumers will demand nothing less than true broadband service and more to facilitate their use of the Internet for such activities.²²⁹

Other constraints on the competitiveness of present-day satellite broadband services versus cable modem or DSL service include higher up-front costs for equipment and installation, and the need for professional installation.²³⁰ As explained in Mr. Friedman's Declaration, the impact of these constraints is that current Ku-band

²²⁷ Third Advanced Services Report at ¶ 64.

²²⁸ *Id.*

²²⁹ A survey conducted by McKinsey & Co. and JP Morgan in April 2001 characterized consumer interest in broadband as already surprisingly high. McKinsey & Co. and JP Morgan, *Broadband 2001: A Comprehensive Analysis of Demand, Supply, Economics, and Industry Dynamics in the U.S. Broadband Market* (Apr. 2001), at 25. Ninety-four percent of survey respondents indicated that the primary benefits of broadband—data speeds many times faster than with most dial-up connections, not tying up the phone line, always being on, never having any busy signals—were either extremely, very, or somewhat important to them.

²³⁰ Friedman Declaration at ¶ 8. Professional installation of satellite equipment is required by FCC licenses for transmit-receive Ku-band terminals used for two-way service to consumers. This requirement has negatively impacted installation costs and consequent pricing.

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broadband offerings are unable to compete with cable modem and DSL offerings.²³¹ The price of these satellite services is significantly higher than that of cable modem and DSL services.²³² Monthly charges for the Starband and DIRECWAY services, for example, start at approximately \$70 and \$60 respectively,²³³ compared to approximately \$30-60 for cable modem service from major providers²³⁴ and \$45-59 per month for standard DSL service.²³⁵ Second, equipment and installation costs are much higher for satellites than cable modem or DSL services. The suggested retail price of equipment for satellite broadband service is more than \$500, plus the customer must obtain professional installation at a cost starting at \$199, for a total price tag of over \$700. Moreover, satellite subscribers typically have no alternative other than to purchase their satellite equipment, as the equipment is usually not offered on a lease basis. Cable modem and DSL installations, on the other hand, entail significantly lower costs to bring the subscriber on line. Cable modems are offered by one major provider for \$199 or a \$5 monthly rental

²³¹ *Id.* at ¶ 9.

²³² *Id.*

²³³ *See* Third Advanced Services Report at ¶ 48. DIRECWAY service is obtained through Hughes distributors. The current monthly fee for DIRECWAY service is \$59.99 and for Starband service is \$69.99. *See* Friedman Declaration at ¶ 9.

²³⁴ *See* Friedman Declaration at ¶ 9. A \$40-55 price range was reported by Comcast Corporation's website, www.comcast.com, visited Feb. 18, 2002. Cox Communications-Northern Virginia offers a high-speed Internet access service for \$30-40 per month. *See* www.coxcable.com/Fairfax/RoadRunner/rates.asp (visited Feb. 21, 2002). Time Warner Cable advertises high-speed Internet access in Bergen County, New Jersey for \$45-60 monthly including the cost of modem rental. *See* www.timewarnercablenj.com/road_runner/faq.html#gq17 (visited Feb. 21, 2002).

²³⁵ Third Advanced Services Report, App. B, at ¶ 25.

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fee, with a self installation kit.²³⁶ DSL installation costs to consumers ranged from no cost to \$250 according to a recent Commission survey.²³⁷

The sum effect of all of these factors is that current Ku-band satellite broadband offerings are not as competitive, and therefore not as attractive as cable modem and DSL offerings. Low rates of subscribership to satellite broadband offerings only 140,000 satellite subscribers to date compared to subscribership numbers in the millions for cable modem and DSL demonstrate this lack of competitiveness of satellite offerings. Logically, a merger that will result in the combination of two interim and struggling broadband alternatives that are already not competitive with cable modem and DSL services will not produce a further loss of broadband competition.²³⁸ According to

²³⁶ These prices were reported by Comcast Corporation's website, www.comcast.com, visited Feb. 18, 2002. Cox Cable-Northern Virginia offers cable modem rentals for \$15 per month with a \$124.99 professional basic installation fee. The modems may also be purchased from computer equipment retailers. See www.coxcable.com/Fairfax/RoadRunner/rates.asp (visited Feb. 21, 2002). Time Warner Cable in Bergen County, New Jersey charges a basic installation fee of \$69-99, depending on the configuration of the subscriber's computer. See www.timewarnercablenj.com/road_runner/faq.html#gq17 (visited Feb. 21, 2002).

²³⁷ Third Advanced Services Report, App. B. at ¶ 25.

²³⁸ See Pegasus Petition at 30. The NAB has also suggested that EchoStar and DIRECTV compete in the deployment of advanced services. NAB Petition at 30-31. However, the evidence supplied by NAB of supposed competitive reactions is a disjointed litany of events that cannot even be characterized as tandem movements by the two DBS operators, let alone as indicia of intense competition. NAB claims, for example, that the following events are competitive reactions: On March 17, 1999, DIRECTV announced it would invest \$1.4 billion in Spaceway Broadband Satellite System, with the stated goal of establish[ing] satellites as the preeminent means of delivery broadband services. On April 19, 1999, EchoStar announced that it would work with SkyStream Data Injection Equipment to insert data into the transport stream to reclaim lost bandwidth. *Id.* at 30 (citations omitted). This evidence of intense satellite broadband competition is as unavailing as the Petitioners' evidence of intra-DBS competition in the video market, as discussed in Section II.A.2 above.

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Professor Willig, [d]espite the fact that satellite-based Internet access is technically available in all areas of the United States, the low penetration rate of this technology even in areas without any access to DSL or cable modem service raises questions about whether households in both rural and urban areas are likely to accept it on a large scale.²³⁹

b. Current Satellite Offerings Clearly Have Not Functioned as a Check on Broadband Prices

Petitioners such as NRTC, Pegasus and NAB argue that what they characterize as competition between DIRECWAY and StarBand must be preserved as a check on broadband prices. The lack of satellite competitiveness is borne out not only by the low subscribership rates discussed above, but also by the rising cable modem and DSL prices also observed by these Petitioners. NRTC's own data reveal that its characterization of the current market is simply wrong. NRTC states that the price of high-speed services is an impediment to 36% of those interested in subscribing, and that the lack of advanced services competition has resulted in monopoly pricing [of DSL services] by ILEC⁴⁰. These facts contradict NRTC's argument that the merger will reduce or eliminate competition. Consumers are already subject to monopoly pricing notwithstanding the presence of both DIRECWAY and StarBand in the marketplace.

²³⁹ Willig Declaration at ¶ 29.

²⁴⁰ NRTC Petition at 50 (citing comments of Focal Communication Corporation and Pac-West Telcomm, Inc. and quoting comments of the Competitive Telecommunications Association before the NTIA) (internal quotation marks omitted).

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3. Neither Company's Stand-Alone Ka-Band Ventures Would Allow Timely Deployment Of An Affordable Broadband Product to Residential Subscribers

As the Application explains, the future of satellite broadband lies with the deployment of next-generation systems in the Ka-band capable of competing with the advanced services offerings of cable companies and DSL providers.²⁴¹ Because of the challenges involved in bringing these satellite systems to fruition, however, deployment of these new satellites has taken longer, and will require more capital than many Ka-band licensees have been able to sustain. Just recently, Astrolink reported that it had terminated its Ka-band spacecraft contract with Lockheed Martin, after having built 90% of its first spacecraft, and after spending about \$710 million on its Ka-band system and finding itself unable to finance the remaining cost of implementing the Astrolink broadband system.²⁴² Indeed, the current satellite programs are not immune to downturns in the capital markets or changes in the projected demand for broadband services. However, as discussed in Section III.B. below, the efficiencies flowing from the merger will enable New EchoStar to deploy a competitive true broadband satellite offering for the benefit of all U.S. consumers, rural, suburban and urban alike.

²⁴¹ See Merger Application at 47.

²⁴² Decision Nears on Astrolink as Lockheed Ends Funding, *Communications Daily*, Nov. 1, 2001. See also Letter from Peter A. Rohrbach and David Martin, Counsel for Astrolink International LLC, to William F. Caton, Acting Secretary, FCC, Re: Astrolink International LLC, File Nos. 182 through 189, SAT-P/LA-95 & SAT-MOD-19971222-00200 (Feb. 8, 2002) at 2.

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a. Hughes Ka-Band Venture SPACEWAY

The Hughes SPACEWAY system is licensed to operate at two U.S. orbital slots with full-CONUS coverage: 99° and 101° West Longitude. Consistent with the FCC license for the system, and Hughes system design, the first spacecraft to be deployed at each of these locations is constructed to utilize 500 MHz of spectrum in each direction (19.7-20.2 GHz downlink; 29.5 – 30.0 GHz uplink)³⁴³

Deploying the SPACEWAY system requires a capital expenditure in excess of \$1.8 billion, and the development of very complex technology that has never before been deployed in a commercial satellite network, such as on-board processing and switching. It also involves the substantial commercial risks associated with implementing cutting edge technology in outer space. In order to support these expenditures and mitigate the attendant risks, the Hughes SPACEWAY business plan targets enterprise customers.

There are a number of reasons why focusing on enterprise customers increases the commercial viability of the SPACEWAY system and reduces the business risk.

Hughes experience from Ku-band VSATs is that enterprise customers are willing to subscribe to broadband services more quickly than residential customers.

²⁴³ Hughes also is licensed to operate a Ka-band spacecraft at the 131° W.L. wing slot, which the Commission has acknowledged is not suitable for CONUS service, as well as spacecraft at a number of other locations that are suitable only for international service.

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Targeting enterprise users provides a greater opportunity to generate additional revenue from value-added broadband services.

Because Hughes already provides Ku-band VSAT services to hundreds of thousands of enterprise Ku-band VSAT terminals, SPACEWAY services can readily be marketed to this large base of installed enterprise users.

Enterprise customers are not as cost-sensitive as residential users to the up-front costs of acquiring VSAT equipment, or the complexities associated with professionally installing that equipment.

Serving the enterprise sector provides the opportunity for Hughes to recover more quickly the enormous capital cost of deploying this system; conversely, focusing on a ubiquitous residential service is a far riskier endeavor that would take far longer to recover such costs.

The profit margins of residential service are significantly lower, partly because subscriber acquisition costs are significantly higher.

In short, the focus on enterprise users is based on the expected higher and quicker take up rate by those users, larger profit margins through increased opportunity for value-added services, as well as more modest subscriber acquisition costs, and it has justified Hughes making capital investment in the SPACEWAY system and incurring the associated technology risks. By contrast, costs of actually marketing a ubiquitous residential service on a broad scale and equipping residential users to use SPACEWAY enabled services most likely would not be feasible without the merger.

The SPACEWAY spacecraft at 99° and 101° W.L. will be capable of providing coverage of the 50 states, Puerto Rico and the U.S. Virgin Islands. However, the fact that those spacecraft will be technically capable of serving users throughout the

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U.S. does not mean that it is economically feasible to actually market broadband service to, and equip, residential households, particularly those in rural areas.

The recent experiences of terrestrial broadband providers demonstrates that U.S. consumers are very price sensitive in the case of broadband services, and are willing to stay with or revert to dial-up phone service if the cost of broadband service is too high.²⁴⁴ Thus, DSL and cable modem service providers are moving toward a model in which consumers can self-install their modems, and in which there is no up-front cost to the subscriber – the inexpensive modem often is provided free of charge by the service provider, and there is no installation charge.²⁴⁵ Current monthly costs for DSL and cable modem service are as low as \$30-60. DSL and cable modem service can therefore be offered to residential customers at a lower all-in cost than is possible with satellite-delivered broadband. As a result, both Starband and DIRECWAY currently substantially subsidize Ku-band equipment costs.

Thus, actually marketing and deploying SPACEWAY services to U.S. households will require a substantial additional investment by Hughes that is far and beyond the \$1.8 billion of capital costs for the SPACEWAY system. Particularly in the current economic climate, it is extremely risky for Hughes to make this type of investment to provide service to residential customers. Such an investment makes sense only if the costs of acquiring residential users are at a level that is sustainable by the

²⁴⁴ See Willig Declaration at ¶ 29 (observing that consumers appear to be very sensitive to the price of broadband services) (citing studies of consumer demand for broadband service).

²⁴⁵ See Friedman Declaration at ¶¶ 9, 11.

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expected revenue stream from those residential users, after taking into account anticipated subscriber churn. As set forth below, the combined scale produced by the merger offers the *only* way to drive down those subscriber acquisition costs, and thereby to justify the substantial investment needed to market and deploy true broadband services to residential users, including those in rural areas. Moreover, the subscriber acquisition costs for such a large customer base will consume significant cash resources, something that Hughes alone has a very limited financial ability to provide, and the merged entity will be better able to provide.

b. EchoStar's Limited Ka-band Development

EchoStar's development of a Ka-band offering is not nearly as advanced as Hughes' SPACEWAY program. While it has been granted licenses for three Ka-band orbital locations (83°, 113° and 121° W.L.), the limited amount of spectrum licensed for its use at two of these locations (500 MHz in each direction) and its lack of experience with enterprise customers, have resulted in relative modest plans for deploying its Ka-band satellite.²⁴⁶ EchoStar 9 has been designed with a limited number of spot-beams and

²⁴⁶ Pegasus and the State of Alaska suggest that EchoStar's statements in the Application regarding the development of its stand-alone Ka-band offerings are somehow inconsistent with statements made in other proceedings. *See* State of Alaska Comments at 7; Pegasus Petition at 48-49. Alaska and Pegasus misread the Application. While identifying the risks involved with Ka-band ventures, the Applicants do not, as Pegasus and Alaska suggest, state that each has changed its mind about deploying a system. *See* Comments of the State of Alaska at 7. Neither is there any inconsistency with regard to EchoStar's statements in the VisionStar transfer of control proceeding concerning the need for spectrum. In that proceeding, EchoStar stated: EchoStar . . . with two full-CONUS licensed orbital locations (compared to 3 or 4 locations assigned to certain other licensees) does not have adequate bandwidth to serve the same number of potential customers that certain current and future competitors can provide. *Transfer of Control Application, In the Matter of VisionStar, Inc.*, File No. SAT-T/C-20001215-000163 (filed

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could be used to backhaul DBS programming to EchoStar's uplink facilities and/or to provide limited broadband services to consumers. However, its total capacity is quite limited (see below) and prior to the merger, EchoStar had no plans to roll out residential broadband Ka-band service on other than a trial basis.

While several Petitioners have speculated as to the commercial viability of launching a number of high-capacity Ka-band satellites into EchoStar's licensed orbital locations, the simple truth is that EchoStar cannot justify making the enormous capital investment in residential broadband service based upon its limited resources and MVPD subscriber base. As explained in the Application, EchoStar believes that it must achieve at least 5 million broadband subscribers within a five year period in order to recover the significant up-front investment and subscriber acquisition costs associated with launching and marketing a new two-way broadband satellite service.²⁴⁷ EchoStar currently does not have access to sufficient spectrum, orbital locations or capital resources to achieve these targets. All of these limitations, however, can be overcome by combining the resources of the Applicants once this merger is approved.

(Dec. 15, 2000), at 6. While EchoStar further explained that the combination of EchoStar's and VisionStar's spectrum would mitigate the problem of inadequate spectrum, *see id.*, EchoStar never stated that the VisionStar transaction would *resolve* the inadequacy, as Pegasus suggests.

²⁴⁷ Merger Application, Attachment B, Joint Engineering Statement at 15.

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c. Available Spectrum Resources

NRTC and Pegasus are simply wrong when they allege that each company could achieve miracles on its own and serve tens of millions of subscribers simply by using its own orbital locations.²⁴⁸ Mr. Morgan's conclusions to that effect rest upon several erroneous assumptions. Mr. Morgan wrongly assumes, for example, that it is feasible for Hughes to collocate two operating SPACEWAY satellites at the same orbital location. He also believes that Hughes could have unencumbered access to a full 1,000 MHz of spectrum at each orbital location.

A key element of the SPACEWAY design, and a key element to offering a competitive broadband service by satellite, is the ability to deploy the small transmit/receive user antennas on a ubiquitous basis, and without incurring the delay and expense involved with individually licensing each antenna. The reality, however, is that Hughes is only able to use 50% of its assigned spectrum for service to such ubiquitous terminals.

The Commission has designated 1000 MHz of spectrum at 18.3-18.8 GHz and 19.7-20.2 GHz bands for downlinks from Ka-band GSO FSS spacecraft, and 1000 MHz of spectrum at 28.35-28.6 GHz, 29.25-29.5 GHz, and 29.5-30.0 GHz for uplinks to Ka-band spacecraft.²⁴⁹ However, 280 MHz of this downlink spectrum (18.3-18.58 GHz) and 250 MHz of this uplink spectrum (29.25-29.5 GHz) is not suitable for the

²⁴⁸ See NTRC Petition at 54-55; Pegasus Petition at 45.

²⁴⁹ See *In the Matter of Second Round Assignment of Geostationary Satellite Orbital Locations to Fixed Satellite Service Space Stations in the Ka-Band*, 16 FCC Rcd. 14389, 14393 n.26 (2001).

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deployment of small, ubiquitously-deployed satellite earth terminals. There are number of reasons for this. First, the Commission has indicated its expectation that this 280 MHz of downlink spectrum will generally be used for gateway type earth stations²⁵⁰ (which are not part of the SPACEWAY plan) and not for ubiquitous antennas. Second, the Commission has raised questions about whether the ubiquitous deployment of small terminals in this shared uplink and downlink spectrum is practicable, given the Commission's stated desire to limit widespread FSS deployment in bands where terrestrial deployment is widespread or where feeder links to MSS satellite networks are being deployed.²⁵¹

The net result of this regulatory situation is that Hughes cannot plan on using the 18.3-18.58 GHz band or the 29.25-29.5 GHz band for its SPACEWAY system. These problems have a corresponding effect on the 18.58-18.8 GHz band that prevents Hughes from using that 220 MHz downlink segment for broadband service to ubiquitous

²⁵⁰ *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, IB Docket No. 98-172, at ¶ 48 & n. 100 (rel. June 22, 2000).

²⁵¹ *FWCC Request for Declaratory Ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service That Share Terrestrial Spectrum, FWCC Petition for Rulemaking to Set Loading Standards for Earth Stations In the Fixed-Satellite Service that Share Terrestrial Spectrum, Onsat Petition for Declaratory Order that Blanket Licensing Pursuant to Rule 25.115(c) is Available for Very Small Aperture Terminal Satellite Network Operations at C-Band, Onsat Petition for Waiver of Rule 25.212(d) to the Extent Necessary to Permit Routine Licensing of 3.7 Meter Transmit and Receive Stations at C-Band, Ex parte Letter Concerning Deployment of Geostationary Orbit FSS Earth Stations in the Shared Portion of the Ka-band*, FCC 00-369 (released October 24, 2000) at ¶ 99.

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small antennas. The SPACEWAY system is designed to use spectrum in 500 MHz segments, and it not feasible to change the design of the SPACEWAY system at this late date. Thus, Hughes cannot simply add this other 220 MHz of spectrum to its current system design.

In addition, contrary to the speculation of some of the Petitioners,²⁵² the 103° W.L. orbital location licensed to PanAmSat Corporation simply is not part of the SPACEWAY program. The spacecraft that PanAmSat is constructing for the 103° W.L. orbital location has a different configuration than the Boeing-manufactured SPACEWAY spacecraft licensed for 99° and 101° W.L. That PanAmSat spacecraft, being manufactured by Orbital Sciences Corporation (i) is incompatible with the SPACEWAY design, (ii) uses a bent-pipe configuration, and (iii) does not contain the advanced switching capabilities that are a central feature of the SPACEWAY system. Thus, the PanAmSat spacecraft under construction for 103° W.L. simply has not been optimized to provide the type of true broadband services that will be offered by SPACEWAY.²⁵³

Mr. Morgan is equally wrong in his assertion that EchoStar controls Celsat's use of its licensed Ka-band slots;²⁵⁴ and even overstates the spectrum available to

²⁵² See NRTC Petition at 54-57, Morgan Declaration (NRTC) at 36-37.

²⁵³ Furthermore, PanAmSat is a publicly funded company, with fiduciary obligations to its 19.4 percent stockholders other than Hughes, and has no agreement with Hughes or Hughes Network Systems regarding the operation of any of PanAmSat's satellites as part of the SPACEWAY system.

²⁵⁴ On the contrary, an EchoStar affiliate holds only a 17.6 percent interest in Celsat, and EchoStar simply has no control over Celsat's use of its spectrum. See Merger Application at Attachment D.

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that company.²⁵⁵ Nor is it appropriate for the Commission to speculate about possible alternative combinations between EchoStar and Celsat or any other Ka-band licensee in evaluating the specific merger before it.²⁵⁶

Mr. Morgan makes another fundamental mistake by grossly overstating the number of subscribers that could be served in the Ka-band spectrum that is available. Mr. Morgan wrongly relies on dial-up subscriber usage statistics.²⁵⁷ These figures simply do not apply to broadband users, who spend substantially more time online, and are much more likely to watch movie trailers, watch streaming video, listen to streaming audio and download software and music on demand. Thus, Mr. Morgan's assumption of an average busy hour demand of 2.75 kbps per subscriber is flawed. As a result of these and other errors, Mr. Morgan substantially overstates the number of broadband subscribers that each company could serve.²⁵⁸

²⁵⁵ Mr. Morgan appears to assume that Celsat was authorized to operate over an additional 850 MHz of spectrum outside the normal FSS Ka-band allocation. See Morgan Declaration (NRTC) at 37. The basis of this assumption is not clear. In fact, Celsat received authorization for 500 MHz spectrum in each direction at each of the 83° W.L. and the 121° W.L. orbital locations, and not an additional 850 MHz. Moreover, use of this spectrum is limited to feederlinks to and from Celsat's MSS system (Celsat is not licensed to provide ubiquitous broadband service). Celsat is licensed for downlinks at 18.3-18.8 GHz and uplinks at 28.35-28.6 GHz and 29.25-29.5 GHz. See *In the Matter of Celsat America, Inc.*, File Nos. 192-SAT-AMEND-97 and 88-SAT-AMEND-98, Order and Authorization, DA 01-1682 (Int'l Bur. rel. Aug. 3, 2001).

²⁵⁶ See 47 U.S.C. § 310(d) (in considering a transfer of control application the Commission may not consider whether the public interest, convenience, and necessity might be served by the transfer, assignment, or disposal of the permit or license to a person other than the proposed transferee or assignee).

²⁵⁷ Friedman Declaration at ¶ 26.

²⁵⁸ *Id.*

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B. Efficiencies Flowing From the Merger Will Make Possible Deployment of a Competitive, True Broadband Alternative

The many efficiencies gained by the merger will allow New EchoStar to deploy a true broadband alternative that is competitive in all major respects to DSL and cable modem services. It will also allow New EchoStar to price its broadband services at competitive levels in those areas unable and unlikely to receive cable modem or DSL services.

The merged company will combine the resources and subscriber bases of both companies which will result in substantial cost and service advantages over any possible individual Ka-band offering of EchoStar or Hughes. As Mr. Friedman explains, the combination of the Applicants broadband programs through the merger will address many of the economic hurdles facing prospective Ka-band operators today, such as the relatively high costs during the early years of developing and manufacturing subscriber equipment.²⁵⁹ While some of these costs may be passed on to subscribers, it is clear that much of these costs would have to be borne by the satellite providers in order to attract a critical mass of subscribers relatively quickly. New EchoStar would be in a much better position to drive down the equipment costs for this service with a larger potential subscriber base.²⁶⁰

²⁵⁹ Friedman Declaration at ¶ 20.

²⁶⁰ *Id.* at ¶ 21.

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The combined company would be able to market its broadband services to a much larger base of MVPD subscribers and bundle broadband and video services to new subscribers more efficiently and economically by, among other things, consolidating advertising and promotion budgets and sharing distribution channels. The merger will also allow New EchoStar to market its broadband services to the combined DBS customer base of the two companies. Indeed, current subscribers of DBS services are more likely to subscribe to satellite broadband services because these households have a clear line of sight to the satellites and because they have a demonstrated willingness to place the necessary equipment and antenna dishes on their homes.²⁶¹ In fact, half of Hughes' current broadband subscribers also subscribe to DIRECTV. As Professor Willig explains, the ability to market this broadband service to the combined subscriber base of both companies will lower the acquisition costs necessary to reach the critical mass of subscribers and also likely shorten the time period necessary to reach this level of subscribers.²⁶²

New EchoStar will also be able to manage its satellite fleet and spot-beam capacity more efficiently than either Applicant could do separately. Additional cost savings would also be achieved, according to Mr. Friedman, through the consolidation of customer service centers, uplink facilities, network operating centers, trunking facilities and billing functions.²⁶³

²⁶¹ *Id.*

²⁶² *See* Willig Declaration at ¶ 32.

²⁶³ Friedman Declaration at ¶ 22.

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There also can be little doubt that New EchoStar must pass on these cost and efficiency advantages directly to consumers in order to be competitive with DSL and cable modem services, which in turn will spur competition among cable modem, DSL and any other broadband service providers.

A broad range of commenters understand the potential that this new service holds for closing the digital divide between urban and rural areas, including business owners who see the potential boost to the competitiveness of rural economies, rural healthcare providers who see the potential for improved telemedicine services via a true broadband satellite link to urban healthcare centers, rural educators desiring to provide their students with a true broadband link to the Internet equal to what is available to their urban counterparts, and citizens who simply seek access to the same types of services available in urban areas.²⁶⁴ These commenters recognize that the merger will be

²⁶⁴ See, e.g., Comments of Arnold Sherman, Executive Director, Montana World Trade Center, Missoula, Montana; Comments of Jeff Hoffman, Champion Rural Economic Area Partnership Alliance Director; Comments of W.A. (Bill) Gallagher, Farm Bureau Financial Services, Helena, Montana; Comments of Dave Lewis, State Representative, State of Montana; Comments of Susan Fischetti, Fischetti Enterprises, Inc., Eagle River, Alaska; Comments of Dick Maxwell, Executive Director, Buckeye Association of School Administrators, Columbus, Ohio; Comments of Amy Paster, Director, Church Point Chamber of Commerce, Church Point, Louisiana; Comments of Shelby Robert, Robert Farms, Gonzales, Louisiana; Comments of Sen. Noble Ellington, Chairman, Senate Judiciary A Committee, State of Louisiana; Comments of Russell Hanson, President, North Dakota Retail Association, Bismarck, North Dakota; Comments of Lois Hartman, Executive Director, North Dakota Firefighters Association, Bismarck, North Dakota; Comments of Jason Brostrom, NetExpress LLP, Bismarck, North Dakota; Comments of Jeffrey Masten, Medical X-Ray Center, Sioux Falls, South Dakota; Comments of Mary E. Jones, Ed.D. Sioux Falls, South Dakota; Comments of Edward T. Clark, M.D., Central Plains Clinic, Sioux Falls, South Dakota; Comments of Rick Bauermeister, Director of Business Development, Market Solutions Group, Inc., Sioux Falls, South Dakota; Comments of George Landrith, President, Frontiers of Freedom, Fairfax, Virginia; Comments of David Charles, M.D., National Alliance of Medical Researchers & Teaching Physicians, Washington, D.C.

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a step forward toward parity between the services available in rural and urban areas, and not the step backward feared by the National Rural Electric Cooperative Association.²⁶⁵ The merger will help make this potential a reality for all of these constituencies.

C. The Merger Does Not Preclude Additional Entry

While the merger will create a true broadband service alternative, including in areas where none currently exists, it will not preclude new, additional entrants from providing high-speed and advanced services. Arguments to the contrary by some Petitioners, claiming that the merger will stifle Ka-band competition, or prevent Ka-band competition from emerging in rural areas, are mistaken.

NRTC and Pegasus argue that the merger will adversely affect broadband competition with regard to Ka-band services because the merged entity would control enough Ka-band slots to preclude new Ka-band entrants.²⁶⁷ Simple arithmetic reveals the flaws in this argument. Pegasus identified orbital slots capable of serving CONUS as those from 83° W.L. to 133° W.L. and complains that New EchoStar will control between 8 and 11 of the slots.²⁶⁸ Pegasus fails to mention that *eleven* other entities affiliated with neither EchoStar nor Hughes currently control orbital slots capable of serving CONUS, which demonstrates that there are more than enough prime Ka-band

²⁶⁵ See Comments of National Rural Electric Cooperative Association at 9.

²⁶⁶ See NRTC Petition at 52-56.

²⁶⁷ Pegasus Petition at 69-72; NRTC Petition at 52.

²⁶⁸ Pegasus Petition at 71.

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slots controlled by others to ensure that the merger will not stifle competition in providing broadband services.²⁶⁹ Moreover, as explained above, SPACEWAY only has access to only two full-CONUS slots and EchoStar has access to at most three such slots, not three and five, respectively, as Pegasus and NRTC claim.²⁷⁰

Pegasus and NAB also argue that merger approval would violate Section 25.140(e) of the Commission's Rules, which limits the number of FSS orbital slots to two per applicant.²⁷¹ This argument is without merit. The Commission has never held that Section 25.140(e) operates to preclude a merger that results in a transfer of control over orbital slots.²⁷² It does not. In any event, the Commission has never applied this rule to

²⁶⁹ See FCC International Bureau Authorizes Second Round Ka-Band Satellite Systems, Press Release (Aug. 2, 2001) and attached Ka-Band GSO Orbit Assignment Plan, which reflects that Lockheed Martin Corporation, DirectCom Networks, Inc., CAI Data Systems, Inc., TRW, Inc., Pegasus Development Corporation, CyberStar Licensee LLC, GE American Communications, Inc., Astrolink International, NetSat 28 Company, LLC, Motorola, Inc., and Loral Space & Communications Corporation are authorized to operate satellites at orbital locations ranging from 83° W.L. to 133° W.L.

²⁷⁰ See Pegasus Petition at 69; NRTC Petition at 52.

²⁷¹ Pegasus Petition at 71-72; NAB Petition at 110.

²⁷² See e.g., *In the Matter of Loral Space & Comm. Ltd. and Orion Network Syst.*, 13 FCC Rcd. 4592 (1998); *In the Matter of Hughes Comm. Inc. and Affiliated Companies and Anselmo Group Voting Trust/PanAmSat Licensee Corp.*, 12 FCC Rcd. 7534 (1997); *In the Matter of VisionStar, Inc.*, Order and Authorization, File No. SAT-T/C-20001215-00163, DA 01-2481 (Int'l Bur. rel. Oct. 30, 2001) (approvals of transfer of control applications which resulted in the transferee controlling more than two Ka-band slots. In none of these instances did Rule 25.140(e) operate to preclude the transfer). Pegasus and NRTC are likewise incorrect in their assertion that Commission Rule 25.140(f) precludes this transfer of control. See NRTC Petition at 52-53; Pegasus Petition at 71-72. Rule 25.140(f) limits an FSS applicant to one additional slot beyond its assigned authorizations, provided that its in-orbit satellites are filled and that it has no more than two unused orbital locations for previously authorized but unlaunched satellites in that band. 47 C.F.R. § 25.140(f). This rule too has never been held to preclude transfers of control, and Petitioners cite no authority to the contrary.

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restrict assignments in the Ka-band because it concluded that there were sufficient slots to accommodate all applicants.²⁷³

The Commission has recently observed that new entrants using several different technology platforms have already begun, or are poised to begin, playing a significant role in providing high-speed and advanced services to many areas of the country including smaller markets. The Commission has reported, for example, that there are at least 241 different companies using unlicensed spectrum to provide high-speed terrestrial fixed wireless Internet access in approximately 503 different counties across the nation.²⁷⁴ Importantly, the Commission recognized that industry observers have pegged fixed wireless as a solution for rural areas, noting that while fixed wireless has the potential to compete with DSL and cable modem service, the technology is best-suited for rural and underserved markets where these services are not available.²⁷⁵

MMDS systems have been cited by the Commission as another competitor expected to gain strength in the next two years. MMDS, which currently reaches 55 percent of the population by Commission estimates, is expected to reach 90 percent of the population by the end of 2004.²⁷⁶ The Commission noted that industry observers predict that [d]espite the setbacks that the fixed wireless industry has faced during the past year,

²⁷³ See *In the Matter of Second Round Assignment of Geostationary Satellite Orbit Locations to Fixed Satellite Service Space Stations in the Ka-Band*, DA 01-1693, 16 FCC Rcd. 14389 (2001) at ¶¶ 16-17.

²⁷⁴ Third Advanced Services Report at ¶ 59.

²⁷⁵ *Id.* at ¶ 75 (citing industry observers).

²⁷⁶ *Id.* at ¶ 61.

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including financial problems and halting of deployment plans by major operators, analysts believe that the industry still has the potential to grow and become a successful vehicle for offering high-speed services.²⁷⁷

Furthermore, Loral, WB Holdings and Teledesic recently certified to the Commission that they have commenced construction of their Ka-band satellite networks.²⁷⁸

The Commission has observed as well that multiple providers are beginning to deploy third generation wireless (3G) systems, including many commercial mobile radio service licensees [who] are beginning to deploy, or have developed plans to deploy, 3G services within their existing spectrum.²⁷⁹ The Commission concluded that successful deployment of 3G wireless services may significantly expand availability of advanced services, especially to consumers that are currently unserved by wireline connections.²⁸⁰

Advances in technology will also expand the reach of DSL services. The Commission has reported that DSL extension products have been developed to relieve significant constraints on DSL availability. The Commission describes these products,

²⁷⁷ *Id.* at ¶ 71. The Commission has also pointed out that during 2001, it authorized the use of MMDS and Instructional Television Fixed Service spectrum for mobile in addition to fixed use, by licensees, and that industry analysts predicted that this action by the Commission gives fixed wireless carriers and equipment vendors additional flexibility and may help revive the industry. *Id.* at ¶ 76.

²⁷⁸ Satellite Companies File Milestone Documents with FCC, *Communications Daily* (Feb. 11, 2002) at 9.

²⁷⁹ Third Advanced Services Report at ¶ 80.

²⁸⁰ *Id.*

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developed to serve subscribers who are located beyond the range of the central office or who are blocked by a digital loop carrier that cannot be modified with a remote access multiplexer or remote DSLAM, and capable of bring[ing] consumers, especially those in low-density areas, within the range for DSL services.²⁸¹ A new DSL standard recently announced by the International Telecommunication Union, G.SHDSL, also has the potential to expand DSL availability. G.SHDSL can reportedly be deployed nearly twice as far from the central office as symmetric DSL, while increasing the amount of available bandwidth. As a result the Commission has noted that this new standard would . . . extend DSL capability to consumers that are currently beyond the reach of the central office.²⁸²

With respect to cable modem deployment, the ACA has reported that its member companies are leading the industry in delivering broadband services to smaller markets, noting that the Commission has received substantial data on ACA members' broadband deployment in response to the High-Speed Access N[otice of Inquiry].²⁸³

²⁸¹ *Id.* at ¶ 83. The Commission has also pointed out that the number of rural subscribers receiving DSL may be under-reported in Commission studies because the Commission only requires high-speed providers that have 250 or more subscribers in a given state to report subscriber numbers. Thus, many smaller providers that serve discrete communities in sparsely-populated areas may not have reported, thereby creating the impression that there is less high-speed service in rural areas than there may actually be. *Id.* at ¶ 35. The Commission further cites a report by the National Telephone Cooperative Association that almost 80 percent of respondents to a recent survey of its members are offering high-speed services to all public centers in the carrier's service territory. *Id.* at n.82

²⁸² *Id.* at ¶ 84.

²⁸³ ACA Petition at 7-8 (citing ACA's comments in *In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and other Facilities*, GN

(Continued ...)

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According to ACA, small cable systems passed nearly one million homes with cable modem service, had invested about \$300 million in plant upgrades and equipment, and planned to nearly double the number of homes passed with cable modem service in the next 12-24 months.²⁸⁴

In sum, the merger will do nothing to stifle new entry in the broadband market. A multitude of new entrants are able to provide broadband service using a variety of technologies, and will compete with cable modem, DSL and satellite broadband services.²⁸⁵ Competition between the various technologies is consistent with the view expressed by FCC Chairman Powell in recent reports that sufficient competition comes from the different types of broadband service available: via DSL, cable networks, or satellite dishes.²⁸⁶

Docket 00-185 (Dec. 1, 2000), and its Reply Comments in that proceeding (Jan. 10, 2001).

²⁸⁴ See ACA Reply Comments, *In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and other Facilities*, GN Docket 00-185 (Jan. 10, 2001) at 4, 7 and Table 1. Although the ACA intimates that the merger will force small cable providers out of business, ACA Petition at 7-8, this contention is both overblown and inconsistent with the cable industry's representations to the Commission in other proceedings regarding the aggressive roll-out of digital upgrades in smaller markets, as discussed in Section II.E., *supra*.

²⁸⁵ The number of current and up-and-coming participants in the broadband market make clear that the Commission should give no weight to the claim of Pappas Telecasting Companies that the merger would create a broadband monopoly. See Comments of Pappas Telecasting at 16-17.

²⁸⁶ Jonathan Krim, FCC Rules Seek High-Speed Shift, *Washington Post* (Feb. 15, 2002), at E1 (reporting on FCC Chairman Powell's view of broadband competition and observing further Powell and his supporters argue that it is difficult to foster competition within each mode of high-speed Internet access because of the huge cost involved in building networks).

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D. The Merger Provides A Market Solution to the Lack of True Broadband Availability While Avoiding the Need for Costly and Contentious Regulatory Measures

There are two ways to achieve universal broadband deployment: through adopting a complicated web of regulations, or through private capital investment. Both Congress and the Commission have recognized the superiority of reliance on market forces and encouraging private investment. Regulation as a tool for facilitating broadband deployment, on the other hand, has historically led to market inefficiencies. Some of the regulatory broadband initiatives contemplated by the Commission or aspired to by some parties would present exactly this problem. By contrast, the merger presents a market-based path to similar results – the creation of a broadband alternative without need for subsidy, cross-subsidy, franchise rights or any other government support.

Congress’s preference for market-based solutions is evident in Section 706 of the Telecommunications Act of 1996, which directed the Commission to:

[E]ncourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.²⁸⁷

The Commission has interpreted this directive to mean:

²⁸⁷ Telecommunications Act of 1996, Pub. L. 104-104, § 706, 110 Stat. 153, reproduced in notes under 47 U.S.C. § 157.

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[T]he language and spirit of the Act require that we promote advanced services deployment within a framework that relies significantly on market forces.²⁸⁸

Accordingly, the Commission explained that it is actively engaged in removing barriers and encouraging investment in advanced telecommunications, and described its efforts as working to:

[E]stablish a rational regulatory framework for these services, to promote investment through competition and the administration of our universal service support mechanisms, make efficient use of available spectrum and ensure that lack of access to public rights-of-way do not slow deployment.²⁸⁹

At the same time, struggling with some intractable problems associated with the digital divide, the Commission has had to contemplate initiatives that are not necessarily consistent with this preference for market solutions. These involve the highly controversial, complicated universal service subsidies that created so many long-running disputes in the telephone context. For example, in its *Third Report on Advanced Services*, the Commission stated that it has encouraged investment in [advanced services] infrastructure in high cost areas by modifying explicit subsidy provisions, high-cost loop support for rural carriers and access charges for rate-of-return companies.²⁹⁰ The Commission has also noted that it is considering changes to its

²⁸⁸ Third Report on Advanced Services at ¶ 33.

²⁸⁹ *Id.* at ¶ 6.

²⁹⁰ Third Advanced Services Report at ¶¶ 139-40. The Commission is currently reconsidering its order modifying rules for rate-of-return carriers. *See id.* at 56, n.336.

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controversial physical collocation rules, as well as the definition of core services eligible for universal service support, to facilitate deployment of advanced services.²⁹¹

If possible, of course, the Commission should strive to promote broadband deployment without need to resort to universal service funds or any other system of subsidy. The efficiencies unleashed by the EchoStar/Hughes merger will facilitate universal broadband service without need for any such regulation or subsidy. The Applicants propose to use their private investment to create a true advanced service provider that will go a long way toward resolving the problem without demanding subsidies, without requesting monopoly rights, and without precluding entry by other providers.²⁹²

The single act of approving the merger will set in motion deployment of the very type of true broadband service Congress and the Commission have sought to make available to all Americans competitive, widely available, advanced service capability.

²⁹¹ *Id.* at ¶¶ 155, 158. The Commission's collocation rules were vacated in part and remanded in *GTE Serv. Corp. v. FCC*, 205 F.3d 416 (D.C. Cir. 2000), and the Commission released an order on remand in August 2001. See *In re Deployment of Wireline Services Offering Advance Telecommunications Capability*, 16 FCC Rcd. 15435 (2001). Changes to the definition of core services are being considered in the pending rulemaking *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Public Notice FCC 01J-1 (rel. Aug. 21, 2001).

²⁹² The merger will require the Commission to do none of the things recently cited by an FCC official as things government shouldn't do: (1) Agree to give me a monopoly and I'll give you broadband requests. (2) Favor one technology over others through subsidies. Edie Herman, Telecom Experts Debate Why Broadband Subscription Lacks, *Communications Daily* (Jan 24, 2002), at 3 (citing comments by FCC Chief of Office of Plans and Policy Robert Pepper).

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E. Nationwide Pricing Will Have the Same Beneficial Effect for Broadband as for MVPD Services

A number of Petitioners claim that the merger will lead to monopoly in the broadband market for those persons for whom satellite is the only alternative. New EchoStar will commit to a nationwide pricing policy for basic broadband services that will translate effective competition in urban areas into benefits to all households for broadband service, just as it will for MVPD services.²⁹³

IV. THE MERGER WILL HAVE PRO-COMPETITIVE EFFECTS IN THE VIDEO PROGRAMMING MARKET

Consumers want more channels. MVPDs face bandwidth constraints. When New EchoStar finds itself with roughly twice the capacity as DIRECTV and EchoStar individually, it will have an unparalleled opportunity to give consumers the new channels they desire, and an ability to go beyond the entrenched programming interests to the independent programmers that historically have been shut out of the market. This new vitality in the programming landscape will shake up the MVPD market for the better.

A. The Merger Will Promote, Rather Than Impede, Competition In the Market for Video Programming

Several Petitioners contend that the merger will have an anti-competitive effect on the video programming market, because New EchoStar allegedly will be the

²⁹³ See Willig Declaration at ¶ 34.

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only outlet for programming in markets not served by cable.²⁹⁴ When it comes to program diversity, just the opposite is true. By freeing up hundreds of channels of spectrum for new programming and creating a truly effective counterbalance to the large, entrenched cable MSOs, New EchoStar will be able to provide a viable alternative platform to programmers that have been unable to secure cable carriage. The merger will also help the merged company alleviate the anti-competitive disparate treatment that EchoStar and DIRECTV now suffer at the hands of large programmers.²⁹⁵ While certainly not welcome to those large companies, that change should translate to lower prices for consumers.

Concerns that New EchoStar could somehow become a bottleneck for programmers²⁹⁶ are unfounded. Cable continues to hold 78 percent of the national market, and any programmer that is unable to reach a satisfactory arrangement with New EchoStar will have ample alternatives in the form of the major cable MSOs located throughout the country. Also, with respect to programming that is created and broadcast locally, as discussed in Section I, this merger will open up vastly more markets to retransmission of local programming all 210 DMAs, equaling all Americans, to be precise than would be the case if EchoStar and DIRECTV remain as separate entities. This means that local broadcasters will be able to reach a wider audience and, as a

²⁹⁴ NAB Petition at 98; ACA Petition at 14-15; Pegasus Petition at 58.

²⁹⁵ ACA Petition at 14-15.

²⁹⁶ ACA Petition at 14-18; Johnson Broadcasting Petition at 2; Communications Workers of America Petition at 2; Word Petition at 4-6; NAB Petition at i and 57-58.

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business matter, will be better able to negotiate favorable retransmission consent terms with cable operators facing real competition for the first time in most markets.

The Commission need only look at EchoStar's and DIRECTV's past behavior to see that the DBS industry, in order to offer an attractive alternative to cable, historically has been the first to launch new services, rather than pose a bottleneck obstacle to such content. Therefore, withholding new programming from subscribers not only would turn economic reasoning on its head, but would contradict the DBS industry's historical affinity for new, unique programming.

Nothing better demonstrates the potential for unleashing new and exciting content through a New EchoStar than the recently announced transaction between EchoStar and Vivendi Universal S.A. That transaction is a foretaste of the types of new content, including new networks and exciting new interactive services, that will be made available to a substantial nationwide audience. EchoStar has consummated its transaction with Vivendi and will carry the new content and service regardless of the outcome of this proceeding, demonstrating EchoStar's commitment to opening doors to new content and interactive Applications. From the programmers' point of view, this new demand for programming can only increase their overall ability to penetrate the marketplace, and to hold out an additional competitive alternative when bargaining with the major cable MSOs, many of which are vertically integrated with established national video programmers.²⁹⁷

²⁹⁷ For example, four of the top six for-profit video programming networks ranked by subscribership are vertically integrated with a cable provider, as are four of the top five video programming networks ranked by prime-time ratings. *See Annual Assessment*

(Continued ...)

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NRTC and Pegasus have raised objections and concerns over the Vivendi transaction.²⁹⁸ Specifically, these Petitioners claim that the investment by Vivendi in EchoStar is contrary to statements made in the Application that EchoStar does not intend to pursue a strategy of vertical integration with programmers after the merger.²⁹⁹ According to Petitioners, the Vivendi transaction demonstrates an intent by EchoStar to create a harmful vertical integration strategy that must be investigated and considered by the Commission when evaluating the Application.

This position is absurd. First, the economic interest that Vivendi has in EchoStar amounts to about 10% (10.7% of issued and outstanding equity, less than 10% on a fully diluted basis), and the voting stake is even smaller at about 2%, before the merger with Hughes is consummated.³⁰⁰ Post-merger, these percentages will decrease to less than 5% equity interest and about 1% voting interest in New EchoStar.³⁰¹ Accordingly, post-merger, the equity and voting interests of Vivendi in EchoStar will sink below the attributable level of ownership (*i.e.*, 5%) that the Commission typically looks to when applying its program access rules that regulate the conduct of cable operators and affiliated programmers.³⁰² If, in the context of the cable program access

of the Status of Competition in the Market for Delivery of Video Programming, Eighth MVPD Annual Report, FCC 01-389, App. D, Tables D-6 and D-7 (rel. Jan. 14, 2002).

²⁹⁸ See *e.g.*, NRTC Petition at 68-72; Pegasus Petition at 73-76.

²⁹⁹ See *e.g.*, Application at 6.

³⁰⁰ See Letter from Pantelis Michalopoulos to Magalie Roman Salas at 1-2 (Dec. 18, 2001) (Vivendi Notification Letter).

³⁰¹ *Id.* at 2.

³⁰² See 47 C.F.R. § 76.1000.

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rules, the Commission does not have concerns with ownership interests that are below 5%, the Commission should similarly have little concern over the relationship of Vivendi and the merged EchoStar-Hughes entity.³⁰³ Indeed, with voting rights below 5%, Vivendi will not have the ability to exercise any control or influence over the merged EchoStar-Hughes entity. Second, a programmer like Vivendi could not survive based on New EchoStar's 17% market share; it needs carriage on the major cable MSOs and could not discriminate against them. Similarly, New EchoStar needs programming from all the important networks, and most if not all of the smaller networks, to compete in the MVPD market and nothing about the merger or the Vivendi transaction changes that.

Third, as EchoStar and Hughes stated in the Application, acquiring EchoStar does not have a strategy of acquiring control over programmers with the purpose of influencing the management decisions for any programming service. The agreement with Vivendi does not change this and Petitioners' attempts to bootstrap the parties' public statements to suggest otherwise falls flat. The Vivendi transaction is in substance an arrangement for the carriage of new and innovative programming. By committing a limited amount of spectrum to this programming, the deal provides pro-competitive incentives for Vivendi to invest in the programming, an investment that would be questionable if it had to rely solely on the integrated MSOs for its carriage. It is

³⁰³ In addition to voting and equity interests below 5% in the merged EchoStar-Hughes entity, the Vivendi transaction also contemplates that Vivendi will receive one seat on EchoStar's board of directors. Importantly, however, the Vivendi-EchoStar agreement specifically provides that this board member will not participate in any decisions relating to other programmers and will not receive any competitively sensitive information about other programmers' dealings with EchoStar or the new merged company.

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not based on any strategy by EchoStar and Hughes of acquiring control of programming assets.

If EchoStar had a vertical integration strategy it presumably would have invested in Vivendi not the other way around in an effort to somehow lock up programming from its competitors.³⁰⁴ Instead, Vivendi invested in EchoStar and the two companies have entered into an arrangement that is the opposite of exclusive. As Vivendi observes in its comments:

[T]he terms of the EchoStar-Vivendi Universal carriage agreement enable in fact, require Vivendi Universal to expand this initial viewership [of its new programming] to other MVPD platforms. Not only is the carriage agreement non-exclusive, but Vivendi Universal is *required* by the agreement to obtain carriage of these networks from cable operators such that within three years Vivendi Universal is able to reach at least as many viewers via cable as Vivendi Universal reaches over EchoStar's DBS platform.³⁰⁵

The non-exclusive character of EchoStar's relationship with Vivendi is hardly the type of relationship that should draw any concern from the Commission as having negative consequences for consumers.

³⁰⁴ Significantly, the Commission's cable program access rules are phrased in terms of a cable operator that has an attributable interest *in* a satellite cable programming vendor. . . . as opposed to vice versa. 47 C.F.R. § 76.1002(a)(emphasis added). While EchoStar has an option to acquire a 10% interest in the new programming services to be developed by Vivendi, this is strictly a potential investment in the potential economic upside from these services. Far from being inspired by any nefarious exclusionary intent, the agreement is conditioned on the services achieving significant penetration on other distribution platforms.

³⁰⁵ Vivendi Comments at 7.

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In short, EchoStar's relationship with Vivendi promises to bring tremendous benefits to consumers, including new, interactive services, programming diversity and more competition among programmers.³⁰⁶ However, to provide the additional benefits set forth in the Application, including more of the kinds of diverse programming and enhanced services the Vivendi deal promises, EchoStar and Hughes will need the spectrum that will be made available because of the EchoStar-Hughes combination. Indeed, the new Vivendi services specifically illustrate one of the important consumer benefits associated with the EchoStar-Hughes merger—the creation of an attractive outlet for new independent programming and additional video diversity. The merger will eliminate the duplicative use of different DBS spectrum for the same programming, and free up that spectrum for many new exciting services from independent distributors of the kind envisioned in the alliance with Vivendi.³⁰⁷ The agreement with Vivendi helps jumpstart this effort to reach an audience of critical mass for new content and achieve broad penetration on both satellite and cable, to the benefit of American consumers. EchoStar and Hughes believe that the merger will create an

³⁰⁶ *See id.* at 3.

³⁰⁷ A number of Petitioners argue that the Vivendi transaction shows that EchoStar and DIRECTV can obtain substantial new programming benefits without the merger. *See e.g.*, Pegasus Petition at 61. To the contrary, however, because of spectrum constraints and the need to carry duplicative national and local channels, the existing satellite carriers are severely limited in their ability to expand programming with innovative new offerings. It is beyond dispute that the merger will vastly increase the spectrum available for new programming such as that offered by Vivendi.

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enhanced conduit for many other sources and types of new content to reach the U.S. public.³⁰⁸

B. The Merger Is Necessary to Promote Competition Among MVPD s For Video Programming, Particularly in Light of Forthcoming Cable Consolidation and Recent Judicial Action

While the merger creates increased incentives for new and more diverse programming, it will also give the combined entity a greater ability to achieve programming costs comparable to those of competing cable MSOs. Because of their relatively small market shares, EchoStar and DIRECTV have not enjoyed the market position necessary to obtain the favorable programming deals available to cable. As noted by the CEO of Viacom in a recent interview: [W]hat a lot of people don t know is that satellite broadcasters pay us more for the same programming than cable

³⁰⁸ Some Petitioners have claimed that EchoStar s failure to disclose the Vivendi transaction at the time of the Application should reflect negatively with respect to EchoStar s character qualifications and should delay processing of the Application. *See e.g.*, NRTC Petition at 72; Pegasus Petition at 75 76. EchoStar and Hughes strongly disagree with these statements. At the time the Application was filed, an agreement between Vivendi and EchoStar had not been executed. While the Application assumed that there would be a \$1.5 billion equity issuance by EchoStar to *someone* prior to the consummation of the merger, *see* Application at Attachment F, the Applicants could not appropriately speculate about Agreements that had not been reached. As a result, there was no reason or requirement to disclose anything about the transaction there was no guarantee that the transaction was actually going to take place. Shortly after the transaction was entered into and made public, EchoStar and Hughes filed a letter pursuant to Section 1.65 of the Commission s Rules notifying the Commission of the transaction and its relevant details. *See* Vivendi Notification Letter at 1. This went above and beyond EchoStar s obligations under the rules. The transaction was not even ready to close when EchoStar filed its notification letter.

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operators.³⁰⁹ For example, with fewer subscribers, EchoStar and DIRECTV are not able to realize the maximum benefit from various volume discount arrangements whereby the fee paid per subscriber for programming declines as the number of potential viewers grows. In the Applicants' view, another explanation for the disparity between cable and DBS programming terms is the anti-competitive leverage enjoyed by the large programmers and the perverse incentives of cable-controlled programmers. Notably, the comments of ACA although critical of the merger overall lend support to this point. ACA notes that a core component of the merger plan is to extract major concessions from programmers.³¹⁰ According to ACA, doing so will give the combined entity a structural cost advantage over small cable companies that lack the bargaining leverage of major cable outlets.³¹¹ This effect is not anti-competitive, however. It is a necessary part of allowing DBS to compete with its principal competitors, the cable MSOs with tens of millions of subscribers. It is consumers who will benefit from the elimination of the unwarranted premiums now paid by EchoStar and DIRECTV.

Perhaps nothing more clearly illustrates the need for EchoStar and Hughes to stay competitive through the merger than the pending purchase of AT&T Broadband by Comcast. If consummated, this transaction will further increase cable and program

³⁰⁹ Los Angeles Times, *Q&A Redstone Sees More Growth for Viacom*, Nov. 18, 2001, at C1 (statement of Sumner Redstone), available in 2001 WL 28929748.

³¹⁰ ACA Petition at 14.

³¹¹ *Id.* at 15.

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ownership concentration.³¹² The resulting cable behemoth will dwarf New EchoStar in terms of numbers of subscribers nationwide, and will far surpass the individual subscriber bases of EchoStar and DIRECTV separately.³¹³ Such a giant would have the leverage to extract even greater cost concessions from video programmers, putting the DBS firms at an even larger competitive disadvantage. Moreover, if the behavior of Comcast is any indication, the new cable grant will continue Comcast's anticompetitive practice of excluding regional sports and other vertically integrated programming interests from DBS. The merger of EchoStar and Hughes will only begin to redress this imbalance, giving the combined entity the legitimate leverage to try to eliminate existing disparities.

Finally, if the AT&T/Comcast merger is not enough to portend heightened cable power, the recent D.C. Circuit decision in *Fox Television Stations, Inc. v. FCC*³¹⁴ should be. In that case, the court vacated entirely the cable/broadcast cross-ownership

³¹² The Washington Post, *Giant Cable Merger Planned, AT&T, Comcast Set \$72 Billion Deal*, Dec. 20, 2001.

³¹³ The merged entity AT&T Comcast would have roughly 22 million subscribers. However, that figure does not include the MVPD subscribers served by entities in which AT&T Broadband currently has an interest; for example, AT&T Broadband has a 25 percent interest in Time Warner's cable systems. According to AT&T Broadband, "[i]f [Time Warner Entertainment] and [Time Warner, Inc.] subscribers were nonetheless added to AT&T's totals, AT&T would be attributed with approximately 32,926,000 subscribers. See Letter from Douglas Garrett to Magalie Roman Salas, *Ex Parte* Submission, MM Docket No. 92-264, CS Docket No. 99-251, Dec. 18, 2001, at 2. If attributable subscribers are thus included, the combined AT&T Comcast would have more than 40 million subscribers—nearly 33 million AT&T subscribers and roughly 8 million Comcast subscribers—representing approximately half of all MVPD subscribers.

³¹⁴ See *Fox Television Stations, Inc. v. FCC*, Case Nos. 00-1222, 00-1263, 00-1359, 00-1381, and 01-1136, 2000 WL 233650 (D.C. Cir. Feb. 19, 2002).

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(CBCO) rule, reasoning that the probability that the Commission would be able to justify retaining the CBCO is low and the disruption that vacatur will create is relatively insubstantial...³¹⁶ The ruling opens the door to staggering cable power. For the first time ever, a cable operator will be able to own up to two broadcast stations in a market – a crucial link in any competing distributor’s attempt to provide local-into-local service in that area. To the DBS operator negotiating retransmission agreements with cable-owned broadcasters, the playing field will be far from level – it will look more like a cliff that the DBS operator must scale.

C. The Merger Will Not Impair Competition for Local Channel Retransmission

In its petition, NAB claims that local broadcasters will be harmed by an EchoStar-Hughes combination because in monopoly markets local broadcasters will face a monopsonist purchaser in retransmission consent negotiations for their local signals!³¹⁷ According to NAB, as a result, broadcasters will not fare as well as they might if they had two rival DBS companies with which to negotiate.³¹⁸ Apparently, the NAB is concerned that local broadcasters will not be able to extract as high a royalty fee for retransmission of local broadcast stations from a merged EchoStar and Hughes entity,

³¹⁵ 47 C.F.R. § 76.501(a).

³¹⁶ *Fox Television Stations, Inc.* at *24.

³¹⁷ NAB Petition at 58.

³¹⁸ *Id.*

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as opposed to negotiating with them separately. NAB's concern, however, is not a genuine competitive marketplace consideration.

First, broadcasters enjoy an unusual failsafe: they need not worry that a satellite carrier will not carry them in any area in which it provides local service—they can simply elect must-carry. Second, any remaining concern can only exist (even as a theoretical matter) in a local DMA that is not served by *any* cable provider. Wherever cable service exists (even analog cable), local broadcasters will still have ample ability to bargain for retransmission fees based on their right to withhold retransmission consent from a satellite carrier while providing it to the local cable franchisee. For channels with significant market appeal, this is a potent threat, owing to the significant competitive disadvantage to a satellite carrier if it is not able to offer the same line-up of local network affiliates that is provided on cable. Thus, this concern is, at most, one of quite limited scope.

Second, because the few areas with no cable service at all are generally lightly populated areas not currently served with local-into-local transmissions by either EchoStar or DIRECTV, the notion that the merger will deprive local broadcasters of the ability to play one satellite carrier off against the other is quite far-fetched. In fact, local broadcasters in those markets do not have that ability today, and are extremely unlikely to have it in the foreseeable future without this merger, because of the twin constraints of spectrum scarcity and compulsory must-carry obligations. Thus, it is the market situation in those DMAs, not the merger, that dampens today the ability of local broadcasters in a few locations to negotiate higher retransmission consent fees. Indeed, by extending local-into-local service to *all 210 DMAs*, the merger will open up the opportunity for

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retransmission consent fees to many local broadcasters that otherwise would have no such opportunity for many years (if ever). In short, the merger will be the only foreseeable way to make local satellite transmission available in those markets in the first place, which is virtually certain *not* to occur without the merger.

Third, if this theory were valid, it would be expected that retransmission consent fees would be significantly higher in those markets where both EchoStar and DIRECTV currently provide local-into-local service than in those markets where only one DBS provider currently provides such service.³¹⁹ As discussed in the Willig Declaration, however, there are no substantive differences between the retransmission rights obtained in the six markets in which DIRECTV provides local service and EchoStar does not, and the 35 markets in which both DBS firms provide local service.³²⁰

Finally, the very fact that EchoStar and DIRECTV have to pay for rebroadcasting local channels into local markets is something of a market anomaly. Local broadcast channels are already available to local television households for free over the air. Particularly in an area with limited cable services this means that *virtually all* television consumers already receive local programming using an over-the-air antenna. When New EchoStar offers local-into-local service in such a market, all it is doing is providing the same programming primarily to the same consumers, thereby *benefiting the*

³¹⁹ Currently, DIRECTV provides local-into-local service in 41 markets (in six of which EchoStar is not present), and EchoStar serves 36 markets (in one of which DIRECTV is not present). Thus, there are 35 markets where the two companies overlap, and 7 where they do not.

³²⁰ Willig Declaration at n.17.

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broadcaster (whether or not the broadcaster extracts an additional premium in the form of a higher retransmission consent fee).³²¹ The merger's potential downward price pressure on broadcasters' fees simply means that the market would work to bring such fees more closely in line with their true value.

V. MANY PETITIONERS SUPPORT THE MERGER, AND MANY OPPONENTS' MOTIVES ARE UNRELATED TO THE PUBLIC INTEREST

Notwithstanding the merger's important consumer benefits, a handful of commenters oppose the Application, claiming that the merger will adversely affect consumer choice and competition. Notably absent from this category of commenters is the constituency with the most direct stake in matters of competition and consumer choice—the Consumer Groups themselves. The Consumer Groups, in fact, support conditional approval of the merger.³²² Instead, concerns about competition are pressed mostly by companies or groups that either compete against EchoStar or DIRECTV

³²¹ The Copyright Office has determined that retransmission of local signals should not require payment of a royalty to the original copyright holder because the fair market value of such retransmission is essentially zero: The copyright owners have already sold the rights to transmit their programming to the entire local market. They have been fully compensated and are not injured by retransmission into the same market. We recognize that copyright owners are free to attempt to obtain additional compensation for this separate use of their work. We simply believe that they would likely fail in that endeavor. See Docket No. 96-3 CARP-SRA, Arbitration Panel Report (Aug. 29, 1997) at 51-52, *modified in Rate Adjustment for the Satellite Carrier Compulsory License*, Final Rule and Order, 62 Fed. Reg. 55742 (Oct. 28, 1997); see also 17 U.S.C. § 122(c).

³²² See Consumer Groups at 21 (Because of these potential positive benefits, we urge the Commission to approve the transaction with conditions.).

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(NRTC, Pegasus, ACA) or would like to improve their bargaining positions in miscellaneous disputes with the Applicants (NAB, other broadcast interests, Northpoint) or both (NRTC, Pegasus). The real motives of these Petitioners appear to relate to the benefits flowing from the merger – lower prices and more choices – and the impact this would have on Petitioners’ bottom line, not to any harms that are cognizable in the Commission’s analysis.³²³

Certain consumer interests recognize that, with conditions, the merger of EchoStar and DIRECTV will create a new competitor with the mix and reach of assets, capabilities, and customer bases necessary to compete nationwide with the likes of Comcast and other cable operators that neither company could muster on its own.³²⁴ They explain that, *despite competition from DBS, rates for cable service have continued their upward climb*. In fact, cable rate increases were larger with the presence of an expanding satellite sector than without it.³²⁵ The Consumer Groups appreciate the

³²³ See *FCC v. Sanders Bros. Radio Station*, 309 U.S. 470, 475-76 (1940) (mere economic injury is not actionable or cognizable under the Communications Act, unless it can be shown to impact adversely upon the public); *Carroll Broadcasting v. FCC*, 258 F.2d 440, 443-44 (D.C.Cir.1958) (Private economic injury is by no means always, or even usually, reflected in public detriment. Competitors may severely injure each other to the great benefit of the public.); *Abilene Radio and Television Company (KRBC-TV)*, 1 FCC 2d 979 (1965) (It is not enough to show that the petitioner may suffer private economic injury, but it is incumbent upon petitioner to make at least a prima facie showing of injury to the public interest.). Compare *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993) (It is axiomatic that the antitrust laws were passed for the protection of competition, not competitors.) (citation and internal quotations omitted).

³²⁴ See Comments of Consumer Groups at 13-14.

³²⁵ Comments of Consumer Groups at 9.

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difference that the merger of DIRECTV and EchoStar will make in the competitive capabilities of DBS compared to either company alone. For this reason, the Consumers Groups support conditional approval of the merger.

In the face of the Consumers Groups support, the Petitioners protestations in favor of vigorous competition ring hollow. *United States v. FCC*, 652 F.2d 72, 97 (D.C. Cir. 1980) (*en banc*). The objections are nothing more than transparent attempts to prevent the merger's pro-competitive benefits or extract additional conditions designed to give them an artificial and unwarranted advantage in the marketplace. To the extent that these protestors are injured, the injury flows from the merger's pro-competitive benefits.

It is not surprising that Pegasus and NRTC, for example, urge the Commission to reject this Application. While they shed crocodile tears over the threatened plight of rural consumers, they do not explain how these laments are consistent with their own pricing in rural areas: both Pegasus and NRTC now charge \$34.99 for the expanded basic DIRECTV package in their territories \$3.00 more than DIRECTV charges for the same package in other areas and EchoStar charges for the equivalent package in the same areas. The sincerity of Pegasus' concerns about competition is further called into doubt by its representations, made to the press only a few days after filing its Petition to Deny, that Pegasus is waiting in the wings ready to be bought out by EchoStar.³²⁶ As for the ACA, it has been even more forthcoming about

³²⁶ See *Pegasus: Contract Bars Post-Merger Competition*, Multichannel News, Feb. 18, 2002 (quoting Pegasus executive vice president Howard Verlin as predicting that EchoStar will strike a deal with Pegasus and buy it out because that would make the most financial sense for both companies).

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acknowledging its motives: the fear that the merged entity will be able to charge a lower price in rural areas.³²⁷ This type of threatened injury to a competitor is the opposite from the harm to competition that the Commission is charged with evaluating – it is a clear benefit for rural consumers.

In contrast to the commenters who assert their parochial concerns, some firms who support a more competitive MVPD marketplace have strongly supported the merger. Electronics manufacturers, for example, have an unmitigated interest in greater competition and innovation in the MVPD marketplace because it spurs sales of their products. They have a particularly vital interest in developments that will increase the bandwidth available for advanced services like HDTV. Anything that would reduce competition or reduce output in the complementary MVPD market would be anathema to them. The promise of greater competition and expanded output and innovation is exactly why sophisticated manufacturers like Thomson and Sharp have come out strongly in favor of this merger. National retailers have a similar self-interest in greater competition in the MVPD market. Any development that threatened to raise prices to consumers or otherwise reduce output would threaten their sales, while increased competition will undoubtedly spur their sales. Their belief that this merger will increase competition is why retailers like Circuit City have come out in favor of the merger.

³²⁷ See ACA Comments at 15-16. NAB's members may also have reason to fear increased competition from New EchoStar with over-the-air broadcast offerings [including digital television], but articulate no respect in which this additional competition is bad for the consumer.

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VI. THE COMMISSION MAY ADOPT THE ONE NATION, ONE RATE CARD COMMITMENT AS A CONDITION FOR APPROVAL, BUT SHOULD REJECT OPPORTUNISTIC ATTEMPTS TO IMPOSE COSTLY, NON-MERGER SPECIFIC CONDITIONS

A. Applicants Accept Their Commitment to One Nation, One Rate Card As a Condition

EchoStar and DIRECTV will make specific commitments that are narrowly tailored to address the Commission's specific merger-related concerns. To reassure the Commission that this merger will not interfere with competitive pricing, EchoStar and DIRECTV are willing to accept a commitment to uniform national pricing as a condition for approval of the merger.³²⁸

This condition possesses attributes that the Commission has found appealing in other merger cases. First, the condition mitigates any concern about a loss of potential competition by EchoStar and DIRECTV against one another for the 2.9% of homes not passed by cable.³²⁹ Rural consumers who have long been ignored by cable will receive price benefits from the intense competition occurring in urban areas. For this

³²⁸ The Commission has previously adopted voluntary merger conditions as a basis for approval of the proposed merger. *E.g.*, *Applications of GTE Corporation, transferor, and Bell Atlantic Corporation, transferee, for Consent to Transfer Control of Domestic and International Section 214 and 310 Authorizations and Applications to Transfer Control of Submarine Cable Landing License, Memorandum Opinion and Order*, 15 FCC Rcd. 14032, 14036 ¶ 4 (2000) (*GTE-Bell Atlantic Order*) (We believe that the voluntary merger conditions proposed by the Applicants and adopted in this Order will not only substantially mitigate the potential public interest harms of the merger, but also provide public interest benefits that extend beyond those resulting from the proposed transaction.).

³²⁹ Eighth MVPD Competition Report at ¶ 17.

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reason, the Consumer Groups support imposing the condition.³³⁰ Second, as explained above, the condition is easy to enforce and difficult to evade. It will not burden the agency with a series of enforcement responsibilities that may tax its resources. In fact, this is the unusual case where the Commission can be reassured by concrete evidence—the Applicants' past practice of national pricing. Moreover, as stated with respect to above, the Applicants are willing to submit themselves to reasonable requirements to ensure that national pricing is an effective constraint on New EchoStar's behavior.

B. The Conditions Proposed By Merger Opponents Are Punitive And Non-Merger Related

A handful of merger opponents, nevertheless, call for additional conditions to the Commission's approval of the transfer. These opponents consist primarily of parties with preexisting disagreements with EchoStar and DIRECTV. These parties urge the Commission to hold the merger hostage and address their individual unrelated grievances through merger conditions.

³³⁰ See Comments of Consumer Groups at 22-23; Letter from Senator Olympia Snowe dated November 1, 2001; Letter from Congressman Tom Udall dated November 14, 2001. Because Applicants agree to codify the national pricing plan as a condition to the merger, the Commission need not address the Consumer Groups' alternative request that it impose a structural remedy such as divestiture of satellites. See Comments of Consumer Groups at 4, 23. However, even if the Commission were to reach the issue, the Consumer Groups have not offered sufficient grounds for concluding that the extreme step of divestiture is required. In fact, divestiture of the very assets whose consolidation is essential to efficiency and competition would undo much of the precise benefit that the parties seek to achieve through the merger. In addition, as the merger condition on national pricing diminishes concerns about market concentration in some rural areas, the Commission need not address the argument advanced by Northpoint and the Consumer Groups that MVDDS licensing should precede the merger's approval. See Comments of Consumer Groups at 21-22.

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The merger opponents, however, ignore the relevant legal standard. The Commission is not free to attach conditions to a merger in order to enhance the pro-competitive benefits offered by the transaction; instead, any condition attached must be narrowly tailored to a specific anti-competitive risk or harm created by the merger itself.³³¹ Congress invested the Commission with only limited authority to attach conditions to its approval of merger transactions.³³² In recent merger cases, the Commission has consistently acknowledged its limited authority to impose conditions only where necessary * * * to ensure that the public interest is served by [a] transaction.³³³ The Commission, moreover, will not entertain merger conditions if the benefits accruing from the merger outweigh any perceived harms.³³⁴

³³¹ In the *AT&T-TCI* and *MCI-WorldCom* merger proceedings, the Commission repeatedly declined invitations to impose conditions not directly related to anticompetitive effects of those transactions. In the *AT&T-TCI* proceeding, for example, the Commission declined to impose a condition granting competitors a right of access to the merged company's multichannel video programming facilities in light of its conclusion that the merger would be unlikely to result in the loss of a significant source of current or future competition in MVPD services. *Application for Transfer of Control of TeleCommunications, Inc. to AT&T*, (*AT&T-TCI Order*"), 14 FCC Rcd. 3160, 3173 ¶ 22 (1999). Likewise, because the Commission concluded that the *MCI-WorldCom* merger was not likely to have anticompetitive effects on the provision of * * * private line service on any U.S. international route, it refused to condition its approval on a divestiture of any such facilities. *Application for Transfer of Control of MCI Communications to WorldCom, Inc.* (*MCI-WorldCom Order*), 13 FCC Rcd. 18025, 18101, ¶ 135 (1998).

³³² Section 214(c) of the Communications Act permits the Commission to attach to a certificate only such terms and conditions as * * * the public convenience and necessity may require. 47 U.S.C. § 214(c). Likewise, section 303(r) of the Act restricts the Commission to prescrib[ing] such restrictions and conditions * * * as may be necessary to carry out the provisions of the chapter. 47 U.S.C. § 303(r) (emphasis added); see also *GTE-Bell Atlantic Order*, 15 FCC Rcd. at 14,047 ¶ 24.

³³³ See, e.g., *AT&T-TCI Order*, 14 FCC Rcd. 3160, 3169 ¶ 15 (1999); *MCI-WorldCom Order*, 13 FCC Rcd. at 18032, ¶ 10; *Qwest Communications International*,

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The parties calling for conditions to this merger have failed to satisfy the public interest standard. They fail to link their proposed conditions to a specific identifiable harm arising out of the transaction, and they ignore the merger's clear benefits. Contrary to the 1996 Act's goal of promoting deregulation, these parties urge the Commission to subject New EchoStar to heavy-handed regulation, far beyond the level of regulation deemed necessary for the protection of the public interest by both Congress and the Commission's rules. Some Petitioners would have this Commission, rather than the consumer choice, dictate what programming New EchoStar carries. Other proposed conditions are simply poison pills designed to kill the merger in order to keep a competitive New EchoStar out of the market, or at least significantly hinder its ability to become a vigorous competitor.

First, some parties request that approval be conditioned on compliance with the Commission's existing rules on carriage of local stations³³⁵. However, those

Inc. and U S WEST, Inc. Applications for Transfer of Control of Domestic and International Sections 214 and 310 Authorizations and Application to Transfer Control of a Submarine Cable Landing License, Memorandum Opinion and Order, 15 FCC Rcd. 5376, 5381 n.24 & ¶ 46 (2000) (Qwest-US West Order).

³³⁴ *Qwest-US West Order*, 15 FCC Rcd. at 5399, 5406 ¶¶ 46,62.

³³⁵ *E.g.*, Paxson Communications Petition at 18-19; Family Stations, Inc. and North Pacific International Television, Inc. Petition at 5; Petition to Deny of Eagle III Broadcasting LLC, at 4. Northpoint also makes a gratuitous remark that the Applicants should be ordered to refrain from engaging in anti-competitive conduct designed solely to derail their competitors, and comply with competition statutes and regulations. *See* Petition to Deny of Northpoint Technology, Ltd., at 4. EchoStar and DIRECTV have objected to Northpoint's proposals solely on the grounds of harmful interference, whose threat has been confirmed by independent tests. They welcome competition from Northpoint and have not objected to Applications filed by many other wireless cable companies proposing to use LMDS, MMDS or other frequencies.

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rules are what they are and will apply to the merged company just as to any other. As the Commission concluded in declining to impose a condition mandating AT&T-TCI's compliance with the program access rules, because nothing in the merger transaction would shield the merged company from the program access rules * * * [a] condition therefore is unnecessary.³³⁶ The same answer applies here.

For example, Johnson Broadcasting and Family Stations argue that EchoStar and DIRECTV denied specific requests to carry local television stations.³³⁷ But these commenters do not credibly suggest that the issue they pose arises out of the merger the grant or denial of this Application will not resolve their complaints.

To the extent that parties are asking the Commission to impose carriage rules above and beyond those specified by its regulations, such a request should be rejected as unneeded and wholly unjustified.³³⁸ In analogous circumstances, the Commission has refused to impose merger conditions that go beyond what Congress and the Commission have already found sufficient to protect the public interest.³³⁹ Consumers' choice, rather than the Commission, should dictate what programming New

³³⁶ *AT&T-TCI Order*, 14 FCC Rcd. at 3179, ¶ 34; *see also id.* at 3179-81, ¶¶ 35-40.

³³⁷ Johnson Broadcasting Petition at 4-7; Family Stations, Inc. and North Pacific International Television, Inc. Petition at 4.

³³⁸ *See* Petition to Deny of Paxson Communications Corp. at 19; Comments of the Association of Public Television Stations and the Public Broadcasting Service at 4-5.

³³⁹ *Cf. AT&T-TCI Order*, 14 FCC Rcd. at 3180 ¶¶ 37-38 (refusing to condition the merger on restrictions that are beyond the scope of the Commission's program access rules); *see id.* at ¶ 29 (rejecting common carrier conditions that exceed the congressional mandate.)

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EchoStar carries beyond what the Commission's rules require. The merger opponents, moreover, have not credibly shown that the proposed merger will exacerbate their concerns about carriage of local programming. The proposed merger will actually have the opposite effect. Because the merger will generate efficiencies, New EchoStar will be able to offer substantially more local programming as a combined entity than either of them would be able to do alone.³⁴⁰

Second, although Applicants firmly believe the additional spectrum freed up by the merger will permit New EchoStar to offer all local channels in all 210 DMAs on a single satellite dish, the Commission should reject attempts by PBS to impose a special condition on the combined company that it carry all its must-carry stations so that they are received on the same dish, nor entertain the argument of Pappas Telecasting Companies that EchoStar's current policy violates the must-carry requirements of Section 338⁴¹. This issue, as PBS readily concedes, is the subject of a pending Petition for Clarification or Modification filed by NAB and forcefully contested by EchoStar. That proceeding, not the instant one, is the proper forum for the Commission to issue a determination based on a full briefing by affected parties.³⁴² In prior merger proceedings,

³⁴⁰ Comments of Consumer Groups at 13-14.

³⁴¹ See Comments of the Association of Public Television Stations and the Public Broadcasting Service at 7. Comments of Pappas Telecasting Companies in Opposition to Application at 9-13; see also Petition to Deny of Carolina Christian Television and LeSea Broadcasting Corp. at 4-9; Petition to Deny or Conditionally Grant of Paxson Communications Corp. at 12-13; Petition to Deny of Brunson Inc. at 6-9; Petition to Deny of Eagle III Broadcasting, LLC at 3-4.

³⁴² E.g., *AT&T/TCI Order*, 14 FCC Rcd. at 3180 ¶ 38. The Applicants will not burden the record in this unrelated proceeding with a detailed recitation of EchoStar's defense to NAB's petition. Suffice it to say, EchoStar's decision to implement the

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the Commission repeatedly refused to consider disputed issues subject to a separate proceeding, and that same answer applies here.³⁴³ Nevertheless, Applicants recognize and confirm their continuing obligations, and the obligations of the merged company, under federal law.

Third, and for substantially the same reasons, the set aside conditions proposed by Consumer Groups should be rejected.³⁴⁴ The Consumer Groups ask that New EchoStar set aside eight percent of its total channel capacity for noncommercial education programming, but it fails to demonstrate a legal foundation for its request. Far from curing any harm from the merger, this requested condition seems to relate to a significant merger benefit, which will, however, accrue without need for any condition. Part of the whole point of these proceedings is to merge two companies into one and use the freed-up spectrum for non-duplicative programming. As a single DBS provider, New EchoStar will have a four percent public interest set-aside obligation under the

second dish plan rested directly on the text of the Commission's must-carry regulation, which applies only where the subscribers acquire the second dish at their own expense and for an additional carrier charge. *See* 47 C.F.R. § 76.66(i)(4).

³⁴³*Applications for Consent to Transfer of Control of Southern New England Telecommunications Corp.*, 13 FCC Rcd. 21292, 21306, ¶ 29 (1998) (The Commission has regularly declined to consider in merger proceedings matters that are the subject of other proceedings before the Commission because the public interest would be better served by addressing the matter in the broader proceeding of general applicability.); *see also Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorization from TCI, Inc. to AT&T Corp.*, 14 FCC Rcd. 3160, 3180 ¶ 38 (rel. Feb. 18, 1999) (If the parties believe any existing exclusivity agreements violate the program access rules, the program access complaint process is the appropriate forum in which to resolve any such grievance.)

³⁴⁴ Comments of Consumer Groups at 15-16.

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Commission's rule.³⁴⁵ Because the set-aside programming choices available on EchoStar and DIRECTV today overlap to a fairly significant extent, the merger means simply that New EchoStar will have much more set-aside capacity to carry more qualified programmers. The 4% set-aside rule will be applied to a much larger capacity pie, to the benefit of qualified noncommercial programmers that may today be unable to obtain carriage. As for programmers that are now carried by only one of the two companies (such as Word Network),³⁴⁶ the merger will give them access to many more millions of subscribers compared with their visibility today. The Consumer Groups' fear that New EchoStar will not maximize diversity in noncommercial programming is entirely unfounded and speculative.³⁴⁷

The Consumers Groups revisit also an issue upon which the Commission has previously ruled. It asks that the Commission reverse course and require that EchoStar relinquish to an independent body the ability to make judgments on a programmer's qualifications to select the set-aside noncommercial programming to be carried in cases where the demand for set-aside capacity exceeds the available capacity.³⁴⁸ However, the Commission has already previously rejected such an

³⁴⁵ See *Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations, Report and Order*, 13 FCC Rcd. 23254 (1998).

³⁴⁶ See *Petition to Deny of the Word Network* at 5-7.

³⁴⁷ The Commission has routinely rejected similar requests to deny proposed transactions based on such unsupported allegations. See e.g. *Application of WorldCom, Inc., and MCI Communications Corporation for Transfer of Control*, 13 FCC Rcd. 18025, 18134, 18145-58, ¶¶ 73-74, 193, 211, 213 (1998).

³⁴⁸ See *Comments of Consumer Groups* at 4, 15.

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arrangement, and for good reasons: it exceeds the statutory scope and raises substantial constitutional concerns. The Consumer Groups have not offered any factual evidence, new policy arguments, or nexus of any sort that would provide a basis for the Commission to depart from its prior ruling and impose such an extreme step of requiring that New EchoStar cede control over set-aside noncommercial programming to an independent body. As a result, and consistent with its prior ruling, the Commission should reject the Consumer Groups' call to impose such a condition in this case.

Fourth, Northpoint also seeks to employ this transfer of control proceeding to raise an issue involving an entirely unrelated business dispute. Northpoint asks for a merger condition that would require New EchoStar to adopt a set-top box compatible with its technology.³⁴⁹ This proposed condition is nothing more than an opportunistic and exploitive attempt to extract an individual benefit from the merger. Northpoint does not credibly show that the condition addresses a perceived harm *resulting from the transfer*—both EchoStar and DIRECTV now use technology that is incompatible with Northpoint's. Plus, in order to transition to a new technology platform, both companies would have to swap out all of their subscribers' set-top boxes—a process that would be expensive and time consuming. In any event, the Commission has already decided to exempt from its interoperability requirements all MVPDs supporting boxes that operate, and are available from unaffiliated vendors, nationwide. *See* 47 C.F.R. § 76.1204 a(2). This proceeding is not the appropriate forum for the Commission to repeal that rule, and Northpoint offers no persuasive reason why the

³⁴⁹ *See* Northpoint Petition at 11-12.

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Commission should do so. The Commission has repeatedly rejected similar efforts by parties using the transfers proceedings as a way to extract benefits from the merger partners that have no nexus to the merger.³⁵⁰ It should do so again here.

Fifth, the Consumer Groups and Northpoint raise a non-merger-specific issue involving the MVDDS rulemaking, asking that the Commission delay this Application's adjudication until those separate proceedings are complete.³⁵¹ Yet, the Consumer Groups' admission that the MVDDS docket is not directly implicated in this proceeding should be dispositive.³⁵² As noted, the Commission has remained firm in its policy of limiting the focus of its merger review proceedings to issues causally linked to the specific transaction itself. The Consumer Groups' request is also contrary to Commission precedent holding that transfer Applications will not be influenced by generic issues subject to a separate proceeding.³⁵³ The Commission should refrain from

³⁵⁰ The Commission recently noted that it recognizes and discourages the temptation and tendency for parties to use the license transfer review proceeding as a forum to address or influence various disputes with one or the other of the Applicants that have little if any relationship to the transaction or to the policies and objectives of the Communications Act. *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner, Inc. and America Online, Inc, Transferors, to AOL Time Warner, Inc., Transferee, Memorandum Opinion and Order*, 23 Communications Reg. (P & F) 157 (2001); *see also Joint Applications of Global Crossing Ltd. And Citizens Communications Company for Authority to Transfer Control of Corporations Holding Commission Licenses and Authorizations Pursuant to Sections 214 and 310(d) of the Communications Act*, 16 FCC Rcd. 8507, 8511 ¶ 11 (rel. Apr. 16, 2001).

³⁵¹ *See* Comments of Consumer Groups at 4, 21.

³⁵² *See id.* at 21.

³⁵³ *E.g. Applications of Capital Cities/ABC, Inc. and The Walt Disney Company*, 11 FCC Rcd. 5841, 5859 at ¶ 27(1996) (transfer and assignment process is not the appropriate forum to consider changes in its rules.); *see id.* at 5858 ¶ 22 (nor can we

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entangling this Application in a matter that remains the subject of ongoing industry debate and a separate rulemaking proceeding. Indeed, that requested condition might, perversely, undermine some of the benefits to flow from the merger. The Applicants' concerns with the Northpoint proposal have everything to do with interference and nothing to do with competition. Harmful interference from an MVDDS service operating in the same spectrum may hamper New EchoStar in its attempts to make maximum use of the freed-up spectrum and improve quality of service.

Finally, the Commission should reject the Consumer Union's call to impose open access conditions on this merger. There is no open access problem involving New EchoStar's facilities that would require a solution.³⁵⁴In light of New EchoStar's lack of market power or bottleneck characteristics, such a condition is inappropriate here, whether or not it would be appropriate for a cable merger.

In the *AT&T-TCI* Order, the Commission indicated that market forces rather than government mandates were the best vehicle to further development and deployment of competitive broadband services. It reached this conclusion after finding significant actual and potential competition affording consumers adequate choice across existing and emerging platforms:

Currently, there are a large number of firms providing Internet access services in nearly all geographic markets in

conclude that a transfer proceeding is the proper forum in which to consider changes in the applicable program access or retransmission consent rules.)

³⁵⁴ See Comments of Consumer Groups at 23-24; see also *AT&T/TCI Order*, 14 FCC Rcd. 3160, at ¶¶ 93-94.

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the United States, and these markets are quite competitive today. . . Although AT&T-TCI together might be able more quickly to deploy high-speed Internet access services and win a significant number of residential Internet access customers, it appears that quite a few other firms are beginning to deploy or are working to deploy high-speed Internet access services using a range of other distribution technologies.³⁵⁵

As a result, the Commission concluded that the proposed merger would not threaten competition among Internet access services.³⁵⁶ The Commission added that, in any event, the open access issues would remain equally meritorious (or non-meritorious) if the merger were not to occur.³⁵⁷ Whether or not this reasoning was correct in that case, it certainly applies to this transaction.

C. The Remaining Grievances Do Not Belong In These Proceedings

Several other commenters try to link their own private grievances regarding DIRECTV and EchoStar to the merger. These grievances range from the scope of EchoStar-DIRECTV's specific obligations under the must-carry rules, to contractual or regulatory disputes, to the alleged quality of customer service.

³⁵⁵ AT&T/TCI Order 14 FCC Rcd. 3160, at ¶¶ 93-94 (footnote omitted); *see also Inquiry Concerning the Deployment of Advanced Telecommunications Capability*, 14 FCC Rcd. 2398, ¶ 101 (1999) (We observe further that the record, while sparse, suggests that multiple methods of increasing bandwidth are or soon will be made available to a broad range of customers.)

³⁵⁶ *See* Separate Statement of Chairman E. Kennard, *AT&T/TCI Order* (We have taken a de-regulatory approach, an approach that will let this nascent industry flourish.).

³⁵⁷ *See AT&T/TCI Order*, 14 FCC Rcd. at 3207 ¶ 96.

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But the merger opponents have failed to demonstrate that this merger proceeding is the appropriate forum for resolving such issues. Clearly, it is not. Fundamentally, the commenters fail to demonstrate how grant of the Application and consummation of the merger would cause the specific harms they claim; for that reason they lack standing to raise them here.³⁵⁸ These commenters also fail to recognize that other more appropriate forums exist for airing their issues, including the federal and state regulatory complaint processes. Indeed, in most cases the merger opponents already have taken advantage of those vehicles. Like the must-carry issues discussed above, other complaints regarding EchoStar's service performance,³⁵⁹ or regarding its dealings in the collective bargaining context,³⁶⁰ are equally out of place.

Nor should the Commission accept the attempts by Paxson and PrimeTime24 to inject into this proceeding issues from copyright and contract litigation

³⁵⁸ See *California Ass'n of the Physically Handicapped, Inc. v. FCC*, 840 F.2d 88, 91 n.6 (D.C. Cir. 1988) (*CAPH v. FCC*) (opponents of broadcast license transfer lack standing where their objections are based on alleged practices of transferor and speculative assertions that transferee will perpetuate those practices). The merger opponents, like the Petitioners in *CAPH v. FCC*, cannot trace the harms they allege, pertaining to EchoStar's obligations under the must carry rules and other related issues, to the transaction at issue. Instead, their real plea is that the transfer will furnish no cure it will not cause the injury to abate. *California Ass'n of the Physically Handicapped, Inc. v. FCC*, 778 F.2d 823, 825 (D.C. Cir. 1985). But this plea is not sufficient to establish standing. *Id.* See also *Microwave Acquisition Corp. v. FCC*, 145 F.3d 1410, 1413 (D.C. Cir. 1998) (appellant lacked standing because, *inter alia*, the relief sought would not remedy the alleged injury).

³⁵⁹ Letter of Toni Dockter dated August 1, 2001, at 1. As the Commission concluded in the *AT&T-TCI Order*, the enforcement of state regulations [is] best carried out at the state level. *AT&T-TCI Order* ¶ 58.

³⁶⁰ CWA Petition at 5.

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regarding the retransmission of distant signals. Both companies fail to credibly show that the issue is relevant here, and the Commission has already rejected a similar attempt by PrimeTime 24 in the past.³⁶¹

In sum, many individual complaints about EchoStar and DIRECTV lack the required type of nexus to the merger and are not relevant here. Commenters should pursue their issues in the other proceedings and forums that are available to them. While the merger may injure EchoStar-DIRECTV rivals, such injury arises from the pro-competitive benefits flowing from the merger, and will be accompanied by an equal if not greater degree of merger-related benefits to American consumers.

VII. CONCLUSION

Four long-sought goals of Congress and the Commission are:

to create meaningful competition for the entrenched cable industry in order to moderate its pattern of constantly spiraling prices;

to secure satellite carriage of as many local stations as possible;

to ensure that true broadband services are affordably available to all Americans, urban and rural alike; and

to foster increased choice and diversity of video programming content.

³⁶¹ Paxson Communications Petition at 6-9; Comments of PrimeTime 24 Joint Venture at 7-11; *see also Application of MCI Telecommunications Corporation, Assignor, and Echostar 110 Corporation, Assignee, Order and Authorization*, FCC 99-109. ¶ 30 (rel. May 19, 1999).

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By approving the merger of EchoStar and Hughes, the Commission can achieve each of these four critical goals faster, more directly, and with less need for burdensome regulation than through any other conceivable action it could take. Stated another way, what years of legislative and regulatory initiatives have largely failed to achieve, the Commission can accomplish with one stroke by approving this pro-competitive merger.

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DECLARATION

I, David K. Moskowitz, hereby declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

/s/

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Dated: February 25, 2002

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DECLARATION

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed on February 25, 2002.

/s/

Eddy W. Hartenstein
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CERTIFICATE OF SERVICE

I, Todd B. Lantor, hereby certify that on this 25th day of February 2002 a true and correct copy of the foregoing was served via hand delivery (indicated by *) or by first-class mail, postage pre-paid upon the following:

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Application of

**ECHOSTAR COMMUNICATIONS CORPORATION,
GENERAL MOTORS CORPORATION,
HUGHES ELECTRONICS CORPORATION**

Transferors,

CS Docket No. 01-348

and

ECHOSTAR COMMUNICATIONS CORPORATION

Transferee,

For Authority to Transfer Control

**DECLARATION OF DR. ROBERT D. WILLIG
ON BEHALF OF ECHOSTAR
COMMUNICATIONS CORPORATION, GENERAL MOTORS
CORPORATION, AND HUGHES ELECTRONICS CORPORATION**

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I. Qualifications

1. My name is Robert D. Willig. I am Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University, a position I have held since 1978. Before that, I was Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and welfare theory.

2. I served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the Department of Justice (DOJ) from 1989 to 1991. I also served on the Defense Science Board task force on the antitrust aspects of defense industry consolidation and on the Governor of New Jersey's task force on the market pricing of electricity.

3. I am the author of *Welfare Analysis of Policies Affecting Prices and Products*, *Contestable Markets and the Theory of Industry Structure* (with William Baumol and John Panzar), and numerous articles, including Merger Analysis, IO Theory, and Merger Guidelines. I am also a co-editor of *The Handbook of Industrial Organization*, and have served on the editorial boards of the *American Economic Review*, the *Journal of Industrial Economics* and the MIT Press Series on regulation. I am an elected Fellow of the Econometric Society and an associate of The Center for International Studies.

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4. I have been active in both theoretical and applied analysis of telecommunications issues. Since leaving Bell Laboratories, I have been a consultant to AT&T, Bell Atlantic, Telstra, and New Zealand Telecom, and have testified before the U.S. Congress, the FCC, and the public utility commissions of about a dozen states. I have been on government and privately supported missions involving telecommunications throughout South America, Canada, Europe, and Asia. I have written and testified on a wide range of telecommunications issues, including the scope of competition, end-user service pricing and costing, unbundled access arrangements and pricing, the design of regulation and methodologies for assessing what activities should be subject to regulation, directory services, bypass arrangements, and network externalities and universal service. On other matters, I have worked as a consultant with the Federal Trade Commission, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, the World Bank, and various private clients.

II. Purpose and Summary of Statement

5. I have been asked by EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation to reply to comments submitted to the Federal Communications Commission (FCC) in opposition to the proposed merger between EchoStar and DIRECTV (a subsidiary of Hughes). In particular, I will respond

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to the declarations submitted by Dr. Paul MacAvoy, Dr. Daniel Rubinfeld, and Mr. J. Gregory Sidak.¹

6. To summarize the results of my analysis, I conclude that (a) the proposed merger will allow the combined entity to provide local broadcast programming to every area of the country, and neither firm could provide such universal local service absent the merger; (b) the proposed merger will result in benefits from significant scale economies and a significant improvement in the productivity of the spectrum employed, which will allow the combined entity to provide an enlarged array of new or expanded services (e.g., more High-Definition Television channels, more interactive services, and more specialized programming); (c) the combined entity will be able to offer a more price competitive satellite-based broadband service, thereby making it more likely that satellite-based broadband is adopted by residential consumers; (d) the combined entity's national pricing will be driven by a weighted average of competitive forces from various regions—cable systems, with larger markets playing a more important role—that is, the benefits from competition in larger, more competitive DMAs will likely be exported to smaller rural markets and non-cable passed areas; (e) the efficiency improvements will make the combined entity a more effective competitor to cable providers than either company could be on its own, and could perpetuate a virtuous cycle of competitive innovation; (f) the available churn data from EchoStar and DIRECTV indicate that the degree of competition between the two entities is dwarfed by the degree of competition between DBS and cable—such a finding suggests that cable would continue to effectively constrain the prices of the combined entity in the post-merger world; (g) the analyses of the competitive effects of the proposed merger by Dr. MacAvoy, Dr. Rubinfeld, and Mr. Sidak are fundamentally misguided, because they are predicated on flawed data, incorrect assumptions, or overly simplistic statistical techniques; and (h) the combined entity would likely find it difficult to price discriminate between areas with cable and areas without cable.

¹ Declaration of Paul W. MacAvoy, Exhibit I to the Petition to Deny of the National Rural Telecommunications Cooperative, CS Docket No. 01-348 (filed February 4, 2002) (MacAvoy Declaration); Affidavit and Report of Daniel L. Rubinfeld, Attachment A to the Petition to Deny of Pegasus Communications Corporation, CS Docket No. 01-348 (filed February 4, 2002) (Rubinfeld Declaration); Declaration of J. Gregory Sidak, Appendix B to the Petition to Deny of the National Association of Broadcasters, CS Docket No. 01-348 (filed February 4, 2002) (Sidak Declaration).

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III. The Merger Will Create Significant Benefits for Consumers

7. The merger of EchoStar and DIRECTV, by realizing significant scale economies and by significantly elevating the productivity of the spectrum employed, will create substantial benefits for consumers. I understand that if the merger is completed, New EchoStar will offer local channels in every local market in the United States, thereby directly creating significant consumer benefits and making Direct Broadcast Satellite (DBS) more competitive with cable providers throughout the country. An increase in the availability of spectrum will also allow New EchoStar to offer additional programming, and higher-quality advanced services, such as expanded interactive television, High-Definition Television (HDTV), and video-on-demand, which appear to be important services for DBS to stay increasingly competitive with cable.

8. New EchoStar's marginal costs such as programming costs will also be lower than the existing firms' marginal costs. Such a reduction in marginal costs will exert downward pressure on the price charged by New EchoStar. Finally, the combined subscriber base will also make the combined entity's satellite-based broadband service more competitive versus the extant high-speed Internet access technologies, thereby making it more likely that this satellite-based service will be adopted by consumers. All of these efficiencies, contrary to what was stated in various opposition filings in this proceeding, deserve to be given weight in the merger's public interest evaluation.

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INCREASE IN THE PROVISION OF LOCAL CHANNELS

9. New EchoStar has committed to offer local channels in every local market in the country. Because of spectrum constraints and financial considerations, neither firm could provide such universal local service absent the merger. As discussed in more detail below, it is clear that subscribers value local channels as part of a satellite video package, as evidenced by the increase in subscriber growth experienced by the two firms in the Designated Market Areas (DMAs) in which local channels have been introduced. Opponents of this merger correctly note that this efficiency should be given weight only if the merger is necessary for it to occur. In making this determination, it is important to evaluate not only whether the DBS firms would be technically able to serve these DMAs on their own, but also whether it would be in the firms' *financial* interests to serve these DMAs. Opponents of this merger have only focused on technical feasibility, while ignoring the crucial issue of economic costs and benefits.² In addition to technical feasibility issues, it is a key point from the economic perspective that without the merger it would not be profitable for the two firms on their own to expand their offerings of local channels to reach all 210 DMAs. With the merger, however, New EchoStar has committed to provide local service to the entire country.

² Even the declarations by economists opposed to the merger ignore the economic costs and benefits of providing local service. See, for example, Rubinfeld Declaration at ¶¶ 72-77 and Sidak Declaration at ¶ 88.

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10. When the DBS companies separately consider their decisions concerning where local channels should be added, they attempt to assess the expected returns from adding local channels to various DMAs. Not surprisingly, a key factor in determining the expected return from adding local channels is the size of the DMA: According to both DBS firms, larger DMAs, all else being equal, are associated with larger expected revenue primarily because the expected increases in total new subscribers are greater in larger DMAs.³ Consequently, by and large, the DBS firms have introduced local service in the largest DMAs first. Another important factor is the penetration that the DBS firm has in that DMA, since many existing subscribers take local channels. According to DIRECTV executives, for example, DIRECTV is concerned about losing its installed base in a DMA to the incumbent cable provider, so it is more likely to introduce local channels in DMAs in which it has a high penetration rate.⁵

³ The DBS firms also factor population growth by DMA into their analysis. That is, a DMA that is growing more rapidly, but currently is somewhat smaller (in terms of population) may get service before a DMA that is somewhat larger, but is currently experiencing no population growth.

⁴ In addition, DIRECTV executives note that a high DBS penetration rate may be a signal of other factors that could make the introduction of local service more profitable. For example, a high DBS penetration rate may indicate that the local cable provider offers an inferior product. A high DBS penetration rate may also be a signal that the area is conducive to DBS service that is, many households can see the southern sky where the DBS satellites orbit the earth.

⁵ In a limited number of examples, other factors have affected the benefits of entering a particular market. For example, DIRECTV introduced local service in Austin, Texas before it introduced the service in some larger DMAs. The decision to serve Austin out of order partly reflected the fact that DIRECTV had introduced a package of programming targeted at Hispanics. The Hispanic programming was being carried at the 119° slot, and the available spectrum for local programming was also at the 119° slot. Since customers were going to need an upgraded dish to see the 119° slot anyway, DIRECTV targeted its local service roll-out at a somewhat smaller market, but one with a higher percentage of Hispanics.

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11. Another key component in assessing the provision of local service is the cost of providing local channels in a particular market. Much of the cost that is caused by the provision of local service to a given area is fixed (and does not vary) with respect to the number of subscribers. The local channels are aggregated at local collection facilities in each DMA, compressed, and backhauled from the local areas to the firms uplink facilities. These costs are incurred regardless of the size of the DMA. Some variation can occur in the costs of serving a market depending on how far the signals need to be transported. Another factor influencing the costs of serving a particular local area is the number of local channels that need to be transported from that area to the firms uplink facilities.

12. A critical cost of providing local service is its opportunity cost.⁷ Each DBS firm has a finite amount of spectrum: EchoStar has 50 full-CONUS frequencies and DIRECTV has 46 full-CONUS frequencies. Any frequency that is used to provide local service cannot be used to provide programming or other services on a full-CONUS basis. Introducing local service therefore has opportunity costs (in terms of the competitive and commercial impacts of reduced national programming or other services), which should be accounted for in any analysis of the economic costs and benefits of local service provision.

⁶ The number of channels that the DBS firms carry in a local market is the function of two factors: First, the channels that the DBS entity wants to carry (e.g., the major networks, such as ABC, NBC, CBS, and Fox), and second, the number of stations that the DBS providers must carry. Under the must carry rules, if a satellite carrier elects to transmit even one local broadcast station in a local market, it must also carry, upon request, the signals of all other qualified broadcast stations in that market. See 47 C.F.R. § 76.66. This requirement is a condition of the carrier's use of the compulsory copyright license granted by the Satellite Home Viewer Improvement Act of 1999. See 47 U.S.C. § 338.

⁷ Commenters appear to ignore the opportunity costs of providing local service. For example, Dr. Rubinfeld argues that the two DBS firms could possibly expand local service to all 210 DMAs, but he does not consider the opportunity costs of providing such local service. See Rubinfeld Declaration at ¶ 77.

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13. EchoStar and DIRECTV thus attempt to assess the net present value of adding local channels, and only decide to expand local channel coverage that will bring them a sufficient return. As the sizes of DMAs decrease, it is less likely that the return from adding local stations in these areas will make financial sense. That is, the increased revenue potential decreases as the size of the DMA decreases, but the backhaul and opportunity costs stay relatively constant.

14. There are two primary reasons why neither firm could serve all 210 DMAs on its own, even if it were technically feasible. First, the DBS firms would have to forgo national programming channels or other advanced services, which would adversely affect each firm's core business. Given the current state of technology and assuming the use of a new spot-beam satellite, a significant number of additional frequencies would be required to provide local service to all 210 DMAs.⁸ For example, for each additional frequency needed to provide local broadcast service, the DBS firms would be unable to carry roughly 10 channels of national programming or to expand advanced services by an equivalent amount. Expanding local service to all 210 DMAs therefore would prevent DIRECTV or EchoStar from carrying so many national channels in its programming line-

⁸ DIRECTV currently uses six frequencies to provide local service to 41 markets from its DIRECTV-4S satellite and can provide local service to 29 additional markets using three frequencies from its DIRECTV-7S satellite when it is launched. To provide local service to the remaining DMAs, DIRECTV would have to launch another spot-beam satellite and transfer a significant number of frequencies to local service from full-CONUS programming or other services. Given EchoStar's current and expected satellite fleet, EchoStar would likely have to transfer even more frequencies than DIRECTV from full-CONUS programming or other services to carry local channels in every market.

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up or from offering more robust advanced services that it would likely have a significant adverse effect on the DBS firms' competitiveness and profitability.⁹

15. Second, each firm would face an additional cost: neither firm can provide service to every market in the United States with its current and expected fleet of spot-beam satellites. Once DIRECTV launches its DIRECTV-7S satellite in late 2003, it will have the *technical capacity* to serve 103 DMAs.¹⁰ To provide local service to the remaining 107 DMAs, DIRECTV would have to launch another spot-beam satellite.¹¹ Spot-beam satellites typically cost between \$220 million and \$300 million to construct, launch, and insure. The expected benefits of providing local service to these 107 DMAs would therefore have to be large enough to cover the opportunity costs of forgoing national programming (or advanced services) *and* the expected costs of providing the service including the cost of the new spot-beam satellite. Absent the merger, expanding local service to all 210 DMAs would not be profitable. That is, the DBS firms would be unlikely to forgo so many national channels (or the advanced services that could be carried in lieu of these channels) and would be unlikely to recover the costs of constructing, launching, and insuring the new satellite, along with the other various costs associated with introducing local service.

⁹ Because EchoStar would have to transfer even more frequencies than DIRECTV from full-CONUS programming (or other services) to provide local service in all 210 DMAs, EchoStar would have to forgo carrying even more channels (or advanced services) than DIRECTV.

¹⁰ DIRECTV can serve 70 DMAs using six spot-beam frequencies on DIRECTV-4S and three spot-beam frequencies on DIRECTV-7S (once it is launched in late 2003). The technical capacity to serve 103 DMAs arises because DIRECTV can transfer one additional frequency from full-CONUS programming to carry local channels via another spot-beam frequency on DIRECTV-7S. But, in the absence of the merger, transferring a full-CONUS frequency to local service is associated with significant opportunity costs, especially when compared to the expected returns from serving these markets. As noted above, an important factor in DIRECTV's decision to serve a local market is DIRECTV's penetration rate in that DMA. Without the merger, the expected returns from serving all 103 DMAs for DIRECTV on its own would thus be lower than for a combined entity. As DIRECTV executives state, given the opportunity costs and expected returns, it is likely that DIRECTV will serve only 70 DMAs—and it may end up serving even less. It appears as though the National Rural Telecommunications Cooperative (NRTC) agrees with this assessment. In another proceeding, NRTC argued that it was highly unlikely and unrealistically optimistic that EchoStar and DIRECTV on their own would serve more than 65 DMAs. See Comments of the National Rural Telecommunications Cooperative, CS Docket No. 00-96 (dated July 14, 2000), at 4-5.

¹¹ Assuming that EchoStar's two spot-beam satellites are successfully deployed, EchoStar would be able to realistically serve roughly 50 DMAs from these spot-beam satellites, in light of its satellite architecture, economic feasibility considerations, and estimated redundancy needs.

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16. Following the merger, however, the economics of providing local service to additional DMAs are altered. The combined current and potential subscriber base of the two DBS firms raises the returns on the investment in providing local service to smaller markets by spreading the fixed cost of providing local service over the larger expected revenue that would come from a larger subscriber base.¹² Furthermore, the opportunity costs of transferring a significant number of frequencies from use for national programming (or advanced services) to use for local service are sharply reduced. In fact, combining the spectrum of EchoStar and DIRECTV and eliminating the duplication of programming offered by the two firms would provide New EchoStar with enough spectrum to offer local service to all 210 DMAs, while expanding the depth and breadth of advanced services (described below), offering more niche and specialty programming, increasing the number of HDTV channels, and expanding the number of national programming channels.¹³ As noted above, in the absence of the merger, the individual firms would not be able to serve these communities. Therefore, the merger is necessary to achieve this efficiency.

¹² Besides the revenue from potential new subscribers, the larger-than-expected revenues are generated by two factors: first, the ability to sell the local service to a larger existing subscriber base, and second, the ability to protect a larger subscriber base from switching to cable as noted below in the text, carrying local channels is an important service to maintain extant subscribers.

¹³ To be sure, the opportunity cost of using spectrum for local service rather than for some other purpose is still positive. But assuming that the returns to the other purposes (e.g., more advanced services, national programming, or HDTV channels) are diminishing in the amount of spectrum devoted to them (in other words, the highest value activities are undertaken first and subsequent activities are of declining value), the opportunity cost is lower than in the absence of the merger because of the spectrum efficiencies created by the merger.

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17. Lack of local channels had placed DBS at a competitive disadvantage to cable.¹⁴ For example, according to a January 2000 survey by Forrester Research, 47 percent of cable subscribers would not subscribe to satellite television because they do not want to lose reception from the major networks (e.g., ABC, NBC, CBS).¹⁵ The fact that consumers value carriage of local channels as part of a DBS offering has been clearly demonstrated in the DMAs in which EchoStar and DIRECTV have already offered local channels. For example, after launching local service, EchoStar's DMA-level subscriber growth rate increased by an average of 30 percent in the 36 local markets it introduced local service. Similarly, when DIRECTV rolled out its local service in 41 markets, its subscriber growth rate in those markets rose by an average of 17 percent.¹⁶ It is important to note that the increase in DBS subscriber growth is evidence that the introduction of local channels in particular areas has provided direct benefits to consumers and has additionally placed more competitive pressure on cable in those areas. New EchoStar's commitment to expand the provision of local channels to every market will therefore introduce additional competitive pressure throughout the country to the incumbent cable providers.¹⁷

¹⁴ The Department of Justice concluded that, to the extent that DBS cannot offer subscribers local broadcast channels, it has a competitive disadvantage relative to cable because many viewers demand local news and weather and popular network programming. See Comments of the U.S. Department of Justice, *In the Matter of the Application of MCI Telecommunications Corporation and EchoStar Communications Corporation*, File No. SAT-ASG-19981202-00093, January 14, 1999, available at <http://www.usdoj.gov/atr/public/comments/2173.htm>

¹⁵ Author's calculation based on Forrester Research, Technographics® Survey, January 2000.

¹⁶ The impact of local service on subscriber growth was estimated after controlling for DMA-level economic conditions (proxied for by the unemployment rate in those states where the DMA is located), the previous month's penetration rate of each DBS provider, national business cycle and other factors that affect all DMAs each month, and persistent differences in DMA-level subscriber growth rates.

¹⁷ The National Association of Broadcasters has claimed that local broadcasters will be hurt because the merger will not result in more markets being served and local broadcasters will face a loss in competition in the *purchase* of local retransmission signals. Such arguments are misguided. First, as discussed above, the

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REDUCTION IN PROGRAMMING COSTS

18. A significant component of the marginal cost of providing DBS service is the cost of acquiring the programming distributed by the DBS providers. As a result of the merged entity's larger subscriber base, New EchoStar's programming costs will be lower since the price for programming tends to decline as the number of subscribers increases.

19. Opponents of this merger have not disputed this point, but only dispute whether the size of these savings would be large enough to outweigh any risk of a price increase after this merger.¹⁸ However, these opponents have not attempted to quantify the size of these cost savings. Many existing contracts between programmers and either EchoStar or DIRECTV include volume discount clauses. Since the merger will increase the customer base of New EchoStar substantially, such volume discount clauses—which in at least some cases include additional discounts for subscriber bases above the levels that are currently achieved by each firm alone—would allow the combined entity to benefit immediately from lower programming costs.

merger will result in *every* local market receiving local channels. As described above, without the merger, neither firm could provide local service to every market in the country. Second, New EchoStar would have every incentive to offer local channels, since customers value local channels and its primary competitor (cable) carries such channels. Furthermore, if, for some reason, New EchoStar decided not to carry a particular channel, that channel would have the ability to file for must carry rights. New EchoStar would then be required to carry the station, which would benefit from increased advertising revenue as a result of the larger subscriber base from the merger. Finally, DIRECTV notes that there are no substantive differences between the retransmission rights obtained in the six markets in which DIRECTV provides local service and EchoStar does not, and the 35 markets in which both DBS firms provide local service.

¹⁸ Rubinfeld Declaration at ¶¶ 79; Sidak Declaration at ¶¶ 92-94.

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20. The larger customer base could also allow New EchoStar to obtain future programming contracts that are more consistent with the prices paid by the larger cable operators. This benefit will largely accrue over time as New EchoStar renegotiates programming contracts, but some benefits will result immediately. Specifically, certain contracts have most favored nations clauses that indicate that EchoStar or DIRECTV is entitled to the same price that is received by any other MVPD entity that has a similar subscriber base. New EchoStar's larger subscriber base should allow it to obtain future programming contracts that are more consistent with the prices paid by cable operators with comparable subscriber bases.¹⁹ Importantly, this efficiency is merger specific because neither DBS firm would be able to achieve such programming cost savings on its own.

INTRODUCTION OF NEW PROGRAMMING AND ADVANCED SERVICES

21. Currently, EchoStar and DIRECTV each broadcast roughly 600 cable channels and broadcast station feeds with substantial overlap that is, they both use spectrum for identical programming (e.g., CNN, HBO, local network affiliates, etc.). By combining the spectrum of EchoStar and DIRECTV and eliminating the duplication of programming offered by the two firms, spectrum will be freed up to expand programming and advanced services, such as interactive television, HDTV, and video-on-demand.

¹⁹ DBS executives note that they often face higher programming prices than cable firms, which appears to be confirmed by the Chairman and CEO of a major programmer: In November 2001, Sumner Redstone, the Chairman and CEO of Viacom, stated that, "what a lot of people don't know is that satellite broadcasters pay us more for the same programming than cable operators. See Sallie Hofmeister, Q&A: Redstone Sees More Growth for Viacom, *Los Angeles Times*, November 18, 2001, page C1.

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22. Increasing the diversity of television programming is an explicit goal of the FCC.²⁰ As the FCC recently noted, many programming services have been planned, but have not been able to launch. One factor that has limited the launch of these new networks is the lack of channel capacity, particularly among analog cable systems.²¹ The spectrum efficiencies and expanded channel capacity resulting from the merger will allow New EchoStar to expand specialized programming offerings. Such programming could include ethnic, foreign language, educational, or other programs that appeal to specific audiences. Therefore, the proposed merger between EchoStar and DIRECTV will likely result in an increase in the programming offerings available to consumers.

23. Advanced services such as, interactive television, HDTV, and video-on-demand are bandwidth intensive and each firm is limited in its ability to offer these services in the absence of the merger. Such limitations on advanced service offerings pose a particular threat to effective competition in the MVPD market. As cable expands its digital offerings, it will be able to roll out more of these advanced services and it will become more difficult for DBS to compete with such digital offerings. Observers of the environment in which cable and DBS compete have noted the importance of these

²⁰ See, for example, Federal Communications Commission, *Report and Order*, 3 FCC Rcd 5299, 5310 (1988) stating that "One good indicator of whether a policy enhances the objective of using competition to carry out the Commission's goals under the Communications Act is whether that policy increases the supply and diversity of programming demanded by viewers." See also *United Video, Inc. v. FCC*, 890 F.2d 1173, 1181 (D.C. Cir. 1989), which concluded that "Increasing program diversity is a valid FCC goal..."

²¹ See Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Eighth Annual Report, (Eighth Annual Cable Competition Report) at ¶ 160.

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advanced services to consumers and the potential advantage cable would have in its ability to offer them.²²

24. Cable also has an advantage with respect to interactive television. Cable's infrastructure is more readily capable of two-way transmission, while the DBS spectrum available for serving customers is one-way only. Cable's inherent two-way capability provides it with a competitive advantage in the area of interactive services. The DBS companies indicate that they could match cable's two-way transmission capability, but only through a virtual system.²³ To provide such a virtual two-way system requires a substantial amount of bandwidth, but, as stated above, the DBS firms are currently bandwidth-constrained without the merger. The potential competitive disadvantage of DBS is accentuated by the fact that each DBS company operates with a fixed amount of spectrum, while a cable company can make investments that allow it to expand continually its effective bandwidth. Thus, given the current state of technology, DBS has an output constraint that may limit the dynamic nature of competition between cable and DBS (which is discussed in more detail below).

²² In fact, it is already the case that, of those consumers who have been recently upgrading to digital service of one type or another, about two-thirds appear to be going to cable, while only one-third are going to DBS. See Morgan Stanley Dean Witter, *Industry: Broadband Cable Television*, July 3, 2001 (Morgan Stanley) at 3.

²³ In such a virtual system, the DBS provider broadcasts a large amount of data repeatedly from the satellite to the customer's set-top receiver. These data carousels may consist of weather information associated with hundreds of locations, current stock quotes for thousands of companies, or other information. If a consumer wants to receive a stock quote, software in the satellite receiver would process the customer's request by searching the appropriate data carousel (which contains data for thousands of companies), grab the requested data, and display it to the consumer. Since cable can transmit information in both directions, the request for a stock quote would be sent to a cable server, which would subsequently transmit the specific data to the consumer's cable set-top for display on the television. From a consumer standpoint, each of these provides a similar interactive experience, but the DBS approach is more bandwidth intensive.

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25. The situation with respect to video-on-demand is similar. It is estimated that cable operators will roll out video-on-demand capabilities across 25 percent to 30 percent of their footprints by the end of this year and roll out these services to all subscribers by 2005.²⁴ Such video-on-demand capabilities should strengthen the competitive position of cable operators. But EchoStar and DIRECTV cannot perfectly match cable's true video-on-demand offering. Rather, EchoStar and DIRECTV can provide near video-on-demand programming, which offers pay-per-view movies at relatively frequent start times. For such near video-on-demand to compete effectively against cable's true video-on-demand, it must have a large selection of movies and the movies must start on a frequent enough basis. The availability of additional spectrum will allow New EchoStar to enhance its near video-on-demand programming by offering more pay-per-view titles at more frequent start times. In addition, New EchoStar has the potential of offering true video-on-demand services to its customers through the combination of its satellite broadcast network and personal video recorder technology.²⁵ The merger will thus allow New EchoStar to introduce a more effective competitive option because of the availability of additional spectrum.

26. The merger will also allow the combined entity to provide consumers with additional high-definition programming. Each company currently offers only two to four channels of HDTV programming, largely because HDTV is extremely spectrum

²⁴ Morgan Stanley at 4.

²⁵ Through such personal video recorder technology, a DBS operator can deliver and store video content on the set-top box's hard disk for subsequent viewing by a customer on an on-demand basis. The merger will not only allow the combined entity to choose the most efficient means of achieving a true video-on-demand product, but will expand the depth and robustness of the video-on-demand services available to consumers.

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intensive: By freeing up additional spectrum, the combined entity will be able to offer more HDTV channels than either firm could carry on its own.²⁶ This commitment of spectrum to HDTV programming will provide additional incentives for consumers to invest in HDTV hardware, and for producers to invest in HDTV content. The proposed merger may also force cable providers to offer additional HDTV channels.²⁷ As Circuit City noted in its comments, the broader offer of HDTV content by a satellite MVPD provider will most certainly spur competition in this area from cable operators and necessarily help speed the rollout of this technology nationally. It should further drive the sales of these displays, leading to additional reductions in their cost.²⁸ The proposed merger may thus help to jump-start the sluggish HDTV adoption process.

27. It has been argued that efficiencies resulting from the elimination of spectrum duplication should not be given any weight in the evaluation of this merger because they should be viewed as fixed cost savings, not marginal cost savings.²⁹ The argument is that only reductions in marginal costs will be passed on to consumers, since only reductions in marginal costs will lead to lower prices. In the context of new services, this argument is misguided.

²⁶ EchoStar currently offers four HDTV channels (including a pay-per-view channel), while DIRECTV offers two channels. In addition to a HDTV HBO channel, DIRECTV provides a combination of live and taped sports and entertainment programming and pay-per-view programming on one of its HDTV channels. (The sports and entertainment programming is broadcast for roughly 18 hours per day, while pay-per-view is available for approximately six hours per day.)

²⁷ As Mark Smith, a spokesperson for the National Cable and Telecommunications Association, recently noted, The cable industry has always been waiting for HDTV because it is an advanced service we can offer to our customers. Now that you have EchoStar and DirecTV getting into the HDTV game, it is incumbent for us to get into the game. See <http://www.ilovehdtv.com/anniversary.html>

²⁸ Circuit City Comments at 5.

²⁹ Sidak Declaration at ¶ 96.

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28. One traditional metric of the economic benefits associated with a specific good or service is consumer surplus, the value that consumers place on the good or service above the price charged for it. A number of academic papers have focused on the potentially large consumer surplus gains from the introduction of new goods or services, especially telecommunications services.³⁰ Without the merger, new advanced services may be delayed, rolled out on a smaller scale, or not rolled out at all. In particular, to the degree that the merger reduces the fixed costs of new advanced services, it increases the likelihood that new advanced services will be provided or expanded. Since it appears that consumers value the new services that New EchoStar will be able to offer once the spectrum duplication is eliminated, the consumer surplus gains from the increased availability of advanced services could potentially be quite substantial. This analysis is consistent with the Department of Justice/Federal Trade Commission Horizontal Merger Guidelines (Merger Guidelines). The Merger Guidelines do not limit themselves to marginal cost reductions as the sole source of efficiencies. Section 4 of the Merger Guidelines states, Efficiencies also may result in benefits in the form of new or improved products, and efficiencies may result in benefits even when price is not immediately and directly affected.³¹ An evaluation of efficiencies generated by the merger should thus not be limited to the impact of marginal cost reductions conditional on the offering of a service, but should more broadly consider the effect of the efficiencies on the availability of the service itself.

³⁰ See, for example, Robert Willig, *Welfare Analysis of Policies Affecting Prices and Products* (Garland Press, 1980); Timothy Bresnahan and Robert Gordon, editors, *The Economics of New Goods*, (Chicago, IL: University of Chicago Press, 1997); and Amil Petrin, Quantifying the Benefits of New Products: The Case of the Minivan, National Bureau of Economic Research Working Paper Number 8227, April 2001.

³¹ See <http://www.ftc.gov/bc/docs/horizmer.htm>

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A MORE COMPETITIVE SATELLITE-BASED BROADBAND SERVICE

29. EchoStar and Hughes currently offer satellite-based Internet access products, but consumer acceptance of these products has so far been limited. Hughes currently has only about 100,000 residential and small business subscribers, while EchoStar has only about 40,000 subscribers, through its marketing of the StarBand product. For comparison, the FCC's recently released broadband report concludes that residential and small business high-speed Internet access via cable lines totaled 5.0 million and via Digital Subscriber Lines (DSL) totaled 2.6 million in June 2001.³² The FCC broadband report also indicates that broadband services are still not available in large portions of the country: For example, the report indicates that 22 percent of all zip codes in the United States do not receive any broadband service.³³ These zip codes tend to be concentrated in rural areas not served by cable modem and DSL technologies.³⁴ Indeed, the FCC cites analyses that have predicted that up to 20 to 30 million homes may *never* have access to cable modem or DSL services, and that about 25 to 30 percent of rural telephone subscribers are not likely to have access to high-speed services in the near future.³⁵ Despite the fact that satellite-based Internet access is technically available in all areas of the United States, the low penetration rate of this technology—even in areas without any access to DSL or cable modem service—raises questions about whether households in both rural and urban areas are likely to accept it on a large scale. In

³² Federal Communications Commission, *In the Matter of the Deployment of Advanced Telecommunications Capability*, CC Docket 98-146, Third Report at Appendix C, Table 3. I report the combined number of residential and small business Asymmetric Digital Subscriber Lines (ADSL) and other wireline services, which includes symmetric DSL.

³³ Id at Appendix C, Table 9.

³⁴ Id at Appendix C, Table 10.

³⁵ Id at ¶ 78 and ¶ 113.

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particular, consumers appear to be very sensitive to the price of broadband services.³⁶ Such price sensitivity is particularly detrimental to extant satellite broadband services, which tend to have high upfront costs and the perception of inferior performance relative to cable modem and DSL services.³⁷ But the merger will help New EchoStar overcome these challenges by making satellite-based broadband more price competitive vis-à-vis the alternative high-speed Internet access technologies.

30. Prior to the merger, EchoStar's commitment to residential broadband service in the Ka-band has also been relatively modest, with only plans to construct a minimal number of spot-beam transponders on its Ka-band satellites. On the other hand, Hughes has already dedicated significant funds to developing its Spaceway product. Through economies of scale, Hughes hopes to achieve lower costs per subscriber than the current Ku-band broadband offerings. With the Ku-band services, executives note that the economies of scale are exhausted fairly quickly, since each transponder can only serve a limited number of subscribers. Once the maximum subscriber limit is reached, it is necessary to lease additional transponders. Thus, reductions in the average satellite cost per subscriber are limited to what can be achieved within individual transponders. Ka-band service, on the other hand, involves significant fixed costs (e.g., to build, launch, and insure the satellites), but lower marginal costs than Ku-band service. As Hughes has designed its Ka-band system, it is capable of handling a larger number of subscribers

³⁶ For example, Hal Varian of the University of California at Berkeley concluded that, "Users are not willing to pay very much for higher bandwidth for accessing today's applications. See Hal R. Varian, *The Demand for Bandwidth: Evidence from the INDEX Project*, University of California, Berkeley, September 2001, pages 14-15. See also Austan Goolsbee, *Subsidies, the Value of Broadband, and the Role of Fixed Costs*, presented at the AEI-Brookings Joint Center for Regulatory Studies Conference on Broadband Communications, October 4-5, 2001.

³⁷ See McKinsey & Company and J.P. Morgan, *Broadband 2001: A Comprehensive Analysis of Demand, Supply, Economics, and Industry Dynamics in the U.S. Broadband Market*, April 2, 2001, pages 45-47.

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without any deterioration of connection speeds and with declining average costs. In other words, each Hughes Spaceway satellite will effectively operate as a single large transponder.

31. Hughes thus expects that when optimally utilized its Ka-band satellites will have satellite costs per subscriber that are lower than its current Ku-band offerings. The expectation is that Spaceway will be able to offer satellite broadband service at a price point that will increase consumer acceptance of the technology. Such a reduction in the price of satellite-based, high-speed Internet access will benefit households in all areas, whether they have access to terrestrial alternatives or not. The ability to offer a price competitive broadband product, however, depends critically on attracting a large number of subscribers. In particular, on its own, Hughes would have to utilize a significant share of the Ka-band satellite's capacity to achieve the economies of scale necessary to justify a lower price. On its own, Hughes may have substantial difficulty and, at least, would face significant uncertainty regarding whether it were possible to obtain the needed subscriber base. The combined firm's larger satellite video subscriber base from which they are more likely to draw broadband subscribers would help to ensure that the scale economies were captured and that satellite Internet access from the Ka-band was price competitive with cable modem and DSL services.

32. The proposed merger would better enable both companies to achieve the required economies of scale and lower equipment costs, both of which are necessary to capture residential as well as enterprise subscribers. Hughes' Spaceway business plan

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envisions the sale of satellite broadband products primarily to enterprise customers and to the extent financially feasible, to residential customers as well. While time-of-day usage patterns for residential and enterprise customers vary somewhat which may allow Hughes to share a portion of its satellite capacity among these two groups of subscribers absent the merger, the costs of acquiring residential customers will remain relatively high, which makes it more difficult for Hughes to keep upfront costs low. As discussed above, studies of broadband demand suggest that it is unlikely that households will subscribe to a satellite-based broadband product that has a high upfront cost. The merger, however, will help lower subscriber acquisition costs, help make satellite-based broadband price competitive with cable modem and DSL services, and thereby help to attract residential subscribers to the product.

33. These lower subscriber acquisition costs could be achieved because the merger will allow New EchoStar to sell satellite-based broadband services to a larger subscriber base. Current satellite *video* subscribers are more likely to subscribe to satellite broadband services than other households. Such MVPD subscribers have already demonstrated the ability and willingness to place the necessary equipment on their houses. In fact, half of the subscribers to Hughes' current satellite broadband service also subscribe to DIRECTV and a somewhat higher percentage of StarBand's customers subscribe to EchoStar's video services. Thus, the ability to market broadband service to the combined subscriber base of the two DBS firms will lower customer acquisition costs. Increased sales of satellite-based broadband will also have the benefit of reducing manufacturing costs. As the volume of satellite broadband equipment that

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needs to be manufactured increases, the average costs of producing the equipment will decline. The combination of a larger subscriber base and lower average equipment costs should help New EchoStar reach the necessary critical mass of subscribers to make satellite-based broadband price competitive with cable modem and DSL services.

34. New EchoStar has committed to a national pricing policy for its basic broadband product. Therefore, the areas of the country that are unlikely to receive cable modem or DSL services in the foreseeable future will benefit from the increased competition between satellite, cable modem, and DSL in larger markets. That is, without the merger, it is possible that price competitive satellite-based broadband will be generally unavailable, which may leave many rural areas without an attractive broadband product. With the merger, such a price competitive broadband product is not only possible, but likely. (See below for a discussion of how national pricing in the context of video services can export competitive pressures in larger markets to smaller and more rural markets.)

IV. The Merger's Impact on Competition

35. A number of opposition commenters argue that the proposed merger between EchoStar and DIRECTV will have a significant adverse impact on competition in the MVPD market.³⁸ To understand why the proposed merger will not have such effects and why such comments are misguided, it is important to underscore the role that

³⁸ See, for example, MacAvoy Declaration, Rubinfeld Declaration, and Sidak Declaration.

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national pricing will play in exporting competition from the larger to smaller DMAs, to incorporate the merger-specific benefits that will enable New EchoStar to more effectively serve consumers and compete against cable providers, and to characterize correctly the degree of existing competition between the two DBS firms.

36. This section first develops a static analysis of how a combined entity would determine a national price. It then explores various factors that indicate that any potentially negative competitive effects are likely to be small relative to the dynamic benefits of the merger because the degree of existing competition between the two DBS firms appears to be significantly less intense than the degree of ongoing competition between the DBS firms and cable providers. I then proceed to review the competitive analyses of the economists who filed declarations opposed to the merger.

HOW NEW ECHOSTAR WOULD SET ITS NATIONAL PRICE

37. According to the FCC, cable firms provided service to 78 percent of all MVPD subscribers in 2001.³⁹ To expand its subscriber base, New EchoStar would need to price its products to attract cable subscribers. The experience of the DBS firms suggests that many consumers are reluctant to pay the upfront costs of equipment and installation to obtain DBS service. As a result, over the past five years, both EchoStar and DIRECTV have reduced upfront costs, while also pricing programming at competitive levels vis-à-vis most cable providers.

³⁹ According to FCC, cable television still is the dominant technology for the delivery of video programming to consumers in the MVPD marketplace. See Eight Annual Cable Competition Report at ¶ 5.

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38. EchoStar and DIRECTV currently price their products on a national basis. New EchoStar has committed to maintaining such a national pricing policy. As described below, our analysis of the churn data from both EchoStar and DIRECTV suggests that the number of DBS subscribers who consider cable as their second choice for MVPD services dwarfs the number of subscribers who consider the other DBS provider as their second choice. Such evidence suggests that New EchoStar will be unlikely to have the incentive and ability profitably to raise its national price because it would not want to lose customers to cable. The combined entity's national price will tend to be driven down by the cost savings from the merger and gauged, as are current DBS prices, against a weighted average of competitive forces from various regions cable systems, with larger and potentially more competitive markets playing a greater role. New EchoStar's national pricing policy, therefore, will help to ensure that cable competition in the larger DMAs is exported to smaller markets and non-cable passed areas.

39. Standard economic theory shows that when deciding on a price, a rational firm selling its product in several geographic markets, but charging the same price in all markets, will place greater weight on conditions in those markets in which it expects to sell more. As Mr. Sidak notes, a profit-maximizing firm will set its post-merger national price based on the relative shares of consumers living in rural and urban areas, and the relative own-price elasticities of demand for each group of consumers of DBS service.⁴⁰ For example, if I assume for simplicity that New EchoStar engages in differentiated products Bertrand price competition with cable and other MVPD providers in K

⁴⁰ Sidak Declaration at ¶ 56.

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geographic markets,⁴¹ New EchoStar would choose a single nationwide price for DBS to maximize the following profit function:

$$\sum_{i=1}^K p q_i(p) - C(\sum_{i=1}^K q_i(p)) \tag{1}$$

where p is the uniform national DBS price levied by New EchoStar, $q_i(p)$ is the demand for DBS in market i at price p , and $C(\cdot)$ is the total cost of providing DBS service.

40. Given this model, New EchoStar's price-cost margin (or more accurately, the ratio of price minus marginal cost to price) when it is pricing to maximize static profits in total among the K markets can be expressed as follows:

$$\frac{p - c}{p} = \frac{1}{\sum_{i=1}^K E_i s_i} \tag{2}$$

where p is the uniform national DBS price levied by New EchoStar, c is the marginal cost per subscriber (i.e., the derivative of total New EchoStar cost with respect to the number of nationwide subscribers), E_i is the (absolute value of) the own-price elasticity of demand for DBS in geographic market i , and s_i is the share of New EchoStar's subscribers in market i .

41. Equation (2) shows that the more price sensitive DBS service demand is in those areas in which New EchoStar has more current or potential subscribers, the lower the post-merger margin and price. DBS demand in the bigger markets served by New EchoStar will be more price elastic if New EchoStar faces greater competition in such

⁴¹ Bertrand price competition, a standard model of competition, was also applied to the MVPD market by Mr. Sidak. See Sidak Declaration at ¶¶ 44-48.

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markets.⁴² The key factors in this theoretical model are thus (1) the geographic distribution of current DBS subscribers (as well as *potential* DBS subscribers), and (2) whether demand for DBS services is more price sensitive in larger markets. Furthermore, as discussed in more detail below, to the extent that households in larger markets have higher demand for complementary products (e.g., satellite-based broadband), this pricing model may *understate* the influence of the larger markets on the post-merger DBS price.

Geographic distribution of current and potential DBS subscribers

42. According to data from both EchoStar and DIRECTV, New EchoStar will likely draw most of its subscriber base from the larger DMAs. For example, while the largest 15 DMAs accounted for less than 30 percent of the two DBS firms' subscriber base in January 2001, these DMAs accounted for roughly half of total DBS subscriber growth in 2001. Such evidence suggests that the number of DBS subscribers has grown faster in the larger DMAs than in smaller DMAs. In addition, the percentage of households that are extremely or very interested in DBS is greater in larger markets than in smaller markets: According to January 2000 survey data from Forrester Research, respondents in the largest 30 DMAs (and the largest 15 DMAs) were significantly more interested in subscribing to satellite television than respondents not residing in the top

⁴² There are a number of reasons to expect that DBS demand will be more price sensitive in bigger markets. In large markets, rivals are more likely to offer more and better substitutes for DBS. For example, DBS is more likely to compete against digital cable in the larger DMAs. As noted below in the text, digital cable is a more formidable competitor with DBS because it eliminates the quality and channel capacity advantages that DBS has traditionally enjoyed. It therefore offers DBS subscribers a better substitute than other extant MVPD offerings. Another reason that New EchoStar may face greater competition and a more elastic demand in the larger DMAs is the presence of other DBS substitutes, such as overbuilders and satellite master antenna television (SMATV) competition for multiple dwelling unit (MDU) and commercial multiple tenant unit (MTU) residents in the larger DMAs.

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DMAs.⁴³ It is therefore reasonable to expect that future DBS subscriber growth will be disproportionately concentrated in the larger markets. In other words, New EchoStar's national price will be determined by putting additional weight on cable prices in the largest DMAs.

Elasticity of demand for DBS services in larger versus smaller markets

43. The available evidence indicates that larger DMAs are more competitive and offer more and better substitutes for DBS, which would suggest that DBS's own-price elasticity of demand would be higher in these larger DMAs. For example, even commenters opposed to the merger acknowledge that digital cable is a more effective competitor to DBS than analog cable.⁴⁴ Since cable systems in larger DMAs are more likely to offer digital cable,⁴⁵ DBS's own-price elasticity of demand would be higher in these larger DMAs.⁴⁶ In addition, my research on the number of competitors in the top major metropolitan areas suggests that each of the top 15 DMAs has one or more non-cable, non-DBS MVPD provider that is currently operating or has been licensed to operate.⁴⁷ For example, in New York City—the largest DMA—the incumbent cable firms face competition from SMATV providers and RCN, an overbuilder, which is also

⁴³ Author's calculation based on Forrester Research, Technographics® Survey, January 2000.

⁴⁴ See, for example, MacAvoy Declaration at ¶ 9 and Rubinfeld Declaration at ¶ 61. Dr. Rubinfeld stated that he believes that only digital cable will be able to compete successfully with DBS.

⁴⁵ For example, the Warren data indicate that the ratio of homes passed by digital cable to DBS subscribers is higher in larger DMAs than in smaller DMAs. More generally, the Claritas data suggest that channel capacity is significantly higher in the larger DMAs than in the smaller DMAs.

⁴⁶ It is important to emphasize that the fact that digital cable may be a more effective competitor to DBS does not imply that analog cable is not part of the relevant product market. As described below, churn data from the DBS firms indicate that many departing customers switch to analog cable, as well as to digital cable.

⁴⁷ These non-cable, non-DBS providers include overbuilders, multi-channel multi-point distribution service (MMDS), private cable or SMATV systems, and incumbent local exchange carriers (ILEC) using Very High-Speed Digital Subscriber Lines (so-called VDSL).

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providing service in six of the nine next largest DMAs.⁴⁸ Consistent with these findings of more competition in larger DMAs, the basic fees for cable service appear to be lower in larger DMAs and the number of channels in use appears to be higher.⁴⁹

44. Overbuilders have historically played an important role in constraining the prices of cable providers, which is indicative of their effectiveness as competitors in the MVPD market. The FCC's most recent report on competition in the MVPD market suggests that a new class of overbuilders—so-called Broadband Service Providers (BSPs)—may provide even more effective competition in the future. The FCC notes the growing importance of BSPs, who are overbuilding incumbent cable systems with state-of-the-art systems that offer a bundle of telecommunications services.⁵⁰ Overbuilders have faced and continue to face a number of challenges in providing effective competition to incumbent cable firms, but the FCC concluded that:

BSPs appear to be attempting to overcome [these] difficulties of overbuilding by taking advantage of regulation new to the 1996 Act (most notably the open video system rules), carefully selecting communities with favorable demographics, *such as high population density*, and building systems that are more advanced than the incumbent cable operators. Building advanced systems allows BSPs the ability to offer a bundle of services, such as video, voice, and high-speed Internet access, which may increase per subscriber revenue and decrease churn.⁵¹

⁴⁸ See RCN Announces Third Quarter Results, Press Release, November 7, 2001. In past filings, a number of cable providers have noted the competition that SMATV providers impose in urban areas: For example, Cablevision recently argued that, in New York City, it faces significant competition from various providers of SMATV service. See Reply Comments of Cablevision Systems Corporation, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 3-4. The association of cable providers has also asserted that SMATV provides vigorous competition to cable systems in MDUs and MTUs. See Decker Anstrom, President and CEO of National Cable Television Association, Testimony Before the House Judiciary Committee, September 24, 1997.

⁴⁹ Author's calculations, based on data from Claritas.

⁵⁰ Eighth Annual Cable Competition Report at ¶ 107.

⁵¹ Eighth Annual Cable Competition Report at ¶ 107. Footnote omitted; emphasis added.

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As the FCC stated, the new overbuilders are targeting larger markets, which are typically densely populated. The upshot of such a finding is that larger markets are more likely to become even more competitive in the future, as BSPs roll out their service in high-population density areas.

45. A review of the academic literature on the impact of competition in the MVPD market, along with the responses of cable firms to the entry of overbuilders, suggests that quality-adjusted cable prices will be lower in these larger, more competitive markets. Although the literature on the impact of overbuilders on competition in the MVPD market may have shortcomings, a dozen academic studies including four analyses by the FCC have found that prices in markets with overbuilders are between 8 and 34 percent lower than in markets without them.² The responses of local cable firms to the entry of an overbuilder into the local MVPD market also suggest that overbuilders

⁵² See Thomas Hazlett and Matthew Spitzer, *Public Policy Toward Cable Television: The Economics of Rate Controls*, (Cambridge, MA and Washington, DC: MIT Press and AEI Press, 1997), (Hazlett and Spitzer), pages 30-31. For example, as part of its February 1994 cable rate regulation rulemaking, the FCC used 1992 data on cable prices by area and found that communities with head-to-head competition between cable providers and overbuilders had 16 percent lower cable prices than communities with a monopoly cable operator. See Federal Communications Commission, *In the Matter of Implementation of Sections of the Cable Television Consumer Protection and Competition Act Rate Regulation, Buy-Through Prohibition*, Third Report and Order, MM Docket 92-266 and MM Docket No. 92-262 (adopted February 22, 1994; released March 30, 1994). In 1996, Jith Jayaratne, then an economist at the Federal Reserve Bank of New York, improved upon the FCC's analysis: He concluded that cable prices in areas with overbuilders are, on average, 12 percent lower than monopoly rates. See Jith Jayaratne, A Note on the Implementation of Cable TV Rate Caps, *Review of Industrial Organization*, Volume 11, 1996, (Jayaratne) pages 823. Similarly, a paper published in the *RAND Journal of Economics* in 1997 concluded that cable prices in areas with overbuilders were 17 to 22 percent lower than areas without them. See William Emmons and Robin Prager, The Effects of Market Structure and Ownership on Prices and Service Offerings in the U.S. Cable Television Industry, *RAND Journal of Economics*, Vol. 28, No. 4, Winter 1997, pages 732-750. Communities with competition from overbuilders also appear to have higher levels of service that are not fully accounted for in the above-cited literature: The evidence suggests that subscribers in overbuilt areas have more choices of non-broadcast channels and lower installation prices. See Jayaratne, page 823; Hazlett and Spitzer, page 29; and Jennifer Fearing and Charles Lubinsky, Qualitative Differences in Competitive Cable Markets Prior to Rate Regulation, mimeo, October 1997. Fearing and Lubinsky conclude that installation fees are 16 to 36 percent lower in competitive markets than in monopolistic markets.

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play an important role in constraining cable prices. As the FCC recently noted, in Boston, Massachusetts, in response to RCN's entry, the incumbent cable operator in Boston, Cablevision of Boston (Cablevision), moderated its regional rate increase in the Boston area and agreed to improve its commitment to public and educational channels.⁵³ Moreover, the competitive effect of overbuilders may extend to neighboring communities that are not currently served by the overbuilder. To the extent that cable operators in nearby communities fear the entry of an overbuilder, they may respond to the *potential* competition from overbuilders by lowering prices or upgrading their infrastructure.⁵⁴ The impact of overbuilders may thus be broader than their current geographical footprint.

46. In summary, New EchoStar has committed to a national pricing strategy. The churn data presented below suggest that cable is each DBS firm's primary competitor. Thus, cable will continue to constrain the national price charged by New EchoStar. In addition, economic theory shows that the choice of New EchoStar's national price will put greater weight on the competitive conditions in those markets in which it sells more of its product. As noted above, larger DMAs appear to be more competitive than smaller DMAs. For example, larger DMAs are more likely to have digital cable systems which are a more formidable competitor to DBS, since they

⁵³ See Eighth Annual Cable Competition Report at ¶ 198. Similarly, when RCN introduced service in Somerville, Massachusetts, the local cable provider, Time Warner, froze its rates even though it had announced a 10% price increase for its standard cable services in 82 Massachusetts communities. See Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Sixth Annual Report, (Sixth Annual Cable Competition Report), at ¶ 230.

⁵⁴ As the FCC recently stated, RCN contends that in anticipation of its entry in Fairfax County, a suburb of Washington, D.C., the incumbent Cox announced an upgrade of its plant. See Eighth Annual Cable Competition Report at ¶ 201.

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eliminate DBS quality and channel capacity advantages. Therefore, New EchoStar's national price will allow smaller, more rural DMAs to benefit from the more intense competition in larger DMAs.

DYNAMIC ANALYSIS OF COMPETITIVE EFFECTS

47. The national pricing model presented above is static, but the MVPD market is dynamic, with new products and services being introduced regularly. This dynamism of the MVPD market is also expected to promote competition between New EchoStar and cable, and impose corresponding constraint on the prices charged by the combined entity. For example, the greater geographic coverage of local channels, the increased ability to broadcast specialty, ethnic, and foreign language programming, the improved interactive television services, and the capacity to offer expanded video-on-demand should help New EchoStar to compete more vigorously against the cable industry, especially since the cable providers can upgrade unilaterally their bandwidth to provide these services on a digital-cable tier. The Merger Guidelines contemplate the role efficiencies can play in improving competition. Specifically, the Merger Guidelines state that, "Efficiencies generated through merger can enhance the merged firm's ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products."⁵⁵

⁵⁵ See the Department of Justice/Federal Trade Commission Horizontal Merger Guidelines, Section Four, available at <http://www.ftc.gov/bc/docs/horizmer.htm>

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48. The commenters fail to acknowledge that the efficiencies generated specifically by the proposed merger of EchoStar and DIRECTV will have a dynamic impact on bolstering competition and programming diversity in the MVPD market. In particular, DBS has historically held an advantage relative to analog cable in terms of channel capacity, and DBS consumers have indicated a strong preference for such capacity. For example, a survey of new DBS subscribers found that the leading reason for switching to DBS was more channels⁵⁶ That revealed preference, in turn, has pressured the cable firms to invest in increased channel capacity. As National Cable and Telecommunications Association (NCTA) President and CEO Robert Sachs recently stated, Being digital from the start, and having the advantage of substantially greater channel capacity, DBS spurred cable operators to replace hundreds of thousands of miles of coaxial cable with fiber optics so that they too could offer consumers hundreds of channels of digital video and audio services.⁵⁷ In 1999, Comcast emphasized to the FCC the role that DBS competition has played in pushing it to upgrade its systems:

DIRECTV and EchoStar, respectively, offer a total of 211 and 193 digitally delivered channels. These channel capacities exceed those of even the most advanced analog cable systems.... In response to this competitive challenge in its service areas and in order to remain competitive, Comcast undertook the massive investments necessary to upgrade its systems, increase channel capacity, and offer new services.⁵⁸

⁵⁶ According to a survey by The Yankee Group, the top five reasons for people switching to DBS were more channels (79 percent), greater movie selection (69 percent), clearer picture and sound (66 percent), dissatisfied with cable (46 percent), and cable was too expensive (44 percent). See Satellite Broadcasting & Communications Association Press Release, Study Shows Satellite TV Increasing Urban Penetration, August 14, 2000.

⁵⁷ See Robert Sachs, Testimony Before Subcommittee on Antitrust, Business Rights, and Competition, Committee on the Judiciary, United States Senate, April 4, 2001, pages 2-3.

⁵⁸ See Reply Comments of Comcast, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Notice of Inquiry, CS Docket No. 99-230, (dated September 1, 1999), at 9.

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The channel capacity advantage of DBS has thus pressured the cable firms to invest in increased channel capacity.⁵⁹ (It is important to note that the increase in channel capacity has also provided new opportunities to programmers, which is a specific goal of the FCC.)

49. As described above, EchoStar and DIRECTV are now constrained in the services that they can each provide on their own. In the absence of the merger, the pressure that DBS firms exert on cable providers to innovate and to increase capacity may be attenuated. The proposed merger between EchoStar and DIRECTV, however, will eliminate spectrum redundancies and allow for expanded channel capacity which will likely spur the development of new programming and new innovative services. Such an expansion of channel capacity will likely force cable systems to continue to upgrade their network infrastructure. Relative to today's cable infrastructure, an upgraded cable system will exert even more competitive pressure on DBS pricing thus perpetuating the virtuous cycle of competitive innovation.

50. Indeed, the history of the MVPD market clearly demonstrates the pressure to upgrade systems to meet the competition. DBS channel capacity begat cable system upgrades, which in turn has exerted pricing pressure on the DBS firms. That competitive pressure manifests itself in lower levels of DBS subscriber growth, *ceteris paribus*.⁶⁰ Mr.

⁵⁹ Even opponents of the proposed merger of EchoStar and DIRECTV acknowledge that DBS is the main source of pressure on cable to expand channel capacity. See American Antitrust Institute Comments at 2.

⁶⁰ For example, Goldman Sachs concluded that "We see the bundling of [cable] services as the most significant threat to DBS because of its potential not only to slow gross additions, but also to win back subscribers (seen through higher churn). Both have the obvious effect of slowing net subscriber growth for DISH Network and DIRECTV. See Goldman Sachs, "Satellite Communications: DBS Operators," December 18, 2000 at 1. Lehman Brothers similarly concluded that, "cable will become a far more

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Sidak cites evidence that DBS growth has slowed dramatically where digital cable has been rolled out.⁶¹ Jerry Kent, the former Chief Executive Officer of Charter Communications, recently stated that "A couple of years ago, frankly, cable had an inferior product. Now [cable providers] have as many or more channels than satellite. And we are more competitive from a price-value standpoint."⁶²

51. This process of competitive responses benefits DBS *and* cable subscribers. The danger is that, in the absence of the merger, the competitive cycle will be impeded by the constraints facing the DBS firms. If that were to occur, both DBS and cable subscribers could suffer.

52. The competitive cycle may also have other benefits in related markets. For example, the proposed merger of EchoStar and DIRECTV may have two important effects on competition in the broadband market: First, as described above, it would better allow the combined entity to offer a price competitive satellite-based, high-speed Internet service, which would increase competition in the broadband market. Second, it would likely pressure cable providers to upgrade their infrastructure so that connection speeds do not deteriorate as the subscriber base increases. Such upgrades would increase the

significant foe, and will likely relegate satellite television to a deep second-class status in most urban markets. See Lehman Brothers, "Satellite Communications: Industry Update," February 8, 2002 at 1.

⁶¹ Sidak Declaration at ¶ 34, quoting Salomon Smith Barney Equity Research, *DBS Industry Update*, January 17, 2002 at 22.

⁶² See Jerri Stroud, "Satellite, Digital Cable Companies Wage War for Subscribers," *St. Louis Post-Dispatch*, May 21, 2001 at 8.

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speed at which extant cable modem subscribers connect to the Internet or allow more broadband users at any given connection speed.⁶³

53. Moreover, the proposed merger will bolster competition between DBS and cable providers by increasing New EchoStar's ability to offer a price competitive satellite-based broadband service bundled with expanded programming and advanced services. Just as bundled packages make cable providers a more effective competitor with DBS, a satellite-based bundled package will make DBS more effective in competing with cable providers.⁶⁴ To the benefit of consumers, bundled packages could start a series of competitive responses. Such competition between cable and DBS could spill over into the anticipated competition between cable and DSL service; for example, if cable operators make a competitive offer to respond to New EchoStar, DSL providers may be forced to respond to the cable offer to remain competitive in the broadband market.⁶⁵ In the absence of the merger, however, it is possible that the competitive cycle

⁶³ Cable providers dedicate a portion of their system capacity to provide high-speed Internet access. Cable providers usually assign the equivalent of roughly one television channel, which allows for about 40 million bits per second of downstream capacity. This downstream capacity, though, must be shared among many subscribers. If traffic increases, the connection speed of each individual user falls. If demand for high-speed Internet service grows and the typical connection speed is significantly reduced, a cable provider has two choices: it can either dedicate more bandwidth to data services (and reduce the number of television channels) or upgrade its infrastructure. A cable system upgrade induced by competition from DBS can therefore have a positive impact on connection speeds for cable modem users.

⁶⁴ Cable operators often bundling cable television (and especially digital cable television) with cable modem service at a discount of \$5 or \$10 per month. Deutsch, *DIRECTV: Category Review and Competitive Analysis*, August 2001.

⁶⁵ Gerald Faulhaber, the former Chief Economist at the Commission, recently argued that, customers desiring broadband Internet connections were greatly advantaged by the desire of Americans to watch high quality television, and the competition for that market initiated by the introduction of satellite. This provided the impetus for cable firms to deploy broadband access in their search for a low incremental investment revenue stream. In turn, cable deployment provided the impetus for RBOCs to deploy DSL for fear of being attacked in their core business by the cable firms. See Gerald R. Faulhaber, *Broadband Deployment: Is Policy in the Way?* presented at the AEI-Brookings Joint Center for Regulatory Studies Conference on Broadband Communications, October 4-5, 2001.

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will not be as intense, which would harm both DBS and cable subscribers (and perhaps DSL subscribers as well).

54. The ability of New EchoStar to offer bundled packages may also produce *lower* prices for video services. As described in Section III, the proposed merger will allow New EchoStar to improve and expand the menu of complementary products (such as interactive services, video-on-demand, high-speed Internet service, HDTV, etc.) to existing MVPD services. With the introduction and expansion of complementary products by New EchoStar, the firm would have an incentive to reduce the price of existing DBS video services to attract customers to other bundled products. The profits forgone on video services would be more than offset by the margins on the additional complementary products.

55. Another factor that will continue to constrain DBS prices is the need to capture cable subscribers soon, before the widespread adoption of digital cable and bundled packages of digital cable and high-speed Internet access. Among other reasons, the incentive to attract cable subscribers as soon as possible arises from the stickiness of digital cable and bundled-package subscribers. Such stickiness results from higher switching costs (e.g., switching e-mail addresses) after an individual has subscribed to a digital cable bundle. Consumers who commit to a digital cable/cable-modem bundle may perceive fewer benefits to moving to DBS (relative to analog cable customers).⁶⁶ Indeed, a Cox Communications executive recently stated that there is clear evidence that

⁶⁶ Goldman Sachs similarly notes that As cable operators upgrade their networks and roll out new service, cable subscribers will have less incentive to churn to DBS. See Goldman Sachs, Satellite Communications: DBS Operators, December 18, 2000, page 33.

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bundled services provide stickiness.⁶⁷ An AT&T Broadband executive similarly noted that digital cable has lowered the rate of churn.⁶⁸

56. Indeed, digital cable subscribership is growing at a very rapid pace: according to the NCTA, the number of digital cable subscribers has increased nine-fold in the past three years, rising from 1.5 million in 1998 to 13.7 million in November 2001.⁶⁹ While meaningfully forecasting future penetration rates of a new technology is an inherently difficult task, analysts have estimated that more than half of all cable subscribers will have digital cable within three or four years.⁷⁰ Such an expected digital cable market share would impose significant constraints on the DBS industry in the future. Therefore, New EchoStar will need to price its product competitively following the merger, so that it can attract cable subscribers *before* they sign-up for bundled packages.

THE DEGREE OF COMPETITION BETWEEN ECHOSTAR AND DIRECTV

57. In their comments, Dr. MacAvoy and Mr. Sidak present some evidence that they claim purports to show that DIRECTV and EchoStar compete vigorously. The

⁶⁷ Jane Black, Why Cox Is Leading Cable's Comeback, *Business Week Online*, February 14, 2001, quoting Frank Loomans, Cox Communications Vice President for Finance. A different Cox Communications executive noted that churn among bundled customers is 33% to 50% less than that of single-product customers. See Cox Communications Press Release, Cox Communications Announces One Million Bundled Customers, November 26, 2001, quoting Joe Rooney, Cox Communications Vice President for Marketing, available at <http://www.cox.com/PressRoom/Default.asp?LocalSys=>

⁶⁸ Jim McConville, Let The Tiers Flow, *Electronic Media*, September 18, 2000, quoting Doug Seserman, AT&T Broadband's Senior Vice President for Marketing.

⁶⁹ For data on the growth of digital cable, see the NCTA website at http://www.ncta.com/industry_overview/indStats.cfm?statID=14.

⁷⁰ See Goldman Sachs, Satellite Communications: DBS Operators, December 18, 2000, page 35. Goldman Sachs estimates that digital cable subscribership will reach 34.5 million in 2004, 39.5 million in 2005, and 43.5 million in 2006.

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evidence they present, however, is flawed. For example, they claim that there is evidence of vigorous competition in the fact that five days after DIRECTV announced that it was beginning to offer local service at \$5.99 per month, EchoStar announced it was going to start providing a similar line-up of local channels for \$4.99. These events occurred in late November 1999. The commenters fail to note a crucial event that also occurred in late November 1999: The Satellite Home Viewer Improvement Act (SHVIA) of 1999 allowed EchoStar and DIRECTV to carry local-into-local service for the first time starting on November 29, 1999. Therefore, vigorous competition between the two DBS firms is not evidenced by the fact that they had announced at roughly the same time that they were going to provide local service.

58. Similarly, the commenters cite the fact that both firms announced the availability of HDTV compatible set-top receivers within one day of each other. But the announcements of both EchoStar and DIRECTV occurred at the 2000 Consumer Electronics Show in Las Vegas, Nevada.⁷¹ Since firms generally announce new services and equipment at large electronics shows, such as the Consumer Electronics Show, this purported evidence of head-to-head competition is more likely a coincidence than a competitive response. The commenters also claim that both DBS firms announced on December 27, 2001 that they were going to carry more local channels in each market. But, once again, the commenters ignore other events. On January 1, 2002, the DBS firms must-carry obligations went into effect and both firms were required by law to

⁷¹ See EchoStar Press Release, EchoStar's DISH Network Offers New HDTV Satellite TV Receiver, January 6, 2000, and Panasonic Press Release, Panasonic to Manufacture and Market HDTV DIRECTV Systems, January 5, 2000.

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offer more local channels. The incidents cited by opponents of the merger thus do not provide persuasive evidence of intense competition between the two DBS firms.

59. While the commenters claim that competition between EchoStar and DIRECTV is intense, the only evidence that they provide is a series of purported responses of one firm to the other firm's promotions. Indeed, the commenters have tried to frame the key question as whether EchoStar and DIRECTV compete at all. They argue that if they compete at all, the merger will have a significant and adverse effect on competition in the MVPD market. The more relevant question for analyzing the impact of the merger on competition in the MVPD market, however, is not whether they compete at all. Rather, it is the *degree* of competition between EchoStar and DIRECTV in a market including DBS providers, cable operators, other MVPD providers, and perhaps even broadcast television.

60. To analyze the degree of competition between DBS and cable and between DBS firms, it is instructive to examine the distribution of the video services to which DBS customers previously subscribed, as well as what percentage of customers depart DIRECTV for a broad set of cost or price reasons and then subscribe with EchoStar, digital cable, analog cable, or simply use an antenna.⁷²

⁷² The following disconnect reasons provided by survey respondents were categorized as cost or price reasons: Too expensive; Too many additional charges/Need to purchase additional receivers for other TVs; Can't afford/Financial problems; Catch up on my bills; Cable is better deal/Cable is cheaper; Too expensive with Cable and DirecTV; Charge for additional outlets; Raised the price.

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61. Each month, DIRECTV surveys a random sample of roughly 350 current subscribers and asks them a series of questions, including whether they have ever subscribed to cable or another DBS service.⁷³ Such data can therefore be used to examine what share of DIRECTV subscribers had previously been cable and EchoStar subscribers. The data suggest that less than nine percent of DIRECTV's new subscribers were previously subscribers to EchoStar.⁷⁴ By comparison, roughly 61 percent of DIRECTV's new subscribers are either previous or current cable subscribers.⁷⁵ Although such figures are not necessarily conclusive, they confirm the views expressed by DBS executives—namely that the objective of each firm is to gain market share by luring consumers away from the leading cable providers, not the customers of the other DBS firm.⁷⁶

62. I also utilize each firm's churn data for indications of the degree of competition between the DBS firms. DIRECTV conducts a monthly telephone survey of former subscribers who are randomly selected from the pool of subscribers who

⁷³Since August 2000, the DIRECTV customer satisfaction survey has asked subscribers whether they were a cable subscriber *before* subscribing to DIRECTV. In April 2001, DIRECTV added a question about whether subscribers had ever subscribed to EchoStar.

⁷⁴The DIRECTV customer satisfaction survey asks—prior to subscribing to DIRECTV, have you ever subscribed to EchoStar/The Dish Network. Respondents can answer yes, no, or don't know. Of the approximately 350 DIRECTV subscribers surveyed on a monthly basis, roughly 40 to 70 respondents are new subscribers (i.e., those who subscribed to DIRECTV within the past 90 days of the survey interview). If one were to focus on the entire sample interviewed by the customer satisfaction survey, rather than on new subscribers, the fraction of subscribers that were previously EchoStar subscribers is also less than nine percent.

⁷⁵The DIRECTV customer satisfaction survey also asks, "Which of these best describes your cable TV situation before you had DIRECTV?" Respondents can answer "I used to subscribe to cable TV and still do;" "I used to subscribe to cable TV but not now;" "I did not subscribe to cable TV then or now;" "I did not subscribe to cable TV then but do now;" "Cable TV was not available in your area;" or "Don't know." If one were to focus on the entire sample interviewed by the customer satisfaction survey, rather than on new subscribers, 57 percent of respondents were previous or current cable subscribers.

⁷⁶See Robert D. Willig, Declaration On Behalf Of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation, *EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation Seek FCC Consent For A Proposed Transfer Of Control*, CS Docket No. 01-348, (released December 21, 2001), (Willig Declaration) at ¶ 10.

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disconnect voluntarily or are disconnected by DIRECTV for not paying their bill. The survey is undertaken two to six weeks after subscribers depart DIRECTV and is conducted by an independent polling firm. EchoStar also collects churn data, but only began doing so on a systematic basis in August 2001. A random subset of the people who call to disconnect their service are asked why they are leaving EchoStar and what alternative MVPD service they are switching to instead. Since the EchoStar churn data are based on a sample of subscribers obtained during the call to disconnect service, EchoStar's churn data have a high non-response rate. I therefore base most of my analysis on the more reliable DIRECTV data.

63. From an antitrust perspective, a more informative analysis may involve examining the churn data surrounding the DIRECTV price increase in the late summer of 2000. For several months following DIRECTV's announcement of its price increase, it asked a sample of those subscribers who disconnected whether they were aware of the price increase and whether the price increase influenced their decision to disconnect. Among those subscribers sampled who disconnected between August 2000 (when the price increase was announced) and November 2000 and cited cost/price issues as their main reason for departing DIRECTV, 3.1 customers churned to cable and 1.2 customers churned to an antenna for every one customer who churned to EchoStar. One potential concern with this analysis is that the sample size is relatively small (under 100 respondents). Nevertheless, such evidence provides support for the conclusion that there is only limited competitive interaction between the two DBS firms.

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64. I also examined the churn data from 2001 when DIRECTV did not change prices. (Some customers may nonetheless have experienced a price increase during this period, as their previous promotions had expired; others may have perceived a price increase because of changing usage patterns and the different prices attached to different services.) These data are consistent with data from the months surrounding DIRECTV's price increase: For every one customer who left DIRECTV for EchoStar because of cost or price reasons in 2001, 3.4 customers churned from DIRECTV to cable and 1.6 customers churned from DIRECTV to an antenna. Such a finding is consistent with the conclusion that DBS's primary competitor is cable. EchoStar's churn data are also consistent with these results.

65. As an aside, Dr. MacAvoy and Dr. Rubinfeld attempt to argue that the relevant product market for DBS includes digital cable, but not analog cable.⁷⁷ The churn data from both DIRECTV and EchoStar suggest that excluding analog cable from the relevant product market would be inappropriate. Indeed, of the customers who disconnected from DIRECTV for cost or price reasons and then subscribed to cable in 2001, roughly one-half subscribed to digital cable and 46 percent subscribed to analog cable.⁷⁸ Such findings suggest that analog cable should be included in the relevant product market, especially since the percentage of customers churning to analog cable is

⁷⁷ See, for example, MacAvoy Declaration at ¶ 9 and Rubinfeld Declaration at ¶¶ 61.

⁷⁸ The remaining five percent of subscribers that switched from DIRECTV to cable did not know if their cable service was digital or analog.

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substantially greater than the percentage of customers churning to the other DBS provider (which all commenters agree should be included in the relevant product market).⁷⁹

66. For the purposes of examining the competitive effects of the proposed merger, it may be more relevant to analyze where customers are going to churn in the future. One potential way to consider such future changes is to look at more mature MVPD markets where digital cable systems are generally built out as an indicator of what form competition may take in other markets in the future. Such an approach has a number of flaws (e.g., some smaller markets may never receive digital cable or overbuilder competition), but it is nonetheless insightful as an indication of future trends. Analysis of churn from DIRECTV in the top 15 DMAs⁸⁰ indicates that this switching rate to EchoStar is somewhat lower than the switching rate for the country as a whole. Indeed, the DIRECTV churn data suggest that for every one customer who left DIRECTV for EchoStar because of cost or price reasons in 2001 in these 15 DMAs, 4.1 customers churned from DIRECTV to cable and 1.6 customers churned from DIRECTV to an antenna. Among those subscribers in these 15 DMAs who disconnected when DIRECTV raised its prices, an even lower share went to EchoStar. (It should be noted that the sample size is so small that this result must be viewed as imprecise.) These data suggest a somewhat lower degree of competition between DIRECTV and EchoStar in larger, more mature markets, which may anticipate what future churn rates between the two companies will look like.

⁷⁹ One potential criticism of this analysis is that digital cable is not available in every region of the country. I therefore examined the switching rates from DBS to digital and analog cable in the 15 largest markets, where digital cable is widely available. The results are consistent with the findings for all markets, suggesting that digital cable availability does not significantly bias our results.

⁸⁰I used Nielsen's 2001 rankings based on the total number of TV households in each DMA.

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67. As I stated in my declaration submitted to the FCC with the Application, the smaller the diversion of subscribers from one DBS firm to the other, the smaller would be the expected price increase from conceivable unilateral competitive effects after the merger.⁸¹ In other words, the data on churn between EchoStar and DIRECTV suggest that cable would continue to constrain the price of New EchoStar in the post-merger world.

OTHER POTENTIAL CONSTRAINTS ON THE PRICING OF NEW ECHOSTAR

68. The merger will likely reduce marginal costs through, for example, a reduction in the cost of programming per additional subscriber (as described in Section III), thereby offsetting or countering any potential impetus for a price increase in the post-merger world. As the Merger Guidelines specifically state, marginal cost reductions may reduce the merged firm's incentive to elevate price.⁸² Therefore, even if some subscribers would be diverted from one DBS firm to the other after a price increase, a reduction in marginal costs resulting from the merger could cause New EchoStar to *lower* its price.⁸³

69. In addition, New EchoStar may face another constraint on its ability to raise prices: The churn data suggest that broadcast television cannot necessarily be

⁸¹ Willig Declaration at ¶ 31.

⁸² See the Department of Justice/Federal Trade Commission Horizontal Merger Guidelines, Section Four, available at <http://www.ftc.gov/bc/docs/horizmer.htm>

⁸³ Carl Shapiro, Mergers with Differentiated Products, Remarks before the American Bar Association, 1995.

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dismissed as part of the relevant product market.⁸⁴ While Dr. Daniel Rubinfeld argues that the services offered by firms in the MVPD market are different and distinct from traditional public broadcast television services, he provides no evidence to support this assertion. FCC Commissioner Kevin Martin similarly complains that the FCC's *Eighth Annual Report* eliminates broadcasters from the analysis, and that he would have preferred either to analyze the market for *all* video programming (and therefore include broadcasters as competitors), or to explain in a direct fashion why an analysis of only the *multichannel* video programming marketplace is more appropriate.⁸⁵

70. In nearly every analysis of the churn data that I conducted, the percentage of former DIRECTV customers who were using an antenna two to six weeks after leaving DIRECTV's service was consistently higher than the percentage of former subscribers who signed up with EchoStar. For example, among the people who left due to cost or price reasons in 2001, *more than one quarter* were using an antenna, which is substantially higher than the percentage switching to EchoStar. EchoStar's churn data are consistent with this finding that more people churn to an antenna than to the other DBS provider.

⁸⁴ It is important to emphasize that broadcast television may indirectly, rather than directly, constrain the prices of premium DBS packages. It is possible that *basic* DBS prices (and analog cable) are constrained by broadcast television, premium prices are in turn constrained by basic prices, and therefore, premium prices are indirectly constrained by broadcast television. A variety of academic papers has examined such ladder or vertically differentiated markets and concluded that such outcomes are possible. See, for example, Michael Mussa and Sherwin Rosen, Monopoly and Product Quality, *Journal of Econometric Theory*, vol. 18, 1978, pages 301-317; Michael Katz, Firm-Specific Differentiation and Competition Among Multiproduct Firms, *Journal of Business*, vol. 57, Issue 1, Part 2: Pricing Strategy, 1984, pages S149-S166; and John Kwoka, Market Segmentation by Price-Quality Schedules: Some Evidence from Automobiles, *Journal of Business*, vol. 65, no 4, 1984, pages 615-628.

⁸⁵ Separate Statement of Commissioner Kevin J. Martin, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129 (released January 14, 2002).

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71. The implication of this finding is simple, but inconvenient for those who oppose the merger. The Merger Guidelines delineate the relevant product market by analyzing what set of products has sufficiently inelastic demand as a group that a hypothetical profit-maximizing monopoly supplier of the set would impose at least a small but significant and nontransitory increase in price.⁸⁶ The relevant product market is determined by starting with the narrowest set of products and then by expanding the market out until the hypothetical monopoly supplier would profit from a five-percent price increase. The churn data suggest that both digital and analog cable would be in the relevant product market for DIRECTV. The data also imply that one would add broadcast television to the relevant product market for DIRECTV *before* EchoStar was added to the relevant market. (EchoStar's churn data suggest a similar conclusion.) Whether or not broadcast is in the relevant market, the churn data suggest that opponents of the merger cannot argue that antenna should not be in the relevant product market, but that the degree of competition between the two DBS firms is intense. The survey data of the merging parties are inconsistent with such a position.

ANALYSIS OF POTENTIAL COORDINATED EFFECTS

72. A price increase as a result of coordinated interaction is also unlikely following the proposed merger, in part due to the way the DBS and cable industries are structured. To set their national prices, DBS firms examine the prices charged by the various cable systems around the country and use these cable prices as a benchmark for

⁸⁶ Robert D. Willig, Merger Analysis, Industrial Organization Theory and Merger Guidelines, *Brookings Papers on Economic Activity: Microeconomics*, 1991 at 283.

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setting their prices. Cable firms, on the other hand, set price on a local franchise-by-franchise basis, and prices can differ depending on many factors that are specific to the market in which the franchise is located. Although New EchoStar will face competition from at least one cable firm in any particular franchise area, tacitly reaching an agreement on a coordinated price is not simply a question of reaching an agreement with one other firm. New EchoStar will set its price based on a function of what cable firms are charging in the various franchise areas. From the perspective of the cable firms, the optimal price for New EchoStar to charge would likely differ from firm to firm, making an agreement all the more difficult to reach. Thus, a coordinated price increase after the merger would require an agreement among multiple cable firms and New EchoStar, not just an agreement between two firms.

73. Mr. Sidak claims that New EchoStar and cable providers will enter into a tacitly collusive strategy of market allocation in which DBS would keep the rural customers and cable would be free to take the urban customers.⁸⁷ Mr. Sidak implicitly argues that New EchoStar would give up tens of millions of potential subscribers in urban areas and cable providers would not build out systems to currently non-cable passed areas. Such a tacitly collusive strategy does not seem to be in New EchoStar's financial interests. New EchoStar would lose the opportunity to serve the major DMAs markets in which the DBS firms are currently experiencing their fastest subscriber growth⁸⁸ in exchange for an implicit commitment by cable operators to stay out of areas

⁸⁷ Sidak Declaration at ¶ 58.

⁸⁸ According to subscriber data from the two DBS firms, roughly one-half of DBS subscriber growth in 2001 occurred in the top 15 DMAs.

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that cable operators would have probably found unprofitable. In other words, New EchoStar would gain only a little and potentially lose a lot from such a deal.

A REVIEW OF THE ECONOMIC ANALYSES OF DR. MACAVOY AND MR. SIDAK

74. Some commenters have argued that the proposed merger of EchoStar and DIRECTV will result in substantially higher prices and significant consumer welfare losses. For example, Dr. MacAvoy argued that in rural areas, higher (monopoly) prices and/or lower quality of service has to result from the merger... the proposed merger of EchoStar and DirecTV, by creating a monopoly, would generate significant welfare losses for millions of households.⁸⁹ Mr. Sidak similarly stated that the proposed merger would lead to an increase in price that harms consumers.⁹⁰ These conclusions, however, are erroneous, because they are predicated on flawed assumptions. Fundamentally, neither Dr. MacAvoy nor Mr. Sidak had the information required to estimate the competitive effects of the proposed merger.

A review of Dr. MacAvoy's analysis

75. Dr. MacAvoy attempts to estimate the impact of the proposed merger by relying on incorrect assumptions, flawed data, and overly simplistic statistical techniques. He incorrectly assumes that the merger will generate no cost savings; in fact, the merger is expected to generate considerable merger-specific efficiencies which, as Mr. Sidak

⁸⁹ MacAvoy Declaration at ¶¶ 4-5.

⁹⁰ Sidak Declaration at ¶ 9.

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correctly notes in his comments, should be included in any reasonable analysis of the merger. Dr. MacAvoy assumes that New EchoStar will price discriminate and charge rural subscribers a higher price; on the contrary, New EchoStar has committed to pricing on a national basis. Even if, for the sake of argument, New EchoStar were to price differentially across regions, Dr. MacAvoy significantly overstates the effects of the merger on DBS price and consumer welfare in rural areas because he underestimates the elasticity of demand for DBS services.

76. Dr. MacAvoy estimates rural DBS demand elasticity using a regression in which the dependent variable is the number of subscribers in 83 DMAs and in which the price (average monthly revenue per subscriber including equipment and installation) of DIRECTV is one of the independent variables.⁹¹ Based on this analysis, Dr. MacAvoy concludes that the demand elasticity for DBS services is -1.55. For at least two reasons, this result under-estimates the demand elasticity.

77. First, Dr. MacAvoy's statistical technique does not reflect the fact that the price is endogenous: It reflects shifts in the demand curve as well as movements along that demand curve. By failing to account for the endogeneity of the price, Dr. MacAvoy's technique tends to reduce the estimated demand elasticity. Textbook treatments of the topic have long recognized this to be a problem and routinely recommend the use of instruments (such as factors that drive marginal cost) to generate

⁹¹ MacAvoy Declaration at ¶ 28. Dr. MacAvoy provides scant information on the underlying data in his analysis. For example, he neither explains the methodology used to collect the data from retailers nor does he detail whether the dependent variable only includes subscribers in areas not passed by cable or if it includes all subscribers in the 83 DMAs.

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unbiased estimates of demand elasticity.⁹² Austan Goolsbee and Amil Petrin, economists at the University of Chicago, recently stated that not using instruments in attempting to estimate the elasticity of demand for DBS services was naïve because the kind of statistical technique used by Dr. MacAvoy underestimated the demand elasticity of satellite television.⁹³

78. Second, Dr. MacAvoy's estimate of demand elasticity suffers from the additional problem that he inaccurately measures DBS prices in rural areas. In particular, he does not describe his data in detail and he appears to have had access to price data only for DIRECTV (not EchoStar). Nonetheless, Dr. MacAvoy attempts to estimate the total number of DBS subscribers, not DIRECTV subscribers. The appropriate price measure should therefore include both EchoStar and DIRECTV prices. Unless EchoStar prices are perfectly correlated with DIRECTV prices across the DMAs used, the price variable used will introduce some measurement error of actual DBS price variation. The resulting measurement error represents an errors in variables problem that tends to reduce the elasticity estimate as well.

79. Dr. MacAvoy's measure of DBS prices has other problems. For example, it appears as though the price is driven, in part, by customers in different areas choosing different programming packages. Such price variation across areas thus does not

⁹² See, for example, Robert Pindyck and Daniel Rubinfeld, *Econometric Models and Forecasts* (New York: McGraw-Hill, Inc., 1991), pages 293-296.

⁹³ Austan Goolsbee and Amil Petrin, "The Consumer Gains from Direct Broadcast Satellites and the Competition With Cable Television," National Bureau of Economic Research Working Paper Number 8317, page 28.

⁹⁴ See, for example, Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach* (Cincinnati: South-Western Publishing, 1999), pages 294-296.

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represent real price variation (on a quality-adjusted basis). He states that the price data were provided to him by the National Rural Telecommunications Cooperative (NRTC). It is unclear if the data are from retailers in NRTC regions or from the entire DMA. Thus, Dr. MacAvoy has not established that the price information he uses is representative of the DMAs or sub-regions of those DMAs that he is examining.

80. Dr. MacAvoy's underestimate of the demand elasticity for DBS services means that he overstates the effect of the merger on rural subscribers (even if New EchoStar were to price discriminate). To illustrate the sensitivity of Dr. MacAvoy's methodology to the estimated elasticity, I computed the results from Dr. MacAvoy's model using the elasticity of DBS demand in rural areas assumed by Mr. Sidak.⁹⁵ As described below, Mr. Sidak does not justify his assumed DBS demand elasticity on an empirical basis, but rather asserts that it is -2.5 for areas not passed by cable.⁹⁶ While I believe that -2.5 may be a conservative estimate of the true demand elasticity, using this figure nonetheless produces an inconvenient result for Dr. MacAvoy. In particular, applying Mr. Sidak's assumed elasticity to Dr. MacAvoy's methodology produces a margin for the monopoly DBS provider of 40 percent.⁹⁷ But according to the price and marginal cost data cited by Dr. MacAvoy, DIRECTV's *current* margins exceed 40 percent in all but one of the 14 geographical clusters he examined.⁹⁸ Using Mr. Sidak's

⁹⁵ There may be reasons for why Dr. MacAvoy's methodology does not equate the Lerner Index to the inverse of the estimated demand elasticity for DBS (e.g. a multi-product firm when all the products are not included in the monopoly Lerner Index). But Dr. MacAvoy asserts that the relationship between the Lerner Index and the estimated demand elasticity should hold in this case. To show the sensitivity of his analysis, I assume solely for argument's sake that his assumption is correct.

⁹⁶ Sidak Declaration at ¶ 36.

⁹⁷ The margin for a DBS monopolist would equal the inverse of the absolute value of the elasticity of demand, or 1/2.5, which equals 40 percent.

⁹⁸ MacAvoy Declaration, Table Five at 46.

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elasticity of DBS demand, I find that Dr. MacAvoy's methodology suggests that the merger will not increase prices in 13 of the 14 geographical clusters, and in the fourteenth cluster—the Upper Midwest—prices would rise only slightly, from \$44.13 to \$44.67. The point of this exercise is neither to model specific price effects of the merger nor to imply that Dr. MacAvoy's use of the Lerner Index is appropriate, but to highlight how sensitive Dr. MacAvoy's results are to the estimated demand elasticity—a parameter that Dr. MacAvoy's statistical techniques measure poorly.

81. More generally, Dr. MacAvoy argues that his estimates clearly indicate low price-cost margins to be associated with very substantial competition between EchoStar and DirecTV in broad clusters of rural markets where cable has not been available.⁹⁹ By implication, Dr. MacAvoy argues that the merger eliminates such competition and elevates prices significantly. However, Dr. MacAvoy fails to establish that the low margins he observes in rural areas are due to competition between EchoStar and DIRECTV. He also fails to note an alternative, and perhaps more likely, reason for the low margins in rural areas: Each DBS provider sets a national price for programming, a price that is constrained by competition from cable systems in the larger DMAs. Dr. MacAvoy appears to assume incorrectly in his model that DIRECTV sets prices in rural areas based on conditions in those areas. Such an assumption is inconsistent with DIRECTV's current national pricing strategy. Thus, the monopoly markup (or Lerner Index) model Dr. MacAvoy uses to estimate price increases is inappropriate. It fails to consider the effect that cable competition has on national prices, even in areas where there is no cable.

⁹⁹ MacAvoy Declaration at ¶ 37.

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A review of Mr. Sidak's analysis

82. Mr. Sidak's analysis of the competitive effects of the merger in non-cable passed areas is similarly flawed. First, Mr. Sidak assumes that New EchoStar can identify areas with significant non-cable-passed households and price differentially on the basis of that information. Mr. Sidak does not provide an explanation as to how New EchoStar can overcome the practical difficulties of achieving this ability to price discriminate perfectly. As described below, in reality, it is quite difficult for New EchoStar to find, let alone price discriminate against, households that are not passed by cable. Moreover, while Mr. Sidak estimates merger effects separately for areas passed by cable and areas not passed by cable (cabled and uncabled areas, respectively), he does not include in his analysis that New EchoStar has committed to price its product uniformly throughout the nation.

83. Second, Mr. Sidak assumes that the elasticity of demand for DBS service is -2.5 for uncabled areas and -2.75 for cabled areas. The only basis he provides for these numbers is that the FCC cites -1.95 as the own-price elasticity of demand for cable television and it is reasonable to use a higher (in absolute value terms) own-price elasticity for DBS service, because DBS is a new product whose demand is likely to be more price-sensitive than the demand for the product of the entrenched monopolist.¹⁰⁰ In other words, there does not appear to be any empirical evidence for Mr. Sidak's assumed elasticity of demand for DBS. In fact, academic research by Drs. Goolsbee and

¹⁰⁰ Sidak Declaration at ¶ 36.

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Petrin has estimated that the elasticity of DBS demand is in the range of -4.1 to -4.9.¹⁰¹ Using a higher elasticity of demand would lower Mr. Sidak's estimated price increase and would suggest that a modest reduction in marginal costs could prevent prices from rising after the consummation of the merger.

84. In his analysis of the competitive effects in cabled areas, Mr. Sidak assumes that the MVPD market can be represented by two traditional economic models—a Cournot model and a Bertrand model. Based on these two models, Mr. Sidak estimates a price increase of roughly seven percent as a result of the proposed merger.¹⁰² Within such models, a higher elasticity of demand than -2.75 would reduce the price increase estimated by Mr. Sidak. For example, an elasticity of demand of -4.5 for DBS service would cut Mr. Sidak's estimated price increase by 44 percent.

85. Finally, Mr. Sidak does acknowledge that marginal cost reductions of four to seven percent would be large enough to prevent a price rise in cabled areas after the merger.¹⁰³ If Mr. Sidak had assumed a higher elasticity of DBS demand, the price increase predicted by Mr. Sidak would be even less significant. Therefore, the marginal cost reductions necessary to attenuate any projected price increase could be even smaller than Mr. Sidak argues.

¹⁰¹ See Austan Goolsbee and Amil Petrin, "The Consumer Gains from Direct Broadcast Satellite and the Competition with Cable TV," mimeo, February 20, 2002, pages 29-30.

¹⁰² Sidak Declaration at ¶¶ 38-48

¹⁰³ Sidak Declaration, Table Five at 59.

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SUMMARY OF THE MERGER S IMPACT ON MVPD COMPETITION

86. Some commenters have argued that the proposed merger between EchoStar and DIRECTV will have a significant adverse effect on competition in the MVPD market. As shown above, these analyses are generally based on incorrect assumptions, flawed data, and/or overly simplistic statistical techniques. My analysis suggests that New EchoStar s national pricing commitment will help to ensure that competitive pressures in larger markets are transferred to smaller rural markets. In addition, a number of factors will continue to constrain New EchoStar s prices in the future. First, most DBS subscribers seem to view cable as their second choice, so a price increase by New EchoStar would push many current DBS subscribers to switch to cable. Second, the merger-specific efficiencies should help New EchoStar compete more vigorously with cable, which will benefit cable and DBS subscribers. And third, the merger will likely reduce marginal costs through, for example, a reduction in the cost of programming per additional subscriber, thereby offsetting or countering any potential price increase in the post-merger world. Moreover, each entity s churn data indicate that opponents of the merger cannot simultaneously argue that broadcast television should not be in the relevant product market and that the degree of competition between the two DBS firms is intense. As noted above, such a position would be internally inconsistent.

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V. New EchoStar Would Have Limited Ability to Price Discriminate

87. Opponents of this merger have argued that the relevant geographic market in which to analyze this merger is a local one, either a DMA¹⁰⁴ or the cable franchise area in cable passed areas or aggregations of areas not passed by cable.¹⁰⁵ However, Dr. MacAvoy also points out that the FCC has accepted the proposition that it is appropriate to look at markets in the aggregate, if these areas face similar supply conditions.¹⁰⁶ In the MVPD market, supply conditions do vary locally depending on whether cable is present in that area or not. However, for the purposes of characterizing the competitive climate, it is not necessary to make a distinction between cable and non-cable passed areas. The key question is whether New EchoStar would be able to price discriminate between areas with cable and areas without cable. As argued below, discrimination on this basis would not generally be successful.

88. As already discussed, the pricing decisions of both DBS firms are largely driven by competition with cable. The price for programming tends to be set nationally. As described in more detail below, there are reasons why it makes sense for DBS firms to set a national price. Even if this were not the case, it would be extremely difficult to identify with precision which consumers had cable available and which ones did not have cable available.

¹⁰⁴ Rubinfeld Declaration at ¶ 36; Sidak Declaration at ¶ 22.

¹⁰⁵ MacAvoy Declaration at ¶ 12-13.

¹⁰⁶ Id at ¶ 10.

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89. It is also true that, by and large, national pricing holds with respect to both programming and equipment. Equipment is sold either directly by the DBS firms on a national basis, by local or regional retailers, or, in most cases, by large, national retail chains that also set a national price. These chains are present in so many areas that consumers, regardless of whether they have cable as an option, will be able to take advantage of these national offers. To the extent that there are local deviations in equipment and installation prices, this does not suggest the market is local since, despite these variations, prices likely move together across regions and these deviations are not a function of the availability of cable in a particular region. Indeed, equipment and installation price differences across regions may reflect idiosyncratic differences within local retail markets, not regional price discrimination by the DBS firms.

90. As noted throughout this declaration, New EchoStar has committed to pricing on a national basis. New EchoStar has indicated that it is willing to accept requirements reasonably necessary to ensure that its national pricing practice operates as an effective mechanism for avoiding price discrimination and for exporting competition from larger markets to rural and other areas throughout the country. Such restrictions should attenuate any concerns that New EchoStar would use targeted local promotions to price discriminate or to undermine the effectiveness of its national pricing commitment.

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LOCAL VARIATIONS IN PROGRAMMING PRICE WOULD BE INEFFICIENT FOR NEW ECHOSTAR

91. Both EchoStar and DIRECTV have always used national pricing with respect to programming. Both firms offer a national service and offering a national price allows the firms to take advantage of this national footprint when marketing their services. National television advertising, for example, can be employed and the price of the service can be made a part of these campaigns. Customer service and direct sales also are done on a national basis and implementing local price variations would require these customer service representatives to be knowledgeable about a wide range of prices, only some of which would be available to any particular customer.

92. While it is true that some local variations exist with respect to promotions, these are largely with respect to equipment, installation, and value-added gifts (e.g., an umbrella).¹⁰⁷ Dr. Rubinfeld argues that some variation in program pricing on a regional basis does exist today, because the two DBS firms charge separately for local channels and local channels are only available in certain markets.¹⁰⁸ Though this is true, it is not clear how this is relevant to the competitive analysis of this merger. Each firm charges the same price for the local channel option across all markets, so this is just another example of a national price for programming, with the only difference being that only certain consumers are able to purchase this option. Eligibility for this option is strictly on a DMA basis, not on the basis of whether cable is available to that consumer or not.

¹⁰⁷ For example, EchoStar has only offered one local *programming* promotion; for a limited time, EchoStar offered free local service to subscribers in Simi Valley, California.

¹⁰⁸ Rubinfeld Declaration at ¶ 35.

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93. As further evidence of the difficulty of charging different programming prices in different areas, it is important to note that where an NRTC affiliate, Pegasus Satellite Television (Pegasus), sells DIRECTV service, it charges \$3 a month more than does DIRECTV for the same service.¹⁰⁹ However, EchoStar could maintain its competitive position vis-à-vis DIRECTV and charge an extra \$1 or \$2 in the NRTC areas served by Pegasus. The fact that EchoStar does not react to this price disparity and charge higher prices in the areas where it competes with Pegasus (or other NRTC members and affiliates with disparate pricing) is *prima facie* evidence of the inefficiencies of regionally pricing DBS services. The DBS firms charge the same price for programming everywhere because to do otherwise would involve transactions costs costs that I understand make this practice inefficient.¹¹⁰

94. As described in the next subsection, it is also likely that EchoStar would not be able to identify customers in non-cabled passed areas with enough accuracy to make a price discrimination strategy profitable. In particular, it would be necessary for EchoStar to be wrong only in a relatively small number of cases to make it unprofitable to charge different prices to non-cabled and cabled customers.¹¹¹ Let us suppose that EchoStar attempted to charge five percent more to consumers in what it thought was a non-cabled area. If EchoStar cannot precisely identify non-cabled and cable areas, some percentage of the people who are targeted for this price increase in the non-cabled area

¹⁰⁹ For example, Pegasus sells the DIRECTV s Total Choice® package for \$34.99, while DIRECTV sells it for \$31.99; Pegasus sells the Total Choice® Plus package for \$38.99, while DIRECTV sells it for \$35.99. See <http://www.pegsttv.com/> and <http://www.directv.com/>

¹¹⁰ For example, many DBS customers move and reconnect their DBS service at their new home. DBS executives note that it would be hard to explain to such customers why they were being charged different prices based on where they reside.

¹¹¹ Jerry Hausman, Gregory Leonard and Christopher Velturo, Market Definition Under Price Discrimination, *Antitrust Law Journal*, Volume 64, 1996, page 367-386.

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would, in fact, have cable as an option and some percentage of these customers would be inclined to switch to cable in response to the DBS price increase. To analyze the profitability of the price increase, EchoStar would compare its profits before the price increase and after the price increase. The profit earned before the price increase would be equal to $(P - C)N$, where P is the price, C is the marginal cost of producing the service, and N is the number of consumers in the targeted area. The profit after the price increase would be $(1.05P - C)XN$, where X is the percentage of people who do not switch to cable (so that 1-X is the percentage of targeted customers who switch to cable). The breakeven value for X is equal to:¹¹²

$$\frac{P}{C} - 1$$

$$\frac{1.05P}{C} - 1 \quad (3)$$

The percentage of people who do not switch needs to be greater than this ratio for the price discrimination attempt to be profitable. For example, if the ratio of price to marginal cost is about 1.67 which is about what Dr. MacAvoy argues it is for EchoStar only 11 percent of the households targeted with the price would have to switch away from DBS in order for it to be unprofitable to attempt to price discriminate against customers in rural areas.¹¹³

¹¹² Id at 374.

¹¹³ Id at 375.

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IDENTIFYING WHETHER CABLE IS AVAILABLE TO A CONSUMER IS EXTREMELY DIFFICULT AND IMPRECISE

95. Dr. MacAvoy and Mr. Sidak both present a series of maps that purport to show areas where cable is available and where cable is not available and purport to show that it is possible to identify these areas with a great deal of precision. However, it cannot be concluded from these maps that New EchoStar could implement a price discrimination scheme based on whether customers had cable available or not. First, it is important to realize that these maps are based on information that is provided to Warren Communications (Warren) by the cable companies. To the extent this information is inaccurate or not kept current, Warren s information will not be accurate.

96. I independently tested the accuracy of the Warren data in two ways: First, I analyzed the DIRECTV churn data and examined whether any customers who lived in zip codes that the Warren data suggest were not passed had churned from DIRECTV to cable. That is, the data that Dr. MacAvoy and Mr. Sidak present suggest that a large number of zip codes are not passed by cable. But the DIRECTV data indicate that *more than one quarter* of the customers who lived in these supposedly non-cable passed zip codes and who left DIRECTV, left for a cable provider. To ensure that the problem is not with misreporting in the DIRECTV churn data, I asked Ginsberg Lahey, LLC, a Washington-based research firm, to check the accuracy of these results by contacting the local cable firms to ensure that subscribers in these zip codes could receive cable service. For a significant number of these zip codes, Ginsberg Lahey was able to confirm the accuracy of the DIRECTV churn data by verifying with the local cable provider that

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cable service was indeed available. Second, Ginsberg Lahey contacted local cable firms in zip codes that the data used by Dr. MacAvoy and Mr. Sidak suggested were not passed by cable. In the past two weeks alone, they discovered that at least 20 zip codes were in fact cable passed that the data indicated were not passed by cable.¹¹⁴

97. While such findings raise questions about the data used by Dr. MacAvoy and Mr. Sidak, the point of the analysis is not to undermine the data collected by Warren. Rather, it is to highlight how difficult it is to identify cable passed areas. Given the substantial uncertainty involved with targeting non-cable passed households, it is not surprising that the two DBS firms have not tried to price discriminate against them in the past and why New EchoStar would likely not find it profit-maximizing to price discriminate against them in the future.

98. Opponents of the merger have also dismissed the data on cable passed homes from Paul Kagan Associates (Kagan), a telecommunications consulting firm.¹¹⁵ These commenters prefer the Warren data, which suggest significantly fewer households are passed by cable:¹¹⁶ Commenters indicate that Warren finds that 92 million homes are

¹¹⁴ Ginsberg Lahey found that cable service was available in the following zip codes: 13635, 13690, 24649, 25040, 25205, 30045, 30297, 30127, 37191, 40165, 46175, 47145, 42085, 55783, 63966, 66040, 70577, 72073, 77561, and 77650. The Warren database suggests that each of these zip codes is not passed by cable.

¹¹⁵ See NRTC Petition to Deny at ¶¶ 9-32; Pegasus Petition to Deny at 15-18; National Association of Broadcasters Petition to Deny at 45-47; Sidak Declaration at ¶¶ 73-75.

¹¹⁶ A number of commenters have suggested that the percentage of homes not passed by cable may increase in the future, since small, rural cable providers may be forced into bankruptcy. See, for example, Sidak Declaration at ¶ 32 and Rubinfeld Declaration at ¶ 39. These commenters cite a Credit Suisse First Boston report that looks at the poor economic health of many rural cable systems and suggests many will fail. See Credit Suisse First Boston, *Natural Selection: DBS Should Thrive As the Fittest to Serve Rural America*, October 12, 2001. However, these commenters ignore the section of the Credit Suisse report which states that cable systems are constantly traded between MSOs in an effort to create cable clusters. As a result, some smaller systems may be acquired by larger MSOs that can justify digital video/cable modem

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passed by cable,¹¹⁷ while the Kagan data suggest that 104 million homes are cable passed.¹¹⁸ No commenter has provided any evidence that the Warren data are more accurate than the Kagan data, which the FCC has cited over the years as its source on the number of homes passed by cable.¹¹⁹ In the end, the significant debate over the percentage of homes passed by cable is only relevant if New EchoStar is able to find the non-cable passed homes. As emphasized throughout this section, it is extremely difficult and costly to find such homes.

99. In addition, even if the Warren (or Kagan) maps and data were accurate, it is not the case the cable franchise areas correspond to geographic designations such as DMAs, counties, or even zip codes. Thus, even if New EchoStar were to price differently based on the zip code of a customer, the zip code of a customer will not tell them precisely whether that customer is passed by cable or not. As argued above, if New

investments in these systems as a means of maintaining competitiveness against DBS, even though the actual investment may be economically irrational in and of itself. In other words, even though rural cable providers may not be financially viable, rural households will continue to receive cable service. One such example comes from the recent experiences of Classic Communications, a rural cable provider. Classic filed for bankruptcy protection in November 2001. It did not, as commenters suggest, go dark. See Rubinfeld Declaration at ¶ 39. Rather, Classic intends to continue to conduct business as usual, with no changes in service or pricing. It sold two of its subsidiaries Universal Cable Communications, Inc. and Universal Cable Holdings to raise cash. Classic intends to emerge quickly from bankruptcy with a strong regional presence in its core markets of operation. See Classic Communications Press Release, Classic Communications, Inc. to Restructure Operations Under Chapter 11; Company to Continue To Conduct Business as Usual, November 13, 2001. While rural cable firms may go bankrupt in the future due to competition, the evidence appears to suggest that rural customers will continue to have a cable option, as bankrupt companies sell their infrastructure to larger cable providers or restructure their own operations under the relevant bankruptcy laws.

¹¹⁷ See Pegasus Petition to Deny at 3.

¹¹⁸ Eighth Annual Cable Competition Report, Appendix B, Table B-1.

¹¹⁹ See, for example, Eighth Annual Cable Competition Report, Appendix B, Table B-1. Kagan sends a questionnaire to cable operators and asks for the number of homes passed by each cable operator. Some commenters have noted that the definition of homes passed is confusing and sometimes contradictory. The commenters point to a series of potential definitions, ranging from the number of homes for which cable television is or can be readily available to the number of homes that have feeder cables in place nearby. See Sidak Declaration at ¶ 75. Although the definition of homes passed does appear to be confusing, the broadest definition—the number of homes that have the potential for being connected to the cable system—appears to be the most appropriate.

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EchoStar is often wrong about which customers receive cable, price discrimination may not be profitable.

VARIATIONS IN EQUIPMENT AND INSTALLATION PRICES CANNOT BE USED TO DISCRIMINATE PROFITABLY AGAINST NON-CABLED CUSTOMERS

100. Programming prices are only one component of the price to a customer of receiving DBS service. Equipment and installation prices are another component of the total price of receiving the service. However, though there are temporary variations in this part of the price on a local level, it does not appear to be profitable for New EchoStar to attempt to use variations in this part of the price as a way to discriminate against non-cabled customers. As with programming, promotions and pricing on equipment are driven to a large extent by the need for DBS to remain competitive with cable and the fact the customers perceive an advantage for cable with respect to smaller upfront costs.

101. EchoStar and DIRECTV rely heavily on national retail chains, such as Circuit City, Best Buy, Blockbuster, Sears, and Radio Shack for sales of their equipment. For example, national chains accounted for more than 50 percent of DIRECTV's retail equipment sales in 2001. These national chains also prefer to promote their products uniformly on a national basis, as this is the most efficient way for them to market their promotions. National retailers prefer to be compensated uniformly on a national basis, and therefore, any effort by New EchoStar to compensate them differently based on whether a customer is passed by cable would be resisted by the retailers. Indeed, national retailers would likely oppose any plan that imposes additional costs on them to identify

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which customers would be eligible for particular promotions based on the customers' residences. In addition, as with the programming discrimination discussed above, such a scheme would be subject to error since it is hard to identify precisely which customers are passed by cable.

102. Retailers, particularly those that are independent, would be free to offer their own promotions and Dr. MacAvoy includes various examples of this happening in the past.¹²⁰ However, it is unlikely that such promotions could be used to harm consumers after this merger. First, retailers would be still competing with each other to make sales of New EchoStar equipment and this should discipline any attempt to discriminate against customers. Second, customers in non-cable passed areas have extensive access to the national retailers that sell DBS equipment.

103. To analyze the extent to which households in areas not passed by cable had access to at least one national retailer, I used the same data utilized by Dr. MacAvoy and data from DIRECTV on the location of national retailers.¹²¹ I examined the presence of national retailers in the areas that Dr. MacAvoy suggested had a high-proportion of non-cable passed zip codes.¹²² In the maps presented by Dr. MacAvoy, I found that the average distance from towns without cable to the nearest national retailer was often less than 20 miles. For example, in Dr. MacAvoy's Carolinas region, the average distance from towns without cable to a national retailer was just 11.1 miles. For the towns without cable in his Hoosier region, I found that the nearest national retailer was an average of

¹²⁰ MacAvoy Declaration at ¶ 20.

¹²¹ I included Blockbuster, Best Buy, Circuit City, Radio Shack, and WalMart in our analysis.

¹²² See MacAvoy Declaration at 12-25.

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13.8 miles away. The evidence therefore suggests that consumers in non-cable passed areas will be able to take advantage of equipment and installation offers from these retailers, which are set on a national basis. Moreover, uniform national pricing by national retailers will minimize regionally differentiated DBS pricing by regional retailers. If a regional retailer in a rural area charges a higher price than the national price charged by national retailers, the regional retailer will lose sales to the national retailer. If households did not have access to a national retailer, they could always take advantage of direct sales from New EchoStar, or could purchase their equipment over the Internet.

104. Thus, though it is true that the video choices available to any particular consumer are dictated by the choices available in any particular area, it is still appropriate to analyze this merger in a national context. DBS prices are set nationally and driven by the need for DBS to compete with cable. Customers in non-cable areas benefit from this, as well as from the prices set for equipment and installation set by national retailers, which are also driven by the need to compete with cable.

CUSTOMER SERVICE DATA SUGGEST NO NON-PRICE DISCRIMINATION

105. Some opponents of the proposed merger between EchoStar and DIRECTV have argued that New EchoStar would utilize non-price forms of discrimination. These opponents argue, for example, that New EchoStar would provide lower levels of customer service to subscribers in rural areas than in urban areas.¹²³ To test this

¹²³ See Robert Pitofsky, Testimony before the House Judiciary Committee, December 4, 2001, page 8, available at http://www.house.gov/judiciary/pitofsky_120401.pdf

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hypothesis, I analyzed DIRECTV's customer satisfaction survey to determine whether DIRECTV currently engages in any form of non-price discrimination. The results suggest that rural customers are just as satisfied with DIRECTV's overall service and customer service as non-rural customers.¹²⁴ For example, 90 percent of cable-passed households and 88 percent of non-cable passed households were either very satisfied or satisfied with DIRECTV's service, and 80 percent of both cable-passed and non-cable passed households reported that DIRECTV's customer service was excellent or good. Such evidence provides support for the conclusion that the DBS firms do not use non-price discrimination today against rural (or non-cable passed) households.

VI. Conclusions

106. The proposed merger of EchoStar and DIRECTV offers the possibility of substantial efficiency improvements, especially in radio spectrum use, which would directly benefit DBS consumers by providing an expanded array of services (e.g., the provision of local broadcast programming to every DMA in the country, more High-Definition Television channels, more interactive services, and more specialized programming), and also benefit a broader number of consumers by increasing competition with the cable industry. The merger will also make the combined entity's satellite-based broadband service more competitive versus other high-speed Internet access technologies, thereby making it more likely that this satellite-based service will be

¹²⁴ I examined the satisfaction of customers in the largest 15 DMAs versus the smallest 100 DMAs, and households that reported that they were passed by cable versus households that reported they were not passed by cable.

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adopted by residential consumers. These efficiencies are not available without the merger.

107. Furthermore, the combined entity's national pricing will be driven by a weighted average of cable prices, with larger markets playing a more important role—that is, competition in larger, more competitive DMAs will likely be exported to smaller rural markets and non-cable passed areas. The nature of MVPD market competition makes it unlikely that a merger of EchoStar and DIRECTV would result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm. Moreover, the efficiency improvements will also make New EchoStar a more effective competitor to cable providers than either company could be on its own, and could perpetuate a virtuous cycle of competitive innovation. The proposed merger of EchoStar and DIRECTV is thus in the public interest.

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**Before the
FEDERAL COMMUNICATIONS COMMISSION**

Washington, D.C. 20554

Application of)
ECHOSTAR COMMUNICATIONS CORPORATION,)
GENERAL MOTORS CORPORATION,)
HUGHES ELECTRONICS CORPORATION)
Transferors,) **CS Docket No. 01-348**
and)
ECHOSTAR COMMUNICATIONS CORPORATION)
Transferee,)
For Authority to Transfer Control)

**DECLARATION OF DR. RICHARD J. BARNETT
ON BEHALF OF
ECHOSTAR COMMUNICATIONS CORPORATION, GENERAL MOTORS
CORPORATION, AND HUGHES ELECTRONICS CORPORATION**

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Executive Summary

This Declaration addresses the technical arguments raised by NRTC, NAB and Pegasus in their recent Petitions in this proceeding.

Those Petitioners have attempted to show that both EchoStar and DIRECTV, operating as individual companies, could technically implement satellite systems that would provide local TV programming to all 210 DMAs without utilizing an unacceptably large number of their licensed full-CONUS DBS frequencies.

The claims made by these Petitioners are flawed for the following reasons:

1. Their capacity calculations rely on improvements in technology that are either (a) not yet available and unlikely to become available in the near future, or (b) impractical from a business perspective because they would require all subscribers to transition to new set-top boxes. Each of the proposed technological developments is addressed in this Declaration;
2. The new satellite designs that they propose are superficial concept designs only and have not been rigorously developed to establish their feasibility, cost, schedule or performance. In fact several key aspects of these satellite concept designs are demonstrated in this Declaration to be seriously in error to the point that they are simply not feasible. All predictions of capacity achieved and spectrum used by these new satellites are therefore seriously in error;

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3. They do not give sufficient consideration of the need for more national programming channels in the future to allow for new types of services (such as HDTV) or expansion of existing services. They instead are intent on trying to demonstrate the capability to provide local TV programming at the expense of the future of national programming.

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I. Qualifications

1. My name is Richard Barnett. I am the President of Telecomm Strategies L.L.C., a Maryland company providing engineering consultancy services to a wide range of satellite projects and for many clients throughout the world. The principal consultants in the company, including myself, are all qualified engineers, and the company specializes in the technical design and technical regulatory aspects of satellite projects. My own personal experience is in the field of RF engineering, satellite communications system design and international satellite regulatory analysis. I have been working in the field of Direct Broadcast Satellite (DBS) design since the early 1980s. My resumé is given in Appendix 1 of this Declaration.

II. Purpose and Scope of Statement

2. I have been retained by the Applicants to review and comment on the technical aspects of the Petitions received in the EchoStar/Hughes merger proceeding. In particular I have focused on the Petitions received from NRTC, NAB and Pegasus, which are the only ones with significant technical content.^{1,2,3} These three Petitioners have appended technical declarations to their petitions from Walter Morgan (for NRTC)⁴, Richard Gould (for NAB)⁵

¹ Petition to Deny by the National Rural Telecommunications Cooperative, February 4, 2002, CS Docket No. 01-348.

² Petition to Deny of National Association of Broadcasters, February 4, 2002, CS Docket No. 01-348.

³ Pegasus Communications Corporation s Petition to Deny, February 4, 2002, CS Docket No. 01-348.

⁴ Declaration of Walter L. Morgan in Support of Petition to Deny by the National Rural

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and Roger Rusch (for Pegasus)⁶ and these will be referred to throughout this document as the Morgan , Gould and Rusch declarations respectively, or collectively as the Petitioners .

III. Trade-Off Between Local and National Programming

3. One common theme in the Morgan, Gould and Rusch declarations is the preoccupation with the provision of local programming at the expense of national programming. In practice EchoStar and DIRECTV must take into account both types of programming and strike the appropriate balance between them in offering a competitive service to the public.

4. In particular the two companies need to plan for the likely evolution of High-Definition TV (HDTV) to the point where it becomes an essential national programming product with vast audience appeal. The recent technical innovations and price reductions of large-screen TVs, and the corresponding increase in their sales, are clear indicators that the public is heading in the direction where its demands for HDTV will increase exponentially over the coming years. At present it is only possible to accommodate one HDTV channel in each 24 MHz satellite transponder, although it is possible that this could increase to two HDTV channels per transponder with further technical innovations.

5. The increased requirement for transponder capacity capable of carrying national programming is not limited to HDTV. Other areas of growth in programming include new

Telecommunications Cooperative, Exhibit O of Petition.

⁵ Declaration of Richard G. Gould.

⁶ Affidavit and Report of Roger J. Rusch, Attachment B to Petition.

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national networks and additional pay-per-view, video-on-demand, interactive and educational channels.

6. Therefore, EchoStar and DIRECTV must plan for a growth in requirements for transponders with the ability to provide national programming. The more of the scarce orbit-spectrum resource is used up for local programming the less is available to cater for this growth in national requirements. Each DBS operator has been licensed to use a limited amount of radio frequency spectrum and orbital slots and the operating companies must plan for the long-term. They must use their entire licensed spectrum as efficiently as possible, taking into account commercial realities and future growth in key areas of public demand.

IV. Spectrum Requirements for Local Programming

7. The essence of the Petitioners' technical arguments is their claim that the carriage of all of the local programming in all 210 DMAs in the United States by each DBS company is technically feasible in the absence of a merger. However, what might be technically feasible is not necessarily commercially reasonable because of important operational and economic factors. One of the key aspects of this determination is an understanding of the number of licensed DBS frequencies that will be used up by the local programming, and that issue is addressed in this section, and indirectly in the remainder of this Declaration.

8. The conclusions of the Petitioners are generally that all (or at least the vast

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majority) of the DMAs can be served with local programming (a total of around 1,500 TV channels) using an acceptably low number of DBS frequencies.⁷ Here is a summary of their claims in this respect:

9. NAB: Gould's assessment is that DIRECTV and EchoStar would require between 17 and 19 DBS frequencies each for local programming (out of a total of 46 full-CONUS frequencies licensed to DIRECTV and 50 full-CONUS frequencies licensed to EchoStar). Although not absolutely clear in this regard, Gould appears to be suggesting that this would require new satellites that differ in design from the planned EchoStar and DIRECTV spot beam satellites already under construction (or already launched). Gould goes on to suggest that the number of DBS frequencies required for local programming (and national programming) could be reduced using improved compression, modulation, coding, etc, but he does not give the resulting number of DBS frequencies that would, in his estimation, be then required for the local programming.

10. NRTC: Morgan assumes for DIRECTV that both the DIRECTV 4S and DIRECTV 7S spot beam satellites will each use six DBS frequencies for local programming, and that this can be supplemented by a new satellite that would use a further three DBS frequencies, making a total of 15 DBS frequencies. With all these DBS frequencies Morgan predicts that 187 of the 210 DMAs can be served with local programming by DIRECTV.

⁷ These conclusions are neither correct nor appropriate, and more details on this are given in

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11. For EchoStar, Morgan assumes that the EchoStar-7 and EchoStar-8 spot beam satellites will each use five DBS frequencies for local programming, and that this can also be supplemented by a new satellite that would use a further three DBS frequencies, making a total of 13 DBS frequencies. With all these frequencies Morgan predicts that 160 of the 210 DMAs can be served with local programming by EchoStar.

12. Pegasus: Rusch initially indicates that each company could serve all 210 DMAs with local programming using only 16 DBS frequencies each, using technology similar to their current spot beam satellites, although this assertion by Rusch is not backed up by any specific analysis. Obviously aware of the critical need to reduce this number of DBS frequencies allocated to local programming (approximately one third of each provider's full-CONUS DBS capacity), he then goes on to develop an alternate approach which involves discarding the planned spot beam satellites already under construction (or launched) and assuming each company builds a satellite along the lines of his super-satellite design. With this design Rusch claims that the number of DBS frequencies required by each company for local programming will reduce to 12. The technical failings of the Rusch super-satellite are discussed in detail in Section VII of this Declaration.

13. The Petitioners are generally correct in their understanding that the number of DBS frequencies that can economically be assigned by EchoStar and DIRECTV to provide local programming must be minimized in order to keep it in economically reasonable proportion

subsequent sections of this Declaration.

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to the number of DBS frequencies available for national programming. However, there are at least two fundamental problems with their conclusions, as follows:

14. Problem #1: Where the Petitioners conclude that between 16 and 19 DBS frequencies should be allocated to local programming, these are still unacceptably high numbers in relation to the number of licensed full-CONUS frequencies available to each company (46 for DIRECTV and 50 for EchoStar). The remaining number of DBS frequencies available for national programming is insufficient for future growth in key areas of national programming that are and will become in demand. Furthermore, the costs to each company of operating so many local channels are excessive, as explained in the Declaration of Dr. Robert Willig which is also attached to Opposition of the Applicants.⁸ By contrast, after the merger, the allocation of 16-19 DBS frequencies to local programming out of a pool of 96 full-CONUS frequencies leaves adequate capacity for adding new national programming into the foreseeable future. The economic burden of operating this number of local channels is also reduced when carried by the merged company. See Declaration of Dr. Willig.

15. Problem #2: Where the Petitioners (Morgan and Rusch) propose exotic satellite designs to reduce the number of DBS frequencies consumed by local programming to what they consider to be an acceptable number (such as 12 in the case of Rusch), their satellite designs are simply not viable. The designs they propose are mere concepts, and rigorous

⁸ See Declaration of Dr. Robert D. Willig on Behalf of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation in CS Docket No. 01-358 (Feb. 25, 2002).

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analysis of their performance is distinctly lacking. Apart from this, the implementation of such satellite designs (if they were possible) would create huge technical risk, unacceptably long delays before they could ever be brought into service, and carry very high and unacceptable costs. These issues are dealt with in more detail in Section VII below.

V. Technical Factors Affecting Capacity

16. In order to attempt to squeeze in as many local TV channels as possible, the Petitioners rely in part on certain technical innovations, which are addressed in the sub-sections below. In each of these technological areas they take existing reality and hypothesize a development that is either inappropriate (for example, in terms of the quality of service to the public), impractical (for example, requiring expensive changeover of all subscribers to new set-top boxes), or just simply impossible (such as the claims of DMA coverage and service).

V.1 Compression

17. In the Joint Engineering Statement that was part of the Application it was stated that the normal compression ratio in use at that time was 10:1.⁹ This is the level of compression achievable today which provides minimally acceptable TV picture quality. Compression levels above this start to show unacceptable digital artifacts which can be very distracting to the

⁹ This means that 10 TV channels can be combined and transmitted in digital format on a single 24 MHz bandwidth satellite transponder.

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viewer.¹⁰ The extent of the manifestation of these digital artifacts depends on the combined amount of picture detail and movement that exists for all the combined TV channels at any point in time, and is very difficult, if not impossible, to quantify. For example, if situations arise in which a lot of detailed picture changes are occurring simultaneously in a number of the TV channels that are being combined, then some of those channels will start to show these artifacts, typically in the form of the jerky movement of picture blocks across the TV screen. Subjective tests have shown users to be very intolerant of these picture degradations, and they need to be avoided to the maximum extent, consistent with efficient use of the transponder bandwidth.

18. The Joint Engineering Statement went on to predict that, in the future, it is likely that this compression ratio might reach a level of 12:1, while still preserving acceptable picture quality. At the present time such performance is not possible for all types of TV programs, depending on their picture content. Despite this, both EchoStar and DIRECTV have been obliged to recently operate a small number of transponders carrying local TV channels with compression ratios up to 12:1. This has been necessary as a result of the need to comply with the SHVIA requirements for local TV carriage, and generally occurs in situations where it was necessary to put all the candidate TV channels in a particular DMA into the same transponder. Neither EchoStar nor DIRECTV are satisfied with the resulting picture quality in these

¹⁰ Recent upgrades to the software algorithms used by the compression systems did not achieve the anticipated levels of improvement expected. As a result, instead of achieving desirable video quality at 10:1 compression levels, the quality is only minimally acceptable. Based on these results, it is currently believed that the next major release of software algorithms will not afford any additional channel capacity, instead affording the opportunity to restore quality to the normal levels the customers have come to expect.

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transponders as situations inevitably arise when the unwanted digital artifacts are apparent. In other words, operation at 12:1 compression ratio is an evil necessity in a small number of cases at the present time, and not a normal or desirable mode of operation.

19. Petitioners clearly are unaware of the variety of demands on the raw bandwidth of a DBS transponder. They have assumed higher compression ratios in their analysis than is currently achievable from an operational DBS system with real requirements and limitations if high picture quality is to be guaranteed. Gould states that *The transponder capacity can be shown to be between 12 and 14 NTSC channels using standard methods of modulation*¹¹. Rusch states that *... 12 television signals can be transmitted on each frequency block ...!*¹². Morgan states that his assumption in his analyses is *... a video compression rate of 12:1*¹³. Their theoretical capacity estimates are grossly in error due to such optimistic assumptions about compression, as well as other erroneous assumptions addressed below.

20. For example, Petitioners appear to have ignored that fact that approximately 20% of the available bandwidth on every transponder in the network is needed for non-video purposes. The compression systems require available headroom bandwidth within the overall bit stream within every transponder. This bandwidth is necessary for the systems to perform their compression and multiplexing functions and is unavailable for use by the satellite provider. Many channels also broadcast an alternate language audio channel in addition to the primary

¹¹ Gould Declaration, page 7.

¹² Rusch Declaration, page 5.

¹³ Morgan Declaration, page 4.

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language, in support of bilingual viewers. Additionally, Dolby Digital (an enhanced audio format) is broadcast as a secondary audio source on many DBS channels, and it alone is equivalent to two normal audio channels, bringing the total for those channels to three equivalent audio channels. Furthermore, every transponder carries a set of data tables necessary to communicate critical information from the uplink systems to the individual set top receivers. This information is needed by the receiver to be able to understand which satellite a given program is located on, which of the multiple data streams within the transponder contains the video, which audio streams are associated with the video, whether the customer has appropriate rights to the video, and a host of other details elemental to the operation of a digital video system.

21. Lastly, one transponder at every satellite location includes a complete Electronic Program Guide, as well as software downloads for every model of every receiver ever produced. One third of the available capacity of this home transponder is dedicated to supporting this application. As the size of the network and the number of customers grows, so does the bandwidth requirements on each and every transponder.

V.2 Video Coding

22. Both Rusch and Gould make strong statements about the future use of MPEG-4 video coding in place of MPEG-2, suggesting that the change to this coding standard would make dramatic further reductions in the data rate required for broadcast quality video signals, and hence increase the number of TV signals per transponder. Gould states that *Moreover, new generation algorithms such as MPEG-4 are being designed and implemented to*

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*provide even more digital compression than is available now with MPEG-2. With greater compression, the required data rates will decrease and the number of TV channels that can be supported on a single transponder will increase beyond the assumptions made above*¹⁴ Rusch states that *For even greater gains, the recently adopted MPEG-4 standard can provide a reduction in data rates by a factor of two or three as compared to MPEG-2*¹⁵

23. These statements demonstrate a popular misconception about the role and applicability of MPEG-4 to broadcast quality video transmissions. The fact of the matter is that MPEG-4 is currently designed to allow more effective video bit-rate reductions only for signals of a much lower quality than are transmitted to the public by DBS satellites. Applications intending to exploit MPEG-4 are therefore ones where data rate is severely limited and quality considerations are of secondary importance, such as video streaming over the Internet. For the quality required for DBS satellite transmissions, which is effectively broadcast quality, MPEG-4 provides no reduction in required bit-rate compared to MPEG-2, and therefore cannot seriously be considered at the present time for use by EchoStar or DIRECTV for their conventional broadcast services.¹⁶

24. Furthermore, the use of MPEG-2 allows for significant cost savings in

¹⁴ Gould Declaration, page 14.

¹⁵ Rusch Declaration, page 11, para. 39.

¹⁶ There are long-term developments aimed at achieving broadcast quality encoding at 1 MBit/sec but it is not certain whether this will be MPEG-4 or a new evolving standard called H26L. Neither format is yet suitable to achieve such a low bit rate consistent with reasonable quality. At bit rates of 2 MBits/sec and higher there is very little difference in terms of picture quality between MPEG-2 and

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manufacturing receivers as compared to MPEG-4 and has greater economies of scale due to its widespread use.

25. Finally, it should be noted that a transition to MPEG-4 would require all new set-top boxes, with negligible, if any, revenue or capacity benefit.¹⁷

V.3 Modulation and Coding

26. Currently both EchoStar and DIRECTV use QPSK for their satellite transmissions. This has been, and remains, the right choice from the point of view of spectral efficiency, satellite power requirements and ease of implementation in the user equipment.

27. However, Gould proposes that EchoStar and DIRECTV's current QPSK transmissions be replaced by 8PSK or even higher order modulation transmissions. Gould's justification for this is *Modern spacecraft are capable of providing the greater power that is needed in order to achieve the higher spectral efficiency afforded by 8PSK modulation discussed earlier, and by other, higher-order, modulation methods ...*¹⁸ Rusch similarly proposes the change from QPSK to 8PSK, also citing the relative ease of generating additional power on the satellite as justification. Such comments, however, ignore the fact that satellite power is always at a premium, and therefore its efficient use cannot be so easily dismissed as Gould and Rusch have done. The requirement to generate between 30% and 50% more RF

MPEG-4.

¹⁷ Transition issues where new set-top boxes are required are addressed in Section V.3.

¹⁸ Gould Declaration, page 13.

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power, as might be required for the use of 8PSK, could have the effect of increasing the satellite platform DC power requirements from typically 10 kW to between 13 and 15 kW. Such an increase would have considerable impact on the satellite and launch vehicle costs, and reduce the scope of potential spacecraft suppliers and platform products.

28. Both Gould and Rusch separately promote a change in the coding of the EchoStar and DIRECTV transmissions to make use of the latest turbo coding techniques. However, Rusch in particular creates a false impression here that turbo coding, in and of itself, will make dramatic improvements to the spectral efficiency of the DBS satellites. He states *One method of increasing channel capacity or throughput is called turbo coding. This method is currently being used on some satellite services to improve the signal robustness (lowering the required Eb/No) substantially, by as much as a factor of two. This could double the effective channel capacity.*¹⁹ This proposed doubling of the channel capacity by the use of turbo coding is simply not the case when applied to the existing satellite transmissions used by EchoStar and DIRECTV, because of the coding levels already in use. Turbo coding merely improves the signal's robustness without as much coding overhead as would be required with conventional coding. It does not affect the spectral efficiency directly.

29. While the combined use of 8PSK and turbo coding might be an attractive alternative to QPSK and conventional coding for new systems, and result in an overall spectral efficiency improvement on the order of 30%, depending on the conventional and turbo coding

¹⁹ Rusch Declaration, page 10, para. 35.

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levels employed, further tests are necessary before it can be confirmed that the existing satellite transponder frequency response and linearity specifications are sufficient for this new modulation and coding scheme. Operation in a self-interference environment, such as a spot-beam satellite where spatial frequency re-use is employed between multiple spot beams, also needs to be investigated further before such a new scheme can be relied upon. In the context of EchoStar and DIRECTV's current operations, however, any such change would require new (and more expensive) set-top boxes for all subscribers if it were to be applied to both the local and national programming channels. Evolutionary transition schemes, as suggested by Rusch, will only address a relatively small percentage of the subscribers.²⁰ At some point in time, the entire population of viewers must get new set-top boxes installed before the main (national) channels in the system are transitioned to the new modulation and coding scheme.

V.4 Administrative Channels

30. In assessing the TV channel capacity of the EchoStar and DIRECTV satellite systems, it is important to note that some channels are required to carry administrative information and data to the subscribers. Not all available channel capacity can be used to transmit revenue-generating TV programs. The administrative channels are used for TV Guide information as well as data communications to the subscribers' set-top boxes. This matter is also addressed in Section V.1 above.

²⁰ Rusch Declaration, page 11, para. 39.

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V.5 Beam Coverage and Effect on Capacity

31. All of the Petitioners, either directly or indirectly, make assumptions about the spot beam coverage of the satellites. In the case of Morgan, he addresses both the existing (and under construction) satellites, as well as his proposed additional spot beam satellites. In the case of Rusch and Gould, they address only new satellite designs. The spot beam coverage of these satellites is the key to determining their capacity, in terms of local TV channels in the various DMAs. None of the Petitioners has adequately addressed this issue in their technical submissions.

32. Designing the beam coverage for local programming to the defined DMAs is a very challenging exercise. The DMAs are not conveniently sized or located in a way that is amenable to optimum coverage by satellite. Inevitably, compromises have to be made, and the resulting performance, in terms of the number of DMAs served, falls far short of the ideal. There are several reasons for this, as follows:

33. DMA size and shape: The DMAs vary widely in their geographic size, depending on their population densities, and they are irregularly shaped (see Figure 1 below). By contrast the easiest spot beams to generate, from the satellite design and performance perspective, are ones that are circular as viewed from the satellite. There are also severe limitations on how small the spot beams can be made, and it is preferable by far to maintain a constant, or near-constant, spot beam size if possible. The inevitable result of all these constraints is that spot beams on DBS satellites are made to be relatively large compared to the

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smaller DMAs, and therefore each one encompasses several DMAs, or at least parts of several DMAs. The beams are also often too small to encompass the largest DMAs. In the example shown in Figure 1 the spot beam is the -3 dB contour of a beam generated with a 3 meter satellite antenna reflector. Note that it covers two adjacent DMAs completely, but only parts of some other DMAs in the vicinity.

Figure 1: Example of DMAs in Eastern part of the USA

34. Relative priority and geographic location of the DMAs: To re-use the same frequencies between spot beams requires that those spot beams are spaced a certain distance apart. Unfortunately, the DMAs to be given higher priority for coverage are not conveniently spaced the required distance apart, and so the ideal frequency re-use cannot be achieved.

35. Numbers of local TV channels to be carried for each DMA: There are a certain number of TV stations associated with each DMA and all of these are potential

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candidates for carriage under SHVIA rules if any one of them is carried. Therefore it is necessary to serve, within a single beam, an aggregate number of channels that just fills the allocated number of transponders (e.g., one or two per beam). This may mean that, although a beam provides coverage of a particular DMA, there may be insufficient capacity in the allotted number of transponders to actually provide service to all of the TV channels required by that DMA. In that case, the DMA cannot be served at all by that beam.

VI. Capability of EchoStar and DIRECTV Satellites Already Launched or Under Construction

36. In this section I address the claims made by Morgan concerning the amount of local programming that could be carried with the four spot beam satellites already launched or under construction by EchoStar and DIRECTV.^{21,22}

37. In the time available since the Petitions were filed with the FCC it has not been possible to replicate the detailed analysis presented by Morgan. Although Morgan has endeavoured to describe an objective methodology for his analysis, he admits that certain of his steps involved him making subjective determinations. For example, he states that ... *the assignment (if capacity was available) was made in concert with the other demands in*

²¹ These spot beams satellites are EchoStar-7, EchoStar-8, DIRECTV D4S and DIRECTV D7S.

²² Only Morgan provides an analysis of the number of local TV stations (and DMAs) that he believes could be carried by the existing spot beam satellites (including those under construction). Rusch and Gould both hypothesize only about future new satellite designs when addressing overall local TV channel capacity.

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*each beam ...*²³, but he doesn't define what those demands are. Elsewhere he states *... I made educated decisions as to how the beams and frequencies could be used ...*²⁴. Therefore, Morgan's results cannot necessarily be replicated without full knowledge of some of the decisions he was forced to make as he progressed in his analysis. But more importantly, Morgan's results cannot be completely accurate as he made certain assumptions that are not consistent with the actual design of the spot beam satellites. For example, he assumed that DIRECTV 7S would use six DBS frequencies for local spot beam service whereas in fact it is designed to use only four DBS frequencies.

38. Despite the inevitable inaccuracies in Morgan's analysis, his conclusions, in terms of the combined capacity of the DIRECTV 4S and DIRECTV 7S spot beam satellites, are relatively accurate. However, in the case of the EchoStar-7 and EchoStar-8 spot beam satellites, his conclusions regarding local channel capacity are considerably higher than the actual satellites are known to be capable of, and the reasons for this are not yet clear.

39. In any event, when Morgan proceeds beyond estimating the capacity of the current satellites, he makes assumptions that are seriously in error. These relate to the design of his additional satellite, which he assumes would require only three additional DBS frequencies (see more details of this in Section VII below). He claims, for example, that the three additional DBS frequencies on his third satellite for DIRECTV can be used, in conjunction with

²³ Morgan Declaration, page 9.

²⁴ Morgan Declaration, page 11.

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DIRECTV 4S and DIRECTV 7S, to provide full local programming service to a total of 187 DMAs.

40. It should also be pointed out that Morgan's analysis is based only on considerations of the available spectrum, and it does not consider in any way the important economic factors that are relevant to the provision of local TV service in the different DMAs. This is in fact one of the main drivers in deciding which DMAs can be served, and is addressed in the Declaration of Dr. Willig.

VII. Potential New Satellite Designs Proposed by Petitioners

41. All three Petitioners propose, in one way or another, new satellite designs that they claim will enable the full complement of DMAs to be served. Each Petitioner takes a different approach to this problem:

42. Gould: Although Gould does not provide details of a new satellite design, his argument is essentially that the available spectrum could be used, with a suitable new satellite design, and other changes to the system, to serve all 210 DMAs. Because of his lack of specific design detail he is forced to estimate the capacity of the new satellite by using capacity related parameters derived from the design of the existing (and under construction) spot beam satellites. In this regard, he assumes that the average frequency re-use of the spot

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beams, for all 210 DMAs, is 7.33.²⁵ This level of re-use is derived from the DIRECTV 4S satellite design, which serves only 41 DMAs. This same level of re-use cannot be maintained if more DMAs are served by adding spot beams because, as indicated above, the DMAs are not conveniently located or sized to suit the spot beam re-use pattern. Therefore the average frequency re-use will become progressively less as more spot beams are added and more DMAs are served. Without going through a detailed and complex spot beam satellite design exercise it is impossible to quantify what average frequency-re-use factor could be achieved.

43. Rusch: Rusch proposes a single dedicated local TV broadcast satellite that employs 58 spot beams (16 large and 42 small), with 12 transponder frequencies in use and an average of 9.33 times frequency re-use to achieve a total capacity, using 8PSK modulation, of 1792 TV channels. This number of channels is presumed to be sufficient to provide the 1475 local TV channels to the 210 DMAs allowing for the DMA edge effects²⁶ This new satellite is presumed to replace the existing spot beam satellites already launched or under construction. Because of the use of two sizes of spot beams on this new satellite, and the inevitable self-interference between them, an interference cancellation technique is proposed. To reduce the number of uplink sites to six the system uses on-board processing. This design is

²⁵ In fact, Gould states on page 4 of his Declaration that the frequency re-use could be as high as 10 or greater. There is no basis for such an assertion, and the exercise of going through the detailed design of a spot beam satellite for service to all of the DMAs would demonstrate that such a high level of average frequency re-use is far from achievable.

²⁶ Rusch uses the term "edge effects" to describe the fact that the available channels do not fit conveniently into transponders to achieve the required number of channels in the required beam for the DMAs. Rusch assumes that a factor of 20% is sufficient for these "edge effects", but there is no basis for this number. In practice the factor may need to be much greater than 20%, depending on the specifics of the design.

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not viable for a number of reasons, which are addressed in detail in the following sub-sections.

44. Morgan: Morgan proposes that each company should build another spot-beam satellite that complements its existing (and soon to be launched) spot beam satellites in order to provide local TV service to additional DMAs. In the case of DIRECTV the total number of DMAs that Morgan asserts could then be served would be 187, and for EchoStar the number is 160. These new satellites each use only three additional DBS frequencies, and either 50 beams (EchoStar) or 46 beams (DIRECTV). They are intended to achieve a high level of frequency re-use (17:1 for EchoStar and 15:1 for DIRECTV). Again, such as design is not viable for the reasons noted in the following sub-sections.

VII.1 Specific Technical Problems with the Proposed Designs

45. In this section I will explain why the proposed new satellite designs of Rusch and Morgan are flawed, and the performance levels claimed could never be achieved in practice. These proposed designs are concepts only they have not been through the scrutiny of a real design by companies that manufacture satellites and we are confident that if these designs were ever explored in detail with a view to actual implementation then their predicted performance levels (or even feasibility) would change dramatically.

VII.1.1 Realization of the Spot Beams

46. Rusch proposes spot beams that are significantly smaller than those used on any of the DIRECTV or EchoStar spot beam satellites. The smaller the spot beams the larger the

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antenna reflectors on the satellite, and Rusch states that his design requires a 6 meter reflector. This compares with the antenna reflectors on the existing (and under construction) DIRECTV and EchoStar spot beam satellites, which have maximum antenna reflector dimensions as follows:

| | |
|-------------|------------|
| DIRECTV 4S: | 2.8 meters |
| DIRECTV 7S: | 3.5 meters |
| EchoStar-7: | 2.7 meters |
| EchoStar-8: | 2.8 meters |

47. Accommodation of the antenna reflectors on the satellite is a major driver in the overall satellite design. Large reflectors can be very difficult to accommodate within the physical envelope of the launch vehicle, and create other stability problems for the satellite's attitude control system. Although larger antenna reflectors have been used on some commercial satellites (e.g., ACeS, Thuraya), these satellites have operated at much lower frequencies where unfurlable mesh antennas can be used. At the Ku-band frequencies used for DBS by EchoStar and DIRECTV the satellite antenna reflectors must be solid surfaced reflectors, and so accommodation of reflectors larger than about 3.5 meters requires breaking the reflector into smaller pieces that are then hinged together. Such an approach is expensive, high-risk, and suffers poor sidelobe performance. The latter problem is particularly important for a multi-beam design with spatial frequency re-use, as it increases the self-interference within the system.

48. Not only is the size of an individual satellite antenna reflector of critical

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importance, but the number of such reflectors is equally important. The more large reflectors there are on the satellite the greater the problems in configuring them in a manner that orientates them in the right directions relative to the feed positions, not to mention the additional antenna stowage and deployment problems. Both the Rusch and Morgan designs are based on an array of contiguous beams, and such an approach requires multiple reflectors in order to achieve the sidelobe performance necessary to reduce self-interference (from co-frequency, spatially separated beams) to an acceptable level. Typically, in these designs, the geographically adjacent beams will not be generated from the same antenna reflector, as otherwise the antenna feed performance has to be compromised and the sidelobe performance suffers. Therefore, a contiguous spot beam design will require at least three reflectors to generate an array of high performance beams. In the case of the Rusch design this number could be as high as six reflectors, because of the use of two different sizes of beams. In this case three smaller reflectors would be needed to generate the array of larger beams.

49. In conclusion, the antennas required in the Morgan and Rusch satellite designs could not be accommodated on a single spacecraft. No commercial satellites have been flown with such large numbers of large solid reflectors operating at Ku-band frequencies. The Petitioners do not seem to have given any consideration to this fundamental failing in their designs.

50. Another problem that is exacerbated by the use of smaller beams, as is used in the Rusch designs, is the antenna pointing error. All satellite antennas are subject to pseudo random pointing errors and perturbations. On large beams the effect of this mispointing is

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insignificant. However, as the beam size becomes smaller, the relative effect of the mispointing increases. In the case of a 0.3° spot beam, as proposed by Rusch, the typical pointing error could be typically 0.12°, which means the beams may be pointing anywhere within 0.12° of the nominal pointing direction.²⁷ This has the effect of reducing the guaranteed service area of the beam to only 0.06° (i.e., 0.3° minus 2 x 0.12°). In other words the useful beam area becomes exceedingly small and effectively useless for a local programming type of service.²⁸ Furthermore, the antenna pointing error will cause increased interference between spatially separated beams, if they are generated by different antenna reflectors that are prone to uncorrelated pointing errors. In this case, a co-frequency beam would appear to be closer to another beam operating at the same frequency than the nominal pointing directions would indicate, and the self-interference would be correspondingly increased. Again, neither Rusch nor Morgan even mention antenna pointing errors in relation to their proposed designs for new spot beam satellites. In particular, Morgan has ignored these effects when calculating the DMAs served by his spot beam design.

VII.1.2 Self-Interference

51. Whenever frequency re-use is employed in a satellite there is the potential for

²⁷ This amount of pointing error is typical of open-loop designs. If sophisticated closed-loop RF sensing is employed, the pointing error could be reduced to 0.05°, but this performance would be very difficult, if not impossible, to maintain across the whole array of spot beams.

²⁸ For DBS the users are stationary and the satellite beams are assumed to be stationary. Only in this way can a subscriber's receiver rely on receiving signals according to a fixed frequency plan. This is very different from, for example, an MSS (Mobile Satellite Service) system, such as ACeS, Thuraya, GlobalStar or Iridium, where the users are assumed to be moving across the boundaries between beams, and the transmission scheme and frequency plan allows for the subscriber terminal

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self-interference. The higher the amount of frequency re-use the greater the risk of unacceptable levels of self-interference. This is particularly important if higher order modulation schemes (such as 8PSK or higher) are to be employed in the system, as these require higher $C/(N+I)$ (carrier to noise+interference ratio) performance than if conventional QPSK is used.

52. In a spot beam satellite design, where spatial frequency re-use is employed (as is the case with the EchoStar and DIRECTV spot beam satellites as well as the Rusch and Morgan designs), great care must be taken to ensure that the co-frequency beams are sufficiently far apart that they do not interfere with each other. When the spot beams are a contiguous array, as in the case of both the Rusch and Morgan designs, a frequency re-use scheme must be established that avoids co-frequency operation in immediately adjacent beams.

53. Rusch employs a four-frequency group scheme, which means that the available spectrum is divided (not necessarily equally) into four parts, and each part is then assigned to one of a set of four contiguous beams. This same assignment is then continued across the whole array of beams to ensure that the maximum beam isolation is achieved. This is shown in Figure 2 where a section of an infinite array of beams operating with a four-frequency group scheme is shown. (Note the proximity of the nearest co-frequency beam is one complete beamwidth away and that there are four co-frequency beams that are this same distance away.) All these beams, as well as those further away, contribute to the interference experienced in the center beam. To maintain the aggregate interference to an acceptably low level, the sidelobes of these

to be frequency agile and capable of switching seamlessly between beams.

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co-frequency beams must be maintained to a very low level in the directions of the center beam (as well as other co-frequency beams).

Figure 2: Four-Frequency Group Re-Use Scheme

54. Morgan, on the other hand, uses an even more aggressive approach, presumably to keep the number of channels used by his spot beam satellite design to only three. In his design, a three-frequency group scheme is used, as shown in Figure 3. Note that with this scheme the nearest co-frequency beam is now closer than it was with Rusch's design, and there are now six co-frequency beams spaced this same distance away. The result of this is that the self-interference levels are even higher with this three-frequency scheme than with the four-frequency scheme.

Figure 3: Three-Frequency Group Re-Use Scheme

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55. Experience in the design of spot beam satellites, however, has shown that the theoretical four-frequency and three-frequency re-use schemes are impractical in many cases because the aggregate self-interference is unacceptably high. Instead system designers have resorted to schemes with less spatial re-use, such as seven-frequency re-use schemes. Such a scheme is shown in Figure 4. Note that the nearest co-frequency beam is almost two full beamwidths away and there are still only six such beams in the immediate vicinity. The self-interference with a scheme like this is much less than with the three or four-frequency schemes proposed by Morgan and Rusch.

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Figure 4: Seven-Frequency Group Re-Use Scheme

56. Therefore it is extremely unlikely that the spot beam designs and frequency reuse schemes proposed by Rusch and Morgan will work in practice, as they would exhibit extremely high self-interference levels. As mentioned above, high self-interference is incompatible with the use of high order modulation schemes (such as 8PSK and higher) as proposed by Rusch, Morgan and Gould.

57. Finally, the self-interference problem is made much worse when a mix of spot beam sizes is employed, as proposed by Rusch. In these cases the small spot beams suffer greater interference from the large spot beams unless they are given additional geographic separation. The Rusch design does not provide this additional separation, but rather resorts to a

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flawed interference cancellation technique that is addressed in the next section.

VII.1.3 Interference Cancellation

58. Rusch rightly points out that his mix of large and small spot beams, in a contiguous spot beam array, will result in unacceptable levels of self-interference. To overcome this problem Rusch proposes the use of ... *an accepted technique known as signal nulling or signal cancellation. This technique involves deliberate (directional) coupling of a small part of the signal from the interference beam into a beam location where the interference would otherwise occur. Since the same signal appears in two beams, a user on Earth receives the same signal from two sources.*²⁹ Unfortunately, this scheme will simply not work.

59. The interference cancellation technique proposed by Rusch is not an accepted technique in any sense, at least in the commercial satellite world. It has never been employed in direct broadcast TV satellites. It may have limited applications in very specialized government satellite systems, but it cannot produce interference-free operation across the service area of the beam. At best it will cancel the interference over a relatively small swath of the beam, but it will in fact increase the interference in other parts of the beam.

VII.1.4 Frequency Re-Use Factor

60. A high frequency re-use factor in a spot beam satellite is the key to maximizing

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the capacity with the minimum usage of spectrum. EchoStar-7 re-uses the same frequencies five times in its spot beam design. DIRECTV 4S re-uses the frequencies an average of 7.33 times across its beams. Both Rusch and Morgan push this parameter to impractical levels, taking into account the DMA service areas and necessary spot beam characteristics. Rusch proposes a re-use factor of 9.33 and Morgan proposes a re-use factor of 15 times for his DIRECTV design and 17 times for his EchoStar design. In reality, the ability to achieve a high frequency re-use factor is constrained by practical limitations on the design and layout of the spot beams and how this relates to acceptable levels of self-interference, and this is addressed in more detail in Sections V.5 and VII.1.2.

61. Neither of these Petitioners shows the necessary justification to support such high frequency re-use factors. To adequately do this they would have to demonstrate that the levels of self-interference are at an acceptably low level, taking account of realistic antenna sidelobe performance and antenna pointing errors, as well as the actual antenna configurations that they propose (single or multiple reflectors, reflector mountings, etc). Without this their claims of frequency re-use are baseless.

VII.1.5 On-Board Processor

62. Rusch proposes the use of an on-board processor with at least 71 active 16-QAM on-board demodulators, each operating at approximately 100 Mbits/sec. This would be

²⁹ Rusch Declaration, Exhibit C, page 16, para. 27.

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the first direct broadcast satellite to employ such a device, and would be a huge technological step for this type of application.

63. Although on board processing is technically feasible, the inclusion of an onboard processor of the type described by Rusch would negatively impact a satellite project in the following ways:

High development, manufacturing and testing costs, probably in excess of \$50 to \$100 million, and possibly much more;

Long program schedule, adding at least two years to the normal satellite schedule, and possibly more;

Large demands on the spacecraft platform (or bus). The on-board processor would be large, heavy, consume significant electrical power and dissipate large quantities of heat. All of these factors will place additional demands on the spacecraft platform, and lead to a very large and expensive satellite;

High risk. Such a crucial item of equipment could result in a catastrophic failure of the satellite if it should fail. Such a risk is significant and likely to be unacceptable to a DBS operator.

64. Rusch's claims that *Implementation of a full local-into-local service would require two or three years for design, construction and launch of appropriate new satellites*³⁰ is therefore completely incompatible with his proposal to include the on-board processor that he describes.

³⁰ Rusch Declaration, page 8, para. 23.

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VII.1.6 Payload Capability of Currently Available Spacecraft Platforms

65. Rusch implies that his 1475 design can be accommodated on a readily available spacecraft platform, but no evidence is presented to support this point. Based on my initial calculations, using the limited amount of information available concerning Rusch's design, it far exceeds the payload capability of current platforms, and therefore would require the development of a large new spacecraft.

66. Morgan does not present any evidence to demonstrate that his design will fit onto any available spacecraft.

VII.2 Unacceptable Technical Risk

67. The satellite design proposed by Rusch is too complex and requires significant advances in the state of the art for operators such as EchoStar and DIRECTV to consider using. Its novel on-board processor and interference cancellation techniques are fraught with potential problems, including high costs, long program schedules, and the risk that they will not work. The spot beam design has not been shown by Rusch to be viable in terms of self-interference, or the ability to actually serve the territories of the DMAs with the TV channel capacities required.

68. The additional technical risk introduced by Rusch's design also would severely impact the insurability of the satellite, or result in insurance costs that are commercially unacceptable.

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VII.3 Delayed Schedule for Implementation

69. As mentioned in Section VII.1.5 above, Rusch s claims that *Implementation of a full local-into-local service would require two or three years for design, construction and launch of appropriate new satellites* is not consistent with the satellite design that he suggests. If the satellite he suggests were to be designed and built, it would likely be between four and five years, if not more, before service could begin once a decision to proceed was made. This assumes that ways could be found to overcome the technical problems in his design that are addressed in Section VII.1 above.

70. Such an extended schedule is incompatible with the objectives of EchoStar and DIRECTV, which is to provide high quality programming and a range of TV broadcast services to the public in a timely manner.

VII.4 Unacceptable Costs

71. Rusch s claims that *The new satellites would cost approximately \$250 million each (satellite, launch vehicle and insurance). In addition, there would be the need for four-to six additional uplink Earth stations that should cost approximately \$30 million in total capital costs*³¹ This estimate is much too low for the system design he proposes. In particular:

³¹ Rusch Declaration, page 8, para. 23.

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A satellite with on-board processing, and the antenna configuration required for his proposed spot beam design, would likely cost in excess of \$400 million; and

The additional uplink earth stations, and associated ground equipment for the off-air reception and backhaul of the local TV channels, would likely cost in excess of \$100 million, taking into account the transition to 8PSK and the higher levels of compression.

72. Furthermore, it should be noted that both EchoStar and DIRECTV have already committed to building and launching their spot beam satellites, and these costs cannot be recouped. These entire investments would be wasted if the companies were to attempt to build the proposed Rusch satellite design. Rusch suggests that the existing EchoStar and DIRECTV spot beam satellites that have not yet been launched could be modified to achieve the capability of his proposed new satellite, and states that *We would estimate that these modifications would require no more than 18 months and cost \$10-\$20 million*³². Although difficult to quantify at this stage, bearing in mind the advanced stage of construction and testing of EchoStar-8, Rusch's number is a gross underestimate, and the likely cost, if it were even feasible, would be in excess of several hundreds of millions of dollars per satellite. The schedule impact would also likely be well in excess of 2 years.

³² Rusch Declaration, page 8, para. 24.

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APPENDIX 1

Resumé for Dr. Richard J. Barnett

Dr. Barnett graduated from Southampton University (UK) in 1973 with a B.Sc. (Hons) degree in Electronic Engineering, and from the same university in 1977 with a Ph.D. degree based on research into computer modeling of microwave devices.

He then worked in the research and development laboratories of the Plessey Company and the Independent Broadcasting Authority in the UK before moving to France in 1981. There he was employed by Thomson-CSF in Paris as the payload systems engineer on the Scandinavian Tele-X satellite before joining EUTELSAT where, as operations engineer, he was responsible for the operational planning of the EUTELSAT satellites for all TV applications.

In 1982 he returned to the UK and joined British Aerospace where he held a variety of engineering management positions during the period 1982 to 1990, all involved with the communications engineering and associated regulatory aspects for future commercial satellite communications projects. Dr. Barnett came to the USA in 1990 as the Vice President of Engineering for Asia Pacific Space & Communications (a company affiliated to Orion Satellite Corporation).

Since 1991 Dr. Barnett has been President of Telecomm Strategies LLC an international satellite communications consultancy company specializing in the technical design and technical regulatory aspects of satellite projects including national licensing and international (ITU) frequency registration and coordination of satellite systems. In the domestic US arena he has chaired several US industry working groups that have developed consensus positions relating to Ka-band GSO/FSS, including the 1st round Ka-band orbital assignment plan, Ka-band blanket licensing rules and the preparation of US ITU filings for Ka-band and V-band satellite networks. In the ITU forum he is a participant in the groups related to satellite communications, particularly Working Party 6S and Working Party 4A, as well as the World Radio Conferences. He regularly participates in international frequency coordination meetings on behalf of various satellite operators, involving systems at S, C, X, Ku and Ka-bands.

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CERTIFICATION OF PERSON RESPONSIBLE

FOR PREPARING ENGINEERING INFORMATION

I hereby declare under penalty of perjury that I am the technically qualified person responsible for preparation of the engineering information contained in the foregoing submission, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is true and correct to the best of my knowledge and belief.

/s/

Richard J. Barnett, PhD, BSc
Telecomm Strategies, L.L.C.
6404 Highland Drive
Chevy Chase, Maryland 20815
(301) 656-8969

Dated: February 25, 2002

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Application of

**ECHOSTAR COMMUNICATIONS CORPORATION,
GENERAL MOTORS CORPORATION,
HUGHES ELECTRONICS CORPORATION**

Transferors,

CS Docket No. 01-348

and

ECHOSTAR COMMUNICATIONS CORPORATION

Transferee,

For Authority to Transfer Control

**DECLARATION OF MR. ARNOLD FRIEDMAN
ON BEHALF OF
ECHOSTAR COMMUNICATIONS CORPORATION, GENERAL MOTORS
CORPORATION, AND HUGHES ELECTRONICS CORPORATION**

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I. Qualifications

1. My name is Arnold Friedman. I have been involved in the telecommunications industry for over 20 years and am intimately familiar with the design and operation of satellite systems that operate in the Fixed Satellite Service (FSS) and the Direct Broadcast Service (DBS), as well as the use of satellite capacity to provide broadband service to businesses and residences. I hold a Bachelor of Science in Engineering from the University of Pittsburgh (1978).

2. For sixteen years, I was employed by Lockheed Martin Corporation, where I served as a Special Director, Telecommunications, and as a Chief Systems Engineer. In those capacities, I successfully directed complex projects for the development of satellite technology. I also led a team that created the Astrolink Ka band broadband satellite project. Among other things, I developed the initial architecture of the Astrolink system and determined its spectrum requirements.

3. For four years, I served as Vice President, Ventures, at Space Systems/Loral. In that capacity, I was responsible for directing the analysis of potential telecommunications investments and new services in the United States and around the world. I also was responsible for over \$1 Billion in sales to telecommunications service and broadcast companies, and was instrumental in system architecture design, pricing and financing strategies.

4. More recently, I was a founder, and served as the President, of ProntoCast Services, LLC, which was formed to provide new consumer telecommunications services via satellite, including content delivery to homes and Internet devices. Currently, I am advising a number of companies on the deployment of broadband services to businesses

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and consumers and on the design of their system architectures.

II. Purpose of Statement

5. I have been asked by EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation to reply to certain comments submitted to the Federal Communications Commission (FCC) in opposition to the proposed merger between EchoStar and Hughes Electronics Corporation. Among other things, I respond to the declaration submitted by Walter L. Morgan and the affidavit submitted by Roger J. Rusch.¹

III. The Broadband Satellite Market

6. There are two U.S. companies that provide two-way satellite-based broadband services to residential consumers today through Ku-band spacecraft: Starband Communications Inc., which offers its Starband service, and Hughes Network Systems, Inc. (HNS), which offers its DIRECWAY service (formerly also known as DirecPC). Each company offers its consumer service through a network of distributors.

7. DIRECWAY and Starband have achieved a much lower broadband service residential subscriber base than cable operators or DSL operators have been able to achieve. As of January 2002, DIRECWAY had obtained only about 100,000 residential and small business subscribers, while Starband had obtained only about

¹ Declaration of Walter L. Morgan, Exhibit O to Petition to Deny of the National Rural Telecommunications Cooperative, CS Docket No. 01-348 (Feb. 4, 2002) (Morgan Decl.); Affidavit and Report of Roger J. Rusch, Attachment B to Petition to Deny of Pegasus Communications, CS Docket No. 01-348 (Feb. 4, 2002).

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40,000 subscribers.² In contrast, at the beginning of this year, there were reported to be 11 million cable modem and DSL subscribers.³

8. The growth of residential subscribers to satellite broadband services has been limited by the high total cost of the satellite broadband service the cost of equipment, the cost of installation, and the cost of monthly service. The experience of DSL and cable modem providers is similar many residential users simply will not subscribe to a high-cost broadband solution. They will stay with dial-up Internet service instead.

9. The total cost to residential users today for satellite broadband services is higher than the total cost to residential users for cable modem or DSL service. DIRECWAY service now can be obtained through its distributors for a monthly service charge of \$59.99, and \$898.00 for equipment and installation (less a \$300 rebate currently being offered with a one year service commitment).⁴ Starband can be obtained for a monthly service charge of \$69.99 (plus a \$5 per month access fee), and \$748.00 for equipment and installation.⁵ In contrast, representative costs to consumers today for

² Starband Wraps Up 2001 as American's Leading Consumer Satellite Internet Provider, Press Release, Jan. 7, 2002 <<http://www.starband.com/whoweare/pr/010702.htm>; DIRECWAY Subscribers Break 100,000 Mark, Press Release, Jan. 9, 2002 <<http://www.hns.com/corporate/news/pr/pr9999487460002.htm>>.

³ Morgan Stanley, BYOB: Cable Brings Its Own Backbone to the Party, January 3, 2002. As of June 30, 2001, the FCC reported that residential and small business high-speed Internet access via cable, DSL and other wireline technologies (including ADSL) totaled 7.6 million lines. Federal Communications Commission, In the Matter of the Deployment of Advanced Telecommunications Capability, CC Docket 98-146, Third Report (released February 6, 2002) at Appendix C, Table 3.

⁴ See http://dtv.direcway.com/home/order/order_now.html.

⁵ See <http://www.starband.com/wheretobuy/dishsplash.htm>.

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cable modem service is approximately \$30-60 for monthly service⁶ with equipment and installation charges of approximately \$69-199,⁷ and representative costs to consumers today for DSL service is about \$50.00 per month for monthly service, and no equipment or installation charge.⁸

10. Two-way satellite broadband services today must be professionally installed for two main reasons: (i) in order to ensure that the transmitting antenna is pointed accurately, and (ii) in order to comply with conditions that the Federal Commissions Commission has imposed in the earth station licenses that HNS and Starband use to provide service to consumers. The typical charge for professionally installing a residential Ku band antenna is \$199.⁹

11. In contrast, cable modem and DSL service are moving toward a business model that allows consumers to self-install and therefore obtain broadband service at a

⁶ Comcast offers a \$ 40-55 per month price range for cable modem service. *See* www.comcast.com. Cox Communications-Northern Virginia offers a high-speed Internet access service for \$30-40 per month. *See* www.coxcable.com/Fairfax/RoadRunner/rates.asp. Time Warner Cable advertises high-speed Internet access in Bergen County, New Jersey for \$45-60 monthly including the cost of modem rental. *See* www.timewarnercablenj.com/road_runner/faq.html#gq13.

⁷ *See, e.g.*, www.comcast.com; www.coxcable.com/Fairfax/RoadRunner/rates.asp; www.timewarnercablenj.com/road_runner/faq.html#gq13.

⁸ *See, e.g.*, Verizon, DSL Prices and Packages, www.verizon.net.pands/dsl/packages.

⁹ *See* Starband, www.starband.com/wheretobuy/dishsplash.htm; Valueelectronics.com, DIRECWAY offered through DIRECTV, www.vaueelectronics.com/pcsys.htm.

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lower cost. For 2001, JPMorgan estimated that 70% of DSL subscribers self-installed, and 25% of cable modem subscribers self-installed.¹⁰

12. The high cost of Ku band satellite service is driven in part by the current configurations of Ku band spacecraft and the high cost of Ku band transponder capacity. Starband and HNS acquire the satellite capacity over which they provide broadband service by leasing transponders from Ku band satellite operators. The Ku band spacecraft that serve the U.S. are configured with individual transponders, each of which uses a discrete amount of spectrum, typically 24 or 36 MHz in each direction (uplink and downlink). Each transponder is associated with a national antenna beam pattern, many of which are designed to provide service to the 48 contiguous United States, and can also cover Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands. Ku band transponders have been designed in this manner primarily to facilitate the distribution of video, audio and data across the entire United States using antennas that range from 10 meters to 1.2 meters in diameters. Each kilobit of service used by a satellite broadband customer consumes a corresponding portion of frequencies on the transponder (typically 1.15 bits/Hertz), and therefore (in the case of a CONUS beam) prevents those same uplink and downlink frequencies from being simultaneously reused on the spacecraft anywhere else in CONUS. Thus, there are limits on the number of broadband users that can simultaneously receive broadband service on the same transponder. Moreover, there are FCC imposed power limits that are designed to avoid interference with networks

¹⁰ JPMorgan Securities, Inc. Industry Analysis, Broadband 2002, *A Comprehensive Analysis of Demand, Supply, Economics, and Industry Dynamics in the U.S. Broadband Market*, April 2, 2002, at 69 (JPMorgan).

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operating on adjacent satellites at lower power, which also limit the use of small Ku band antennas.

13. In order to achieve certain operating and economic efficiencies, HNS and Starband each has sought to obtain groups of transponders on the same satellite, and to obtain transponders on spacecraft within a certain part of the orbital arc. This allows them to increase the amount of transponder capacity that possibly could be used by any subscriber whose antenna is pointed toward a given satellite (or satellites within a certain range), and to obtain economic and operational efficiencies with the minimum number of expensive hub earth stations that are required to provide service.

14. For more than 20 years, the Ku band FSS satellite spectrum has been used for many commercial purposes other than DIRECWAY and Starband broadband service. Satellite operators have already committed many Ku band transponders for such other uses, and DIRECWAY and Starband must compete with many other companies who need access to Ku band capacity. As a result, Ku band capacity is expensive, and often is difficult to obtain on the spacecraft where HNS and Starband have already located existing broadband subscribers. In today's market, the cost to lease a single 36 MHz transponder is approximately \$2,000,000 per year. The cost of acquiring space segment capacity from third parties is a large component of the total monthly service charge for satellite broadband service. Thus, the cost of acquiring space segment capacity increases the cost to provide DIRECWAY and Starband service, relative to the cost to provide DSL and cable modem service.

15. In 1995, fifteen companies, including Hughes and EchoStar, applied for the first generation of FSS Ka band satellite systems to serve the United States. Many

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proponents of those systems believed that they could deliver by satellite a very high speed broadband service that had never been offered before, and anticipated being able to deliver that service on a ubiquitous basis throughout the United States to business and residences alike. Unlike today's Ku band satellites that are used for a wide range of purposes, and have not been optimized for broadband service, many of these Ka band systems were designed from the outset to be dedicated almost exclusively for the provision of state-of-the-art broadband service. Among other things, the use of many small spot beams facilitates the provision of point-to-point service by many different users with a high rate of efficient frequency re-use.

16. The new Ka band systems, however, require the use of new and commercially unproven technology, the development of brand new satellite network architectures, and the infusion of billions of dollars of investment. In light of these risks, and problems raising financing, many companies have terminated, scaled back or refocused their programs. For example, the Teledesic system has been scaled back from a system with 840 Low Earth Orbit (LEO) spacecraft to 288 LEO satellites, and just last month to one with only 30 Middle Earth Orbit (MEO) spacecraft. Astrolink recently reported that it has terminated its construction contract with Lockheed Martin after having completed construction of 90% of its first spacecraft, having spent \$710 million on its satellite broadband program, and finding itself unable to finance the remaining cost of implementing the Astrolink broadband system. The recent burst of the Internet bubble and the general retraction of the capital markets has exacerbated the problems already facing these ambitious satellite broadband proposals.

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17. In light of the continuing challenges in the financial markets, and the demands of investors, HNS has informed me that it has focused its SPACEWAY Ka band broadband initiative on commercial customers. Targeting established customer bases, and marketing primarily to commercial users of satellite capacity who historically are not as price-sensitive as residential consumers, provides a higher level of certainty that HNS can recover the large capital costs of its SPACEWAY system. In light of similar challenges, EchoStar's current Ka band program is limited to a small number of spot beams on its Ka-band spacecraft.

18. Nevertheless, in order to offer residential subscribers a competitive alternative to terrestrial offerings such as DSL and cable modem service, and in order to be attractive to residential consumers in general, satellite-based broadband services need to reduce the total cost to the consumer of obtaining service. There are two main ways to bring the cost to the consumer down to the cost of cable modem or DSL service: reducing equipment and installation charges, and reducing monthly service charges.

19. One means of reducing the equipment and installation costs for residential subscribers is for the satellite broadband provider to subsidize the cost of the equipment and installation. This already occurs to some extent today. However, doing so requires significant cash outlays by the satellite broadband provider. These are outlays that the satellite provider, for the most part, does not need to make in order to obtain a commercial subscriber. And they are outlays that the investment community may be reluctant to fund because of high expected subscriber churn. It is a very risky proposition for satellite broadband providers to subsidize consumer acquisition costs on a large scale, considering that cable modem and DSL service providers are starting to lock

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in their market share (satellite has about 1/10 of 1% of all broadband users), the subscriber acquisition costs for DSL and cable modem subscribers are continuing to fall,¹¹ cable modem and DSL service providers increasingly are able to rely on customers to perform self-installations,¹² and the cost of monthly service has to be competitive with cable modem and DSL service in order to be attractive to residential consumers. This level of investment makes sense only if the cost of the subsidy is sustainable by the expected revenue stream from the residential subscriber, taking into account the expected rate of subscriber churn.

20. The proposed merger provides another way to reduce equipment costs for the residential subscriber. Namely, the merger would allow EchoStar and Hughes to develop a single equipment standard and achieve economies of scale through the higher rate of production of a common product. As in the cable modem, DBS and cellular phone business model, this economy of scale savings could be passed onto consumers in the form of reduced upfront costs. By way of example, cable modem pricing was \$300 at 500,000 units, and it dropped to \$100 at 8.2 million units.

21. The merger also could reduce the monthly costs of service for residential satellite broadband subscribers. In addition to the cost of space segment, monthly service charges include a portion of the provider's subscriber acquisition costs the cost of marketing and sales to new subscribers. New EchoStar will be able to market and sell satellite-based broadband services to a much larger residential customer base than either

¹¹ JP Morgan projects that cost to acquire DSL customers will fall 37% by 2005 to \$500 per subscriber. Similarly, for cable modem service, the acquisition cost per subscriber is expected to drop 10% in that same time period, to \$420 per subscriber. JPMorgan at 70 (Charts 43, 44).

¹² *Id.*

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Hughes or EchoStar has today. The combined base of satellite video subscribers is in excess of 16 million. Current satellite video subscribers are more likely to subscribe to satellite broadband services than other households because they have already demonstrated the ability and willingness to place the necessary equipment on their houses. Moreover, they already have a clear line-of-sight to the geostationary orbital arc. Furthermore, the ability to bundle and sell a combined video and broadband service should provide the opportunity to attract entirely new customers.

22. The monthly service charge also contains elements of the cost of operating network control centers, call centers, customer service, and billing/collection. The merger would allow the combined company to consolidate the functions and facilities of what otherwise would be separate network operations, call centers, customer service, and billing/collection functions, and thereby achieve significant savings in operational expenses, and potentially in up-front capital expenditures as well. Moreover, the combined company might be able to eliminate redundant back-up satellite capabilities that ensure service continuity in the case of satellite or other network failures.

IV. Response to Mr. Walter Morgan

23. Although the new Ka-band spot beam satellites offer substantially more capacity than the leased Ku-band transponders that HNS and Starband use today, neither company acting alone would be able to serve the numbers of subscribers posited by Mr. Walter Morgan in his Declaration in support of NRTC's Petition to Deny.

24. Among other errors, Mr. Morgan incorrectly assumes that SPACEWAY has a full 1000 MHz of uplink and downlink capacity available to it in each orbital slot.¹³

¹³ See Morgan Decl. at 36.

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In fact, 280 MHz of this spectrum is unavailable for provision of ubiquitous broadband services because it must be shared with fixed terrestrial users, and cannot be blanket licensed the way that today's Ku band VSATs are licensed. This problem, in conjunction with the fact that the SPACEWAY design and system architecture is built around 500 MHz downlink carriers, effectively leaves SPACEWAY with only 500 MHz of usable spectrum in each direction at each of its licensed orbital locations.

25. Similarly, Mr. Morgan wrongly assumes that EchoStar has 1000 MHz available to it in each of its two orbital slots.¹⁴ The FCC has licensed EchoStar only 500 MHz of Ka band spectrum in each direction at 83° and 121° W.L. As for EchoStar's 113° W.L. orbital location, the same problems that SPACEWAY has with terrestrial use of 280 MHz of spectrum, and the unavailability of blanket licensing in that band, limit the bandwidth available for ubiquitous consumer services.

26. Mr. Morgan makes another fundamental mistake by grossly overstating the number of subscribers that could be served in the Ka band spectrum that is available. Mr. Morgan wrongly relies on *dial-up* subscriber usage statistics.¹⁵ These figures simply do not apply to *broadband* users, who spend substantially more time online, and are much more likely to watch movie trailers, watch streaming video, listen to streaming audio and download software on demand.¹⁶ Thus, Mr. Morgan's assumption of an

¹⁴ *Id.*

¹⁵ *See id.* at 38.

¹⁶ *See @Home Study: Broadband Users Surf More*, SkyREPORT.com Daily E-News, Oct. 6, 2000. According to the study, broadband consumers spend 55 percent more time on line, compared to narrowband users. They are also more likely to watch movie trailers (46 percent broadband vs. 18 percent dial-up); watch streaming video (58 percent broadband vs. 31 percent dial-up); listen to streaming audio (52 percent broadband vs. 31

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average busy hour demand of 2.75 kbps per subscriber is flawed. As a result of these errors and others, Mr. Morgan substantially overstates the number of broadband subscribers that each company could serve.

V. Response to Mssrs. Rusch and Morgan on Local Channel Issues

27. Finally, based upon my experience working on a variety of satellite projects at Lockheed Martin and Loral, I have reviewed the satellite design proposals of Mssrs. Rusch and Morgan that purport to identify satellites that could be feasibly deployed by either DIRECTV or EchoStar as a means of offering local channel service to every Designated Market Area in the United States. I have also reviewed the Declaration of Dr. Richard Barnett, also submitted today by the Applicants in support of the merger. I agree with Dr. Barnett's assessment that these proposals are mere concepts and rigorous analysis of their performance is distinctly lacking, and that these proposals present very challenging technical, cost and other business issues. In my opinion, a reasonably prudent DBS operator would not assume the risk of building such a satellite in light of those problems.

percent dial-up); and get software on demand (48 percent broadband vs. 30 percent dialup).

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I declare, under penalty of perjury, that the foregoing is true and correct to the best of my knowledge, information and belief.

/s/

Arnold Friedman

February 26, 2002

Table of Contents**Important Channel and Rate Information!**

December 2001

Dear Comcast Customer:

Comcast of Alexandria is committed to providing the highest quality entertainment and service to our customers. This summer FX was added to the Basic Plus service on Ch 63. FX began offering NASCAR and Winston Cup Races in 2001.

There will be some additional programming changes effective February 1. A summary of these changes follows.

Channel Additions:

Outdoor Life-New Basic Plus Service Ch 68.

Discovery Health-New Basic Plus Service Ch 67.

CSPAN 3-New Comcast Digital Service Ch 105.

ESPN Classic-New Comcast Digital Tier Service Ch 103.

Channel Moves:

Spice (Adult PPV) will move from Ch 77 to Digital Ch 251.

TEN (Adult PPV) will move from Ch 78 to Digital Ch 78.

Encore will move from Ch 67 to Digital Ch 150.

Sundance will move from Ch 68 to Digital Ch 165.

Channel Changes:

ESPNNews (Ch 102), SoapNet (Ch 120), Nick Games and Sports (Ch 133) and VHI Classic (Ch 143) will be carried on Comcast's Digital Classic service.

As a result of increased programming charges and other operational expenses, the rates for your cable service and other associated cable charges are changing effective February 1, 2002.

PREMIUM & SPECIALTY SERVICES

| Service | Current Monthly Charge | New Monthly Charge |
|---|------------------------|--------------------|
| HBO Current Customers | \$11.20 | \$12.95 |
| HBO New Customers | \$11.20 | \$14.95 |
| Starz! (Digital Service Only) | \$11.20 | \$11.35 |
| Cinemax | \$11.20 | \$11.35 |
| Showtime | \$11.20 | \$11.35 |
| The Movie Channel | \$11.20 | \$11.35 |
| ANA (Arab-Network) | \$11.20 | \$11.35 |
| Canales (digital service only) | \$10.95 | \$10.95 |
| Analog Service per premium per A/O | \$4.95 | \$4.95 |
| Digital Service duplicate premium package per A/O | \$4.95 | \$4.95 |

SERVICE FEES

| Service | Current Monthly | New Monthly |
|---------|-----------------|-------------|
|---------|-----------------|-------------|

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| | <u>Charge</u> | <u>Charge</u> |
|--|---------------|---------------|
| Limited Basic | \$12.26 | \$12.26 |
| Expanded Basic (Tier One) (not sold separately) | \$23.78 | \$25.91 |
| Basic Plus (includes Limited Basic and Tier One) | \$36.04 | \$38.17 |
| Basic Plus on Additional Outlets | No charge | No charge |
| Pay Per View Movies* | \$3.99 | \$3.99 |
| Pay Per View Adult Programming* | \$9.99 | \$9.99 |
| Monthly Cable Guide | \$1.50 | \$2.75 |

*PPV billed per use

www.comcast.com

LetterM

Table of Contents**ONLINE SERVICES**

| Service | Current Monthly Charge | New Monthly Charge |
|--|------------------------|--------------------|
| Comcast High Speed Internet (Basic Cable Customers) | \$39.95 | \$39.95 |
| Modem Rental | \$5.00 | \$5.00 |
| Comcast High Speed Internet (No Basic Cable Service) | \$44.95 | \$54.95 |

DIGITAL SERVICES

| Service | Current Monthly Charge | New Monthly Charge |
|---|------------------------|--------------------|
| Comcast Digital Classic | \$9.95 | \$9.95 |
| Optional Digital Channels (Cannot be sold separately) | \$5.00 | \$5.00 |

EQUIPMENT

| Service | Current Monthly Charge | New Monthly Charge |
|---|------------------------|--------------------|
| Digital Converter | \$3.77 | \$3.77 |
| Analog Addressable Converter | \$3.77 | \$3.77 |
| Analog Non Addressable Converter | \$2.74 | \$2.74 |
| Analog Remote Control one time purchase | \$7.40 | \$7.40 |
| Lost or Damaged Digital Remote per occurrence | \$16.95 | \$16.95 |
| A/B Switch VCR one time purchase | \$14.95 | \$14.95 |
| A/B Switch Antenna one time purchase | \$49.95 | \$49.95 |

TRANSACTION CHARGES

| Service | Current Per Occurrence | New Per Occurrence |
|--|------------------------|--------------------|
| Activation (Prewired home installation) | \$22.14 | \$22.14 |
| New Installation (Unwired home installation) | \$30.04 | \$30.04 |
| Install A/O (same trip) | \$12.65 | \$12.65 |
| Install A/O (separate trip) | \$14.23 | \$14.23 |
| Transfer Service to New Residence | \$22.14 | \$22.14 |
| Change of Services | \$10.00 | \$10.00 |
| Late Fees | \$3.00 | \$3.00 |
| Return Check Fee | \$25.00 | \$25.00 |
| Home Service Call (VCR hookups, TV tuning, etc.) | \$18.97 | \$18.97 |
| Same Day Install/Service Call | \$50.00 | \$50.00 |
| Relocates | \$23.72 | \$23.72 |
| Unreturned Equipment (per set) Analog | \$300.00 | \$300.00 |
| Unreturned Equipment (per set) Digital | \$800.00 | \$800.00 |

Rates exclude franchise and FCC fees and taxes

Additional costs may be incurred for custom installs

Alexandria

Current And New Rates and Service Charges

Effective February 1, 2002

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Thank you for choosing Comcast for your cable services. We hope to provide you with many years of quality service. Please contact our customer service department at 703-823-3000 when we can be of service.

Sincerely,

Kirby Brooks
Vice President and General Manager
Comcast Communications

EchoStar-DIRECTV Merger Benefits

Satellite Application - February 25, 2002

TECHNICAL ANNEX

NEW ECHOSTAR 1 (USABSS-16)

SYSTEM DESCRIPTION AND INTERFERENCE ANALYSES

February 2002

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NEW EHOSTAR 1 SYSTEM DESCRIPTION

OVERVIEW

This section provides a brief technical description of the NEW EHOSTAR 1 satellite for the 110° W.L. orbital position. NEW EHOSTAR 1 (USABSS-16) is a 3-axis stabilized 10 kW class spacecraft available from Boeing, Lockheed or Loral designed to provide U.S. domestic broadcast satellite service. NEW EHOSTAR 1 contains an active attitude and position control subsystem, a telemetry, command and ranging subsystem, a thermal control subsystem, and an electrical power subsystem.

The repeater consists of 54 spot-beam transponders, each with 24 MHz of usable bandwidth. Uplink frequencies will be in the 17.3-17.8 GHz band, and downlink frequencies in the 12.2-12.7 GHz band. When paired with existing and planned satellites, Echostar 7 and Echostar 8, DIRECTV 4S and DIRECTV 7S, NEW EHOSTAR 1 will enable New Echostar to make the most efficient use of its existing capacity in order to deliver local broadcast channels to all DMAs in the United States. During the time period between the approval of the merger and the transition to one service platform, the satellites will continue to serve the currently existing and planned markets. After the service rationalization and before the launch of NEW EHOSTAR 1, additional markets can begin to be rolled out taking best advantage of the redundant coverage of the existing satellites.

The NEW EHOSTAR 1 satellite will use QPSK modulation in either the DIRECTV or DVB format (see Rec. ITU-R B.O.1294 System A or System B). Receivers will use 45 cm antennas or 45 x 56 cm antennas, except as noted. Transmissions will consist of multiplexed video, audio, and data services in each transponder. All transponders will have a 24 MHz bandwidth.

NEW EHOSTAR 1 will be placed in the 110° W.L. orbital position collocated with other existing satellite assets of New EchoStar. The satellite design will meet its performance requirements for an operational lifetime of more than 15 years including 100% eclipse operation. The satellite will comply with all international laws and regulations pertaining to the operation of such a space system.

COMMUNICATIONS PAYLOAD

The NEW EHOSTAR 1 payload uses 38 separate spot beams on eight frequencies (channels) to provide up to 54 RF transponders to selected geographic regions. Depending on the particular characteristics of the region, the power in the spot-beam transponders varies from approximately 46 watts to 65 watts. The 54 transponders reuse eight of the defined 32 channels in the BSS Region 2 Plan. The average reuse of frequencies is approximately seven.

Frequency reuse is also employed on the feeder link. Programming material to feed the spot beams is transmitted on up to 32 BSS feeder link channels. Programming is transmitted

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simultaneously from two distinct feeder link sites located in Los Angeles, CA and Cheyenne, WY.

Thirty-eight distinct spot beams provide service to the US DMAs not previously covered by New EchoStar's other spot-beam satellites, Echostar 7 and Echostar 8, and DIRECTV 4S and DIRECTV 7S, while limiting interference into adjoining spot beams and maximizing the frequency reuse. Once all the New Echostar satellite assets are in place, there will exist some in-orbit capability to backup failures of the operational satellites.

The NEW ECHOSTAR 1 satellite will use the BSS Region 2 frequency plan. Tables 1 and 2 show the spot beam frequency reuse plan for the downlink and feeder link. Telemetry and command frequencies are provided in Table 3.

Table 1. NEW ECHOSTAR 1 Downlink Frequency Plan

| BSS Downlink Channel | Spot Beam No. |
|-----------------------------|-------------------------------------|
| 18 | Spots: 2, 5, 14, 16, 20, 23, 31, 33 |
| 20 | Spots: 2, 3, 21, 26, 28, 34, 36 |
| 22 | Spots: 11, 18, 21, 26, 29, 30, 38 |
| 24 | Spots: 1, 8, 17, 25, 27, 30, 37 |
| 26 | Spots: 7, 13, 15, 22, 27, 36 |
| 28 | Spots: 4, 21, 24, 26, 32, 34, 35 |
| 30 | Spots: 1, 9, 10, 22, 31, 33 |
| 32 | Spots: 6, 12, 19, 22, 28, 31, 38 |

Table 2. NEW ECHOSTAR 1 Feeder Link Frequency Plan

| BSS Feeder Link Channel | Feed |
|--------------------------------|-------------|
| 1 - 31 ODD | Spot Beam |
| 2 - 32 EVEN | Spot Beam |

Table of Contents**Table 3. NEW ECHOSTAR 1 T&C Frequency and Polarization Plan**

| | Frequency, MHz | Polarization |
|--------------------------------|-----------------------|---------------------|
| Command Transfer Orbit | 17300.50 | RHCP |
| Command On-Station | 17300.50 | RHCP |
| Command On-Station Back up | 17797.50 | RHCP |
| Telemetry 1 Transfer Orbit | 12698.75 | RHCP |
| Telemetry 1 On-Station | 12698.75 | LHCP |
| Telemetry 1 On-Station Back up | 12698.75 | RHCP |
| Telemetry 2 Transfer Orbit | 12699.75 | RHCP |
| Telemetry 2 On-Station | 12699.75 | RHCP |
| Telemetry 2 On-Station Back up | 12699.75 | RHCP |

ITU RADIO REGULATIONS ANNEXES

Appendices to this Technical Annex will provide the necessary showings for compliance to Radio Regulations Annex 1 of Appendices S30 and S30A. This information will be delivered to the Commission within seven days from the date of this filing. Due to the complexity of the NEW ECHOSTAR 1 satellite design, a detailed MSPACE analysis (Section 2 of Annex 1 to Appendix S30 and Section 4 of Annex 1 to Appendix S30A) will be provided at a later date.

Satellite and feeder link characteristics are provided in accordance with Annex 2 of Appendices S30 and S30A. This information will be delivered to the Commission within seven days from the date of this filing.

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SUMMARY

The merger of EchoStar and Hughes to create New EchoStar presents consumers with numerous benefits: more services; more choices; competitive pricing; and a viable alternative to entrenched cable companies. The merger implicates no Commission rule, is consistent with the Communications Act, and will serve the public interest.

The merger will free up spectrum currently used by the two companies because duplicative programming will be eliminated. As a result:

New EchoStar will offer significantly more local-into-local programming, up from a total of 42 major metropolitan areas now served by one or the other company (36 served by ECC and 41 served by DIRECTV, with 35 areas overlapping) to 100 or more, accounting for at least 85 percent of American households. This will significantly increase competition with cable companies in those areas.

The reclaimed spectrum will enable New EchoStar to offer greatly expanded high-definition television programming, pay-per-view and video-on-demand services, educational, specialty, and foreign language programming and other new and improved product offerings, including interactive services. DBS will have the ability to go head-to-head in competition with cable companies.

The merger will allow New EchoStar to provide meaningful broadband competition with cable and telephone companies as a virtual third line into the home for a bundle of video/data/Internet services. Competitively priced, high-speed Internet access via satellite will particularly benefit those in rural areas without access to cable modem service or DSL.

Consumers will have a real, fully competitive alternative to cable. Although DBS has historically offered a price/quality package that was superior to cable's packages, it has not been able to restrain cable's regular price increases because of its inability to offer many local broadcast stations and other desirable programming resulting from limited capacity. The current duplicative use of the DBS spectrum has become a debilitating handicap due to recent

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developments, including the advent of digital cable and satellite must-carry. By eliminating these disadvantages, the merger will force cable firms to react competitively to DBS in ways that they have not had to in the past. Competition will translate into further benefits to consumers:

Benefits for rural Americans. In addition to enhanced broadband options, rural consumers will benefit from the vigorous competition between New EchoStar and cable systems in urban areas because DBS prices will be the same throughout the U.S., whether the market is urban or rural. This will transmit urban competitive dynamics into rural areas.

Benefits for cable customers. With the increase in competition from DBS, cable will be forced to improve its own products, pricing service and overall quality. Thus, even cable customers will benefit from the enhanced competition among multi-channel television and Internet access providers.

The merger will also contribute to the diversity of independent programming voices, as it will create a significant multi-channel distributor that has no strategy of vertical integration with programmers. With the spectrum that will be freed up by the combination, New EchoStar can serve as an attractive potential outlet for independent programmers.

In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC's website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from General Motors. Such documents are not currently available.

General Motors and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM's solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

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This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, Hughes, EchoStar, or a combined EchoStar and Hughes, to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all; (3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimate, projects, potential, expects, plans, anticipates, intends, continues, forecast, designed, goal, or the negative of those words or o words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

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- D. EchoStar Communications Corporation Ownership Structure (Pre-Merger), Principle Ownership List and List of Subsidiaries
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VOLUME II

Agreement and Plan of Merger by and between EchoStar Communications Corporation and Hughes Electronics Corporation (October 28, 2001)

Implementation Agreement by and among General Motors Corporation, Hughes Electronics Corporation and EchoStar Communications Corporation (October 28, 2001)

Separation Agreement by and between General Motors Corporation and Hughes Electronics Corporation (October 28, 2001)

Stock Purchase Agreement Among EchoStar Communications Corporation, Hughes Electronics Corporation, Hughes Communications Galaxy, Inc., Hughes Communications Satellite Services, Inc. and Hughes Communications, Inc. (October 28, 2001)

VOLUME III

Transfer of Control Applications for Licenses Controlled by EchoStar Communications Corporation

VOLUME IV

Transfer of Control Applications for Licenses Controlled by Hughes Electronics Corporation

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company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimates, projects, potential, plans, anticipates, intends, continues, forecast, designed, goal, or the negative of those words or other comparable words to be uncertain forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

| | | |
|---|---|-----------------|
| <i>Application of</i> |) | |
| |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION, |) | |
| GENERAL MOTORS CORPORATION, |) | |
| HUGHES ELECTRONICS CORPORATION, |) | |
| |) | |
| Transferors, |) | File Nos. _____ |
| |) | |
| and |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION, |) | |
| |) | |
| Transferee, |) | |
| |) | |
| For Authority to Transfer Control. |) | |

**CONSOLIDATED APPLICATION FOR AUTHORITY
TO TRANSFER CONTROL**

Gary M. Epstein
James H. Barker
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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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| <i>Application of</i> |) | |
| |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION |) | |
| GENERAL MOTORS CORPORATION |) | |
| HUGHES ELECTRONICS CORPORATION, |) | |
| |) | |
| Transferors, |) | File Nos. _____ |
| |) | |
| and |) | |
| |) | |
| ECHOSTAR COMMUNICATIONS CORPORATION, |) | |
| |) | |
| Transferee, |) | |
| |) | |
| For Authority to Transfer Control. |) | |
| |) | |

**CONSOLIDATED APPLICATION FOR AUTHORITY
TO TRANSFER CONTROL**

EchoStar Communications Corporation (*ECC*), General Motors Corporation (*GM*) and Hughes Electronics Corporation (*Hughes*), a subsidiary of GM (collectively, the *Merger Parties* or *Applicants*), have agreed to a merger and series of related transactions that will create an integrated, full-service satellite company better able to compete effectively with dominant cable operators in the multichannel video programming distribution (*MVPD*) market. The Merger Parties hereby request the Commission's consent, in accordance with Sections 214 and 310 of the Communications Act of 1934, as amended,¹ to transfer control of the satellite, earth station, and other related authorizations held by their wholly- or majority-owned

¹ 47 U.S.C. §§ 214, 310 (1994 & Supp. V 1999).

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subsidiaries to Hughes (or a newly formed holding company above Hughes that will hold all of the capital stock of Hughes, also referred to as Hughes²). The merged entity will have a new ownership structure and will be renamed EchoStar Communications Corporation (New EchoStar³). The proposed license transfers will result from the split-off of Hughes from GM, the merger of ECC into Hughes, and the transfer of Hughes indirect majority equity stake in PanAmSat Corporation (PanAmSat), either to New EchoStar through the merger, or to ECC through a separate purchase of Hughes indirect stake in PanAmSat in the event the merger agreement is terminated under certain circumstances (the PanAmSat Purchase⁴). The Merger Parties request that approval of these transfers be granted expeditiously.

² Although the Implementation Agreement and Merger Agreement (as defined below) call for ECC to merge with and into Hughes Electronics Corporation and for Hughes Electronics Corporation (renamed EchoStar Communications Corporation) to be the top level entity in the post-merger ownership structure, GM has the ability under those agreements to (and the Merger Parties currently expect that GM will) form a new subsidiary (which is expected to be a Delaware Corporation named HEC Holdings, Inc.) and contribute all of the capital stock of Hughes Electronics Corporation to HEC Holdings, Inc. prior to the split-off and the merger. The effect of this transaction would be to insert an additional corporation above Hughes Electronics Corporation in the post-split-off and post-merger ownership structure, to substitute HEC Holdings, Inc. for Hughes Electronics Corporation as the merger partner with ECC and to substitute HEC Holdings, Inc. (renamed EchoStar Communications Corporation) for Hughes Electronics Corporation as the top level entity in the post-merger ownership structure. However, this transaction would have no practical impact on the rights of the parties or the Commission's review of the transaction because HEC Holdings, Inc. would have a governance structure identical to that described herein for the merged entity and the post-merger, and because relative percentage holdings of the capital stock of HEC Holdings, Inc. by the current ECC shareholders, the GM Class H shareholders and GM would remain the same.

³ Attachment C hereto provides a consolidated list of authorizations to be transferred and the entities that currently hold them.

⁴ These transactions are the subject of a definitive Agreement and Plan of Merger dated October 28, 2001 between ECC and Hughes (Merger Agreement), a Stock Purchase Agreement between ECC, Hughes, and several Hughes entities regarding

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I. INTRODUCTION

When measured against various components of the Commission's public interest standard, the proposed merger of ECC and Hughes is consistent with all relevant Commission rules and policies, and will result in extraordinary, affirmative public interest benefits. It will advance the Commission's core policies in favor of a more competitive video marketplace, efficient use of scarce spectrum and satellite resources, and the provision of advanced broadband services to all Americans.

Unfortunately for consumers, today's MVPD market remains dominated by cable operators, which hold a share of about 80%. As described in the attached Declaration of Dr. Robert D. Willig,⁵ New EchoStar will become an integrated, full-service satellite company that can contend with cable systems and create the kind of vigorous competition that will benefit all Americans. In the process, the merger will allow the combined company to provide many other public benefits that Congress and the Commission have been striving for years to achieve.

One of the most compelling efficiencies of the ECC-Hughes merger will be the elimination of a major restraint on the ability of Direct Broadcast Satellite (DBS) operators to compete with cable systems in the MVPD market—duplicative use of the

Hughes' stake in PanAmSat (PanAmSat Stock Purchase Agreement), and several related agreements executed on the same date. The Merger Agreement and the PanAmSat Stock Purchase Agreement are conditioned, among other things, on approval of the transfers proposed herein. See Volume II of the Application for copies of each of these merger-related agreements and the PanAmSat Stock Purchase Agreement.

⁵ Declaration of Dr. Robert D. Willig on Behalf of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation (Willig Decl.) (appended hereto as Attachment A). The Willig Declaration, among other matters, sets forth an analysis of the relevant market for this transaction, *see id.* at ¶¶ 7-18.

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radio spectrum that the Commission has allocated for DBS service. Currently, ECC and Hughes subsidiary DIRECTV, Inc. (DIRECTV) use different portions of the DBS spectrum, each with its own expensive satellite fleet, each to provide overlapping programming services the same HBO channels, the same CNN channels, in most cases the same local network channels to the same local metropolitan areas and, starting in January 2002, even many of the same home shopping local channels in the same local areas.⁶

Today, like never before, this spectrum inefficiency has become a potentially debilitating competitive impediment for DBS providers due to a combination of factors, including the imposition of satellite mandatory carriage obligations, the advent of digital cable services and the new bandwidth that going-digital gives to cable operators. The merger will eliminate the inefficient duplicative use of the DBS spectrum and liberate DBS capacity that will be used to facilitate the offering of new and expanded programming choices to consumers, ultimately introducing more meaningful competition to cable systems.

One dramatic example of this effect will be the addition of more satellite-delivered local broadcast channels to more local metropolitan areas. New EchoStar will provide local broadcast programming to far more metropolitan areas 100 or more compared to the 36 and 41 metropolitan areas (with an overlap of 35) served respectively by ECC and DIRECTV now.⁷ This dramatic expansion of the number of local channels

⁶ See Joint Engineering Statement in Support of Transfer of Control Application, at 8-9 (Attachment B hereto) (Joint Engineering Statement).

⁷ *Id.* at 9.

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that can be carried on a DBS system will allow New EchoStar to compete more vigorously against the cable industry's carriage of local broadcast television channels in more U.S. metropolitan areas and also help achieve Congress's goal of broad-based local television service by satellite, as reflected in the Satellite Home Viewer Improvement Act of 1999 (SHVIA⁸).

There will be other significant consumer benefits resulting from the expanded programming choices delivered by New EchoStar, as well. The merged entity will provide consumers with many more programming choices than each company is able to offer standing alone, including the bandwidth-intensive high definition programming that will encourage consumer adoption of digital television equipment. The merger also will bring significantly more programming and a better quality DBS service to Americans living in rural areas, as well as in the states of Alaska and Hawaii, than would be achievable by each company operating independently.⁹

Moreover, there will be no anticompetitive MVPD market effects associated with the proposed transaction. As Dr. Willig observes, the characteristics of the MVPD market in general and of DBS firms in particular make it very unlikely that . . . [this merger] will result in higher prices and lower output through either coordinated behavior among participants in the MVPD market or unilateral behavior by the merged firm.¹⁰ And in response to concerns regarding the merger's possible effects on rural consumers, Dr. Willig notes that the expansion of programming and new services that

⁸ Act of Nov. 29, 1999, Pub. L. No. 106-113, § 1008, 113 Stat. 1501, Appendix I (1999) (codified in scattered sections of 47 U.S.C. and 17 U.S.C.).

⁹ Joint Engineering Statement at 10.

¹⁰ Willig Decl. at ¶ 6.

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will be made available to these consumers, combined with New EchoStar's commitment to maintain uniform national pricing for DBS services, renders it more likely that the merger would be of distinct benefit to rural TV households than that it would diminish competition available to them.¹¹

The proposed merger also will have positive effects in the programming market. Unlike most large cable operators, ECC has no ownership stake in any programming producer, and the Merger Parties do not intend to pursue a strategy of vertical integration with programmers post-merger. With the spectrum that would be freed up by this transaction, New EchoStar will have both the ability and the incentive to serve as an important outlet for promoting the development of new independent programming services. Furthermore, as Dr. Willig observes, the approximately 15 million subscribers of the combined entity should provide an attractive platform for launching new programs, providing an interested programmer with a large percentage of the subscribers it would need to create a viable network.¹²

The merger will also dramatically aid New EchoStar in its efforts to introduce nationwide competition to broadband products and bring true broadband services to rural and underserved areas—another respect in which the effect of this transaction is aligned with Congress's and the Commission's objectives and the public interest. The bandwidth advantage of digital cable systems has allowed cable operators to bundle their traditional video offerings with high-speed Internet access, a package that

¹¹ *Id.* at ¶ 40.

¹² *Id.* at ¶ 42. This estimate of the combined subscriber base of New EchoStar excludes the subscribers of the National Rural Telecommunications Cooperative and its affiliate entities who receive DIRECTV programming.

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consumers increasingly demand. The current transitional broadband products of ECC and Hughes are struggling to achieve a critical mass of subscribers using Ku-band satellite platforms that are not optimized for broadband services. The next-generation Ka-band broadband satellite systems will be optimized for very high speed Internet services, but are also highly capital-intensive, being the first generation of commercial spacecraft to operate in these frequencies.

The proposed combination will allow New EchoStar to proceed with prompt and robust broadband deployment in the Ka-band by spreading the high fixed costs of deployment over a critical mass of broadband subscribers and achieving an offering that combines a competitive price and a reasonably short time to market. Each company standing alone would face significantly greater challenges in accomplishing those objectives within the time frame that is necessary to effectively compete with cable's bundled broadband offering of high speed Internet access products. The creation of New EchoStar will resolve the inefficiencies and uncertainties that would arise if both companies were faced with replicating investments in satellite platforms and will eliminate the spectrum inefficiencies that would exist if each company, in its own right, conducts duplicative multicasting and broadcast-type IP services. New EchoStar, by contrast, will have the significantly greater wherewithal to construct the type of advanced, high-capacity, cost-effective space platform to offer competitive, next generation high-speed Internet access nationwide including to areas served neither by cable nor other broadband offerings that are essential if the satellite technology is to

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have any chance of competing with the bundled video/IP services offered by cable companies.¹³

The potential consumer benefits of maximizing New EchoStar's prospects in the Ka-band are extremely significant for rural areas as well. In those areas, the New EchoStar Ka-band system will be an important element in bridging the digital divide because it can provide the same high-quality advanced Internet and IP services to rural subscribers and to subscribers in urban and suburban areas.

The acquisition of PanAmSat either by New EchoStar or ECC¹⁴ is in the public interest as well. Significant benefits to consumers will result from combining the Fixed-Satellite Service (FSS) resources of ECC and Hughes to bring broadband satellite services to market faster. The transaction will not create any significant overlap in the provision of FSS services in the same product and geographic markets that should raise any concern, as ECC does not currently provide any telecommunications services of the same type as PanAmSat in the United States or elsewhere.

The proposed merger marks the conclusion of a long and careful search on the part of GM and Hughes for the optimal merger partner for Hughes. GM and Hughes have chosen ECC as that partner, in large part due to the extraordinary spectrum efficiencies and cost and revenue synergies promised by the proposed merger. These benefits cannot be realized unless and until this proposed transaction is consummated.

¹³ Joint Engineering Statement at 14-16.

¹⁴ As noted above, Hughes' interest in PanAmSat will either be transferred to New EchoStar through the merger or transferred through a separate purchase by ECC of Hughes' interest in the event the merger agreement is terminated under certain circumstances.

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Accordingly, the Applicants respectfully request that this consolidated Application be granted as expeditiously as possible.

This consolidated Application consists of a narrative description of the parties and the transaction, including a discussion of the public interest benefits of the transaction, along with several attachments containing the completed FCC forms and other materials. Each FCC form and its associated exhibits and filing fee have been filed separately in accordance with the Commission's Rules. Following the closing of the transactions, the Applicants will supplement all pending applications under the Commission's Rules, 47 C.F.R. § 1.65 (2000), to reflect the new party in interest. To the extent that any pending applications, or any other applications for new facilities or for renewal or modification of existing facilities, are granted prior to the closing of this transaction, the Merger Parties request a determination by the Commission that the grant of this Application includes authority for New EchoStar to acquire control of any subsequently granted authorizations.

A. *Description of the Parties*

1. ECC and its Present Affiliates

ECC was started more than twenty years ago when its Chairman and CEO, Charles W. Ergen, entered the satellite television business as a distributor of C-band television satellite systems under the name Echosphere. Since its founding, ECC has earned a reputation as an innovator in the satellite television business by achieving a number of significant firsts, including: development of the first UHF remote control; the first nationwide installation network dedicated solely to satellite television systems; and

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the first company to offer an Integrated Receiver Descrambler for C-band satellite television.

ECC was granted authorization to use the 119° W.L. orbital location in 1992.¹⁵ ECC launched its first satellite to that location in December 1995,¹⁶ and has provided continuous DBS service to customers throughout the continental United States since early 1996. Also in 1995, the Commission approved ECC's acquisition of control over Directsat Corporation, which launched its first satellite to the 119° W.L. orbital location in September 1996. The combination allowed ECC, upon acquiring Directsat, to integrate the two satellites into an offering of about 125 video channels.¹⁷ Since that time, ECC has deployed four additional satellites, including one to the 110° W.L. orbital slot after the Commission's 1999 approval of ECC's acquisition of the authorization held jointly by MCI Telecommunications Corp. and The News Corporation Limited (News Corp.).¹⁸ ECC's subsidiaries hold several DBS authorizations and own and operate six operational DBS satellites located at the 61.5° W.L., 110° W.L., 119° W.L., and 148° W.L. orbital positions.¹⁹ Through its DISH Network brand, ECC is now a provider of DBS television services in the United States to more than 6 million subscribers. ECC is

¹⁵ See *EchoStar Satellite Corporation*, 7 FCC Rcd. 1765 (1992).

¹⁶ See *EchoStar Satellite Corporation*, 11 FCC Rcd. 3015, 3015 (Int'l Bur. 1996).

¹⁷ See *Directsat Corporation*, 11 FCC Rcd. 10575, 10577 (1996); see also *Directsat Corporation and EchoStar Communications Corp., Application for Commission Consent to Transfer of Control*, 10 FCC Rcd. 88 (1995).

¹⁸ *In re Application of MCI Telecommunications Corp. and EchoStar 110 Corp., For Consent to Assignment of Authorization to Construct, Launch and Operate a Direct Broadcast Satellite System Using 28 Frequency Channels at the 110° W.L. Orbital Location*, FCC 99-109, 15 Communications Reg. (P&F) 1038 (1999) (MCIT).

¹⁹ See Attachment C for a list of ECC authorizations.

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also an international supplier of digital satellite receiver systems and a provider of other satellite services.

ECC continues to upgrade its fleet of satellites. EchoStar 7, its seventh DBS satellite, equipped with state-of-the-art spot-beam technology, is scheduled to launch soon. ECC plans to launch an additional spot beam satellite, EchoStar 8, in the year 2002. ECC also has Commission authorizations for Ku-band and Ka-band FSS systems. ECC's first FSS satellite, a hybrid Ku-band/Ka-band satellite, is expected to be launched in 2002.

In addition, ECC currently holds an approximate 32% percent interest in StarBand Communications, which began offering consumers a two-way, always-on, high-speed Internet access service along with DISH Network programming in November 2000. ECC also holds less than 20 percent interests in Wildblue Communications, Inc. and Celsat America, Inc., both of which hope to offer a similar high-speed Internet service from Ka-band satellites in the future. The Commission recently approved the acquisition by an ECC subsidiary of a controlling interest in VisionStar, Inc., another Ka-band licensee.²⁰ This transaction is expected to close shortly.

Attachment D contains a chart summarizing the relevant ECC ownership structure prior to the proposed transaction.

²⁰ *In the Matter of Application of VisionStar, Inc. and EchoStar VisionStar Corp. for Consent to Transfer of Control Over Authorization to Construct, Launch and Operate a Ka-band Satellite System in the Fixed-Satellite Service at the 113° W.L. Orbital Location*, File No. SAT-T/C-20001215-00163, DA 01-2481 (Int'l Bur. rel. Oct. 30, 2001).

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2. The GM and Hughes Parties

Hughes, a Delaware corporation, is a wholly-owned subsidiary of GM, which is also a Delaware corporation.²¹ Hughes is the corporate parent of several other companies that provide specialized communications services to a wide range of end users. Hughes directly owns all of the issued and outstanding stock of DIRECTV Enterprises, Inc., a Commission DBS licensee.²² In addition, Hughes controls various Commission licenses and authorizations through various other subsidiaries that are directly or indirectly wholly owned, including Hughes Communications, Inc.; Hughes Communications Galaxy, Inc.; Hughes Communications Satellite Services, Inc.; Hughes Global Services, Inc.; HOT Telecommunications, Ltd.; and USSB II, Inc.²³ Hughes

²¹ As discussed herein, GM has created a publicly-traded tracking stock of GM (GM Class H common stock) designed to provide holders with financial returns based on the financial performance of GM's wholly-owned Hughes subsidiary.

²² DIRECTV Enterprises, Inc. (DTVE, Inc.) is filing contemporaneously with this Application several applications for consent, *inter alia*, to the *pro forma* assignment of certain Commission licenses held by DTVE, Inc. and certain of its subsidiaries to a new Delaware limited liability company, DIRECTV Enterprises, LLC. Those applications are intended to obtain Commission consent to the conversion of DTVE, Inc. from the corporate form of organization to the limited liability company form of organization under Delaware law. It is anticipated that this *pro forma* assignment to DIRECTV Enterprises LLC will occur, upon Commission consent, well in advance of, and without regard to, the transactions contemplated by this Application. Thus, the attached organizational chart and the attached Form 312s reflect the consummation of that *pro forma* assignment.

²³ Hughes Network Systems, Inc. (New HNS), a new Delaware corporation wholly owned by Hughes, is filing contemporaneously with this Application several applications for consent, *inter alia*, to the *pro forma* assignment of certain Commission licenses held by Hughes and certain Hughes subsidiaries to New HNS. It is anticipated that this *pro forma* assignment to New HNS will occur, upon Commission consent, well in advance of, and without regard to, the transactions contemplated by this Application. Thus, the attached organizational chart and the attached Form 312s reflect the consummation of that *pro forma* assignment.

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indirectly holds an approximately 81% economic and voting interest in PanAmSat,²⁴ a publicly-traded Delaware corporation and Commission licensee.²⁵ Attachment E includes a chart summarizing the relevant GM/Hughes ownership structure prior to the proposed transaction.

DIRECTV launched the United States first DBS satellite in December 1993 and a second DBS satellite in August 1994.²⁶ In June 1995, DIRECTV launched a third high-power DBS satellite and in April and May 1999, the Commission authorized the transfer to DIRECTV of DBS assets and related authorizations held by United States Satellite Broadcasting Company, Inc. (USSB²⁷) and Tempo Satellite, Inc., respectively.²⁸ As a result of these transactions, DIRECTV currently provides service to U.S. consumers from five DBS satellites using 32 channels at 101° W.L., 3 channels at 110° W.L., and 11 channels at 119° W.L.²⁹ DIRECTV, together with certain independent distributors, now have approximately 10.3 million subscribers in the United States.³⁰

²⁴ PanAmSat has recently filed, an application for consent to the *pro forma* assignment of certain Commission licenses held by PanAmSat Corporation to its indirect wholly owned subsidiary, PanAmSat Licensee Corp. It is anticipated that this *pro forma* assignment to PanAmSat Licensee Corp. will occur, upon Commission consent, well in advance of, and without regard to, the transactions contemplated by this Application. Thus, the attached Form 312s reflect the consummation of that *pro forma* assignment.

²⁵ *Hughes Communications, Inc.*, 12 FCC Rcd. 7534 (1997).

²⁶ *United States Satellite Broadcasting Co.*, 7 FCC Rcd. 7247 (1992).

²⁷ *United States Satellite Broadcasting Co.*, 14 FCC Rcd. 4585 (Int 1 Bur. 1999).

²⁸ *Tempo Satellite, Inc.*, 14 FCC Rcd. 7946 (Int 1 Bur. 1999).

²⁹ DIRECTV voluntarily surrendered the DBS channels previously allocated to it at the 157° W.L. orbital location in May 1998. *See* Public Notice, Rep. No. SPB-127 (rel. June 10, 1998).

³⁰ Hughes also has interests in direct-to-home (DTH) satellite services in several other countries. For example, it holds a 74.7% interest in DIRECTV Latin America LLC,

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Hughes Network Systems (HNS), a division of Hughes, provides broadband satellite network solutions for businesses and consumers around the world. HNS s high-speed, satellite-based Internet access service is marketed globally under the DirecPC® and DIRECWAY® brands. The current satellite broadband services are provided using leased Ku-band transponders. HNS supplies mobile satellite networks and user terminals and manufactures DIRECTV satellite television receivers and set-top boxes. HNS is also responsible for designing and managing the development, deployment and operation of the Hughes SPACEWAY system, a next generation, Ka-band satellite platform that will provide new and advanced services for DIRECWAY customers, consumer and business alike. SPACEWAY is currently scheduled to begin North American service in 2003. DIRECTV Broadband, Inc. (formerly known as Telocity, Inc.) offers terrestrial high-speed DSL service across the country where DSL is available.

Directly and through its subsidiaries, PanAmSat owns and operates a fleet of 21 satellites around the world that operate in the FSS bands and a comprehensive system of teleports and terrestrial resources. PanAmSat carries programming for broadcasters and programmers to millions of households worldwide, provides Internet backbone support to Internet service providers, supports private business communications networks to corporations, and provides essential pipelines worldwide for telecommunications providers. PanAmSat and its subsidiaries hold various FCC satellite

which provides DTH pay television services throughout Latin America. The licenses for the services provided in foreign countries are not part of this Application.

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earth station licenses as well as Section 214 authorizations for the provision of international services.

3. New EchoStar

As described in more detail in Section B below, the transferee, New EchoStar, is Hughes Electronics Corporation (or a newly formed holding company above Hughes Electronics Corporation)³¹ with a new ownership structure that will result from the merger of ECC with and into Hughes after Hughes is split off from GM. New EchoStar will control indirectly the interests in all of the FCC licensees that are the subject of this Application, including Hughes' indirect interest in PanAmSat that is proposed to be transferred pursuant to the Merger Agreement. The new company will be renamed EchoStar Communications Corporation (for clarity, referred to herein as New EchoStar). After closing, New EchoStar will use the DIRECTV brand for all of its Direct-to-Home (DTH) consumer offerings. New EchoStar will have three classes of common stock. As of the closing of this transaction, Mr. Charles W. Ergen, ECC's controlling shareholder and a U.S. citizen, will be the Chairman and Chief Executive Officer of New EchoStar, and through a family trust, will be New EchoStar's largest individual shareholder, holding all of the outstanding shares of Class B common stock of New EchoStar, which would represent approximately 16.7% of the total shares of outstanding common stock (and an approximate 39% voting interest) in New EchoStar.³² The other ECC public shareholders at the time of the closing will receive shares of Class

³¹ See n. 2 above.

³² Certain matters will also require a separate class vote of the holders of the shares of Class B common stock of New EchoStar.

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A common stock representing approximately 24.3% of the economic interest (and approximately 5.7% of the voting interest) in New EchoStar (including newly issued shares and convertibles). GM potentially would retain (after giving effect to the Debt/Equity Exchange, (as defined below)) shares of Class C common stock representing an approximate 4.9% economic interest (and an approximate 4.6% voting interest) in New EchoStar while the GM Class H shareholders would own shares of Class C common stock representing an approximate 54.1% economic interest (and an approximate 50.7% voting interest) in New EchoStar.³³ Attachment F summarizes the relevant New EchoStar ownership structure post-merger.

B. Description of the Transactions

ECC and Hughes plan to merge their businesses in accordance with the Merger Agreement. This agreement, as well as an Implementation Agreement and a Separation Agreement (and various ancillary agreements contemplated thereby), set forth the transactions contemplated by the parties to effect the business combination. The PanAmSat Stock Purchase Agreement sets forth the terms under which ECC would purchase Hughes approximately 81% indirect interest in PanAmSat in the event the Merger Agreement is terminated under certain circumstances. The transactions will be accomplished in a series of interrelated steps, as follows.

³³ All of the economic and voting interest percentages above are estimated, as of the consummation of the merger, based on the recent trading prices of ECC common stock, and certain assumptions regarding the pre-merger issuance of new ECC equity securities, conversion of currently outstanding preference shares and other convertible securities, as well as the treatment of certain shares for federal income tax purposes.

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The Recapitalization and Split-off of Hughes. At present a tracking stock GM security related to Hughes operations is available to the public and is traded on the New York Stock Exchange and on other exchanges as GM Class H common stock. While this tracking stock is designed to provide holders with financial returns based on the financial performance of Hughes, actual ownership of all Hughes capital stock remains with GM. Accordingly, to accomplish the proposed business combination with ECC, prior to the merger, Hughes must be recapitalized and its stock distributed to GM's stockholders in order to separate Hughes from GM.

To accomplish the recapitalization and split-off, the Separation Agreement calls for Hughes to pay a dividend of up to \$4.2 billion to GM (or to a wholly-owned limited liability subsidiary company of GM)³⁴ and for GM's deemed retained economic interest in Hughes to be reduced by an amount commensurate with the dividend. In addition to the dividend to GM, Hughes will issue to GM shares of new Hughes Class C common stock pursuant to the Separation Agreement. Next, GM will split off Hughes by distributing to GM Class H common stockholders one share of new Hughes Class C common stock in redemption of and in exchange for each share of GM Class H common stock that they hold. GM will either retain or distribute to holders of its \$1-2/3 common stock all or a portion of the remaining shares of Hughes Class C common stock representing its deemed retained economic interest in Hughes. In connection with the

³⁴ GM has the ability under the Merger and Implementation Agreements to create a new wholly-owned limited liability company and insert that company into the ownership structure between GM and Hughes (or HEC Holdings, Inc., as the case may be) prior to the split-off and merger.

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split-off, the GM Class H common stock will be cancelled. Upon completion of these transactions, Hughes will be an independent, publicly-owned company.

The Merger. Immediately following the re-capitalization and split-off, ECC will merge with and into Hughes or a newly-formed holding company above Hughes. Hughes will be the surviving corporation, and the merged entity will be renamed EchoStar Communications Corporation (New EchoStar). As a result of the merger: (i) the holders of ECC Class A common stock before the merger will receive shares of the Class A Common Stock of New EchoStar, (ii) the holders of ECC Class B common stock before the merger will receive shares of the Class B Common Stock of New EchoStar, and (iii) the holders of Class C Common Stock of Hughes before the merger (the former GM Class H shareholders and GM and/or the holders of GM s \$1-2/3 common stock who obtained their Class C shares in connection with the split-off) will retain their Class C Common Stock, now in New EchoStar. The Class A, Class B and Class C classes of stock will exercise the voting percentages described above with respect to New EchoStar immediately after the merger.

Debt for Equity Exchange. GM has the option, at any time up until the date that is six months after the closing of the merger, to satisfy certain of its outstanding debt obligations by issuing or distributing GM Class H common stock or New EchoStar Class C common stock, respectively, to creditors in exchange for such debt obligations pursuant to one or more transactions (each a Debt/Equity Exchange). Prior to the merger, GM would effect the Debt/Equity Exchanges using newly issued shares of GM Class H common stock. After the merger, the Debt/Equity Exchanges would be effected using shares of New EchoStar Class C common stock retained by GM after the split-off.

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The transaction documents allow GM to distribute up to 100 million shares of GM Class H common stock or New EchoStar Class C common stock pursuant to Debt/Equity Exchanges.

The PanAmSat Purchase. GM and Hughes currently own indirectly through various Hughes subsidiaries an approximate 81% controlling interest in PanAmSat. These subsidiaries would become subsidiaries of New EchoStar pursuant to the merger. However, in the event the merger transaction is not consummated under certain circumstances, the GM and Hughes interest in PanAmSat (currently held through subsidiaries of Hughes) will be transferred, upon Commission consent and upon satisfaction of other conditions, in its entirety to ECC pursuant to the PanAmSat Stock Purchase Agreement.

II. PUBLIC INTEREST STATEMENT

To approve the transfer of the Hughes and ECC licenses to New EchoStar, the Commission must find that the proposed transfer serves the public interest, convenience, and necessity.³⁵ To make this finding, the Commission has traditionally weighed the public interest benefits of the proposed transaction against any potential public interest harms to determine whether, on balance, the benefits outweigh any harms.

The Commission's public interest analysis generally has included an examination of the following fundamental questions: (i) whether the transaction would result in a violation of the Communications Act or the Commission's rules; (ii) whether the transaction would substantially frustrate or impair the Commission's implementation or enforcement of the Communications Act or other related statutes or interfere with the

³⁵ 47 U.S.C. §§ 214(a), 310(d).

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Act's objectives; and (iii) whether the transaction promises to yield affirmative public interest benefits³⁶

The analysis also includes an evaluation of the likely competitive effects of the transaction and whether the proposed transfer creates a significant likelihood of competitive harm.³⁷ On this issue, more than mere speculation is required.³⁸ At the same time, Chairman Powell has stated his intention that the Commission subject proposed mergers to careful rules-based scrutiny and otherwise focus its inquiry in a manner that limits duplication of effort between its own review and the work of the agencies charged with evaluating such transactions under the antitrust laws.³⁹

Each of the fundamental questions considered by the Commission as part of its analysis is addressed below. The unavoidable conclusion is that the proposed merger of ECC and Hughes is manifestly in the public interest. The synergies created by the combination will create substantial public interest benefits with respect to MVPD competition,⁴⁰ new programming and other content, and improved broadband services for millions of Americans. The transaction will create an integrated, spectrally efficient, full-service satellite competitor that is truly equipped to combat the dominance of incumbent

³⁶ See, e.g., *Time Warner Inc. and America Online, Inc.*, 16 FCC Rcd. 6547 ¶ 1 (2001) (*AOL/Time Warner*); *MCIT*, 15 Comm. Reg. (P&F) 1038, ¶ 7.

³⁷ *Id.*

³⁸ See, e.g., *United States v. Citizens & S. Nat'l Bank*, 422 U.S. 86, 122 (1975) (The Clayton Act is concerned with probable effects on competition, not with ephemeral possibilities.) (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962)); see also *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 984 (D.C. Cir. 1990).

³⁹ See Powell Offers Views on CLEC Woes, Spectrum Policy, *Communications Daily*, May 23, 2001, at 5. Powell Urges Restraint in FCC Merger Reviews, *Communications Daily*, Dec. 11, 1998, at 1; cf. *AOL/Time Warner*, 16 FCC Rcd. at 6555 (concurring statements).

⁴⁰ See Willig Decl. at ¶¶ 21-25.

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cable Multiple System Operators (MSOs), and to provide new and expanded services, including state-of-the-art broadband services, to consumers in both urban areas as well as underserved and rural areas. At the same time, the structure of the market in which the combined entity will compete, as well as the combined entity's commitment to non-discriminatory pricing and service, prevent the merger from posing any risk of harm to the public interest. Accordingly, the Commission should not only grant this application it should do so expeditiously.

A. *The Transaction Will Comply With the Requirements of the Communications Act, All Other Applicable Statutes, and With the Commission's Rules.*

The proposed transaction does not implicate any foreign ownership, aggregation, cross-ownership, or any other restrictions imposed by the Communications Act, Commission regulation or applicable statute. Both ECC and Hughes are currently shareholders of a number of companies that are Commission licensees, and New EchoStar's Chief Executive Officer will be Mr. Charles W. Ergen, now Chief Executive Officer of ECC. The qualifications of all relevant parties are therefore a matter of record before the Commission. The combined entity will not have alien ownership that even approaches the benchmark of any applicable foreign ownership rule.⁴¹ Nor does the proposed merger implicate any Commission rule or policy governing cross-ownership or MVPD programming relationships.⁴²

⁴¹ While ECC has received from the Commission a waiver of certain foreign ownership rules (to the extent applicable) to allow an investment from an Australian corporation, News Corp., that investment is now well below 5% and nowhere near the 25% limit of these rules to the extent they apply. *See In re Application of MCI Telecommunications Corp.*, File No. 73-SAT-P/L-96, FCC 99-110 (rel. May 19, 1999).

⁴² AOL Time Warner Inc. has an indirect ownership interest in DIRECTV, which would represent less than a five percent interest in the combined company.

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B. The Transaction Will Not Impair Any Statutory Objectives and Will Yield Substantial Affirmative Public Interest Benefits

Far from impairing any statutory policies or objectives, the proposed transaction will in fact further the important Commission policies in favor of vigorous competition, the efficient use of spectrum and satellite resources, and the provision of advanced broadband communication services to all Americans. In doing so, the merger will yield a number of significant affirmative benefits to the public interest. The Commission is well-suited to recognize and weigh these benefits in light of its statutory responsibilities.

1. The Transaction Will Promote Competition With Cable by Allowing Increased Spectrum and Satellite Resource Efficiency

For almost a decade now, both Congress and the Commission have made concerted efforts to open up the MVPD market to effective competition Congress with the enactment of the Cable Television Consumer Protection and Competition Act of 1992 and the Satellite Home Viewer Improvement Act of 1999, and the Commission with its rules implementing these laws. Notwithstanding these efforts, however, the MVPD market is still dominated by cable operators.⁴³ Both Congress and the Commission have noted this competitive problem on a myriad of occasions.⁴⁴ Moreover, policy makers and

⁴³ See Willig Decl. at ¶¶ 7-18, and below at 37-41, for an analysis of the relevant market.

⁴⁴ See, e.g., S. Rep. No. 102-92, at 1 (1992) (explaining that Congress enacted the Cable Television Consumer Protection and Competition Act of 1992 (1992 Cable Act) to promote competition in the multichannel video marketplace and to provide protection for consumers against monopoly rates and poor service.); *In the Matter of Implementation of Section 19 of the Cable Television Consumer Protection and Competition Act of 1992: Annual Assessment of the Status of Competition in the Market for Delivery of Video Programming*, First Report, 9 FCC Rcd. 7442 (1994) (*First Competition Report*), at ¶ 5 (observing that Congress . . . found that without

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regulators alike have envisioned DBS as the most promising alternative MVPD technology that could help alleviate this problem and ultimately cure it.⁴⁵

DBS, however, remains fundamentally constrained by its dependence upon the radio spectrum for operations. DBS providers must use limited bandwidth from orbital locations that were not originally optimized for digital transmissions. The problem of finite bandwidth is seriously exacerbated by the currently duplicative use of the DBS spectrum. To help accomplish the Commission's vision of promoting DBS as a complete substitute for cable, DBS providers have had to offer subscribers programming services similar to those provided by cable systems, resulting in the use of each provider's spectrum for largely overlapping programming services.⁴⁶ For example,

competition, there was undue market power for the cable operator as compared to that of consumers and video programmers, and that the cable television industry has become a dominant nationwide video medium. (citing 1992 Cable Act, §§ 2(a)(2-3), 106 Stat. 1460)); *In the Matter of Implementation of the Satellite Home Viewer Improvement Act of 1999; Retransmission Consent Issues: Good Faith Negotiation and Exclusivity*, CS Docket No. 99-363 (rel. Mar. 16, 2000) (promulgating rules under SHVIA designed to place satellite carriers on an equal footing with local cable operators when it comes to the availability of broadcast programming, and thus give consumers more and better choices in selecting a multichannel video program distributor.).

⁴⁵ Congress noted in 1999 that with the development of high-powered satellite service, or DSS, which delivers programming to a satellite dish as small as 18 inches in diameter, the satellite industry now serves homes nationwide with a wide range of high quality programming. . . . it offers an attractive alternative to other providers of multichannel video programming; in particular, cable television. H.R. Conf. Rep. No. 106-464, at 91 (1999); see also *First Competition Report*, 9 FCC Rcd. 7442, at ¶¶ 62 (noting the Commission's expectation in 1990 that DBS had the potential to readily compete with cable.) (citing *Rate Deregulation & the Commission's Policies Relating to the Provision of Cable Television Service*, Report on Competition, 5 FCC Rcd. 4962 (1990)).

⁴⁶ In fact, the current duplicative use of this spectrum was not always the model for DTH satellite services. In the 1980s, when the Commission first authorized the DBS service, DTH satellite services were analog, meaning that each provider could not deliver much more than a handful of channels. Indeed, DBS itself was first contemplated as an analog service. The DTH satellite providers therefore planned to use their limited

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currently, ECC and DIRECTV use portions of the same DBS spectrum, each with its own expensive satellite fleet, each to provide the same HBO channels, the same CNN channels, and in most cases the same local network channels to the same metropolitan areas.⁴⁷ DBS operators have attempted to mitigate this inefficient duplicative use of DBS spectrum by relying on upgrades in digital compression and other technologies to squeeze as many digital programming channels as possible in their licensed bandwidth, and indeed, to offer more channels and superior picture and sound quality relative to analog cable systems. In addition, DBS providers historically had no need to allocate channel capacity for the provision of local network signals because they were legally hampered from retransmitting them in most instances.

Today, however, DBS spectrum inefficiency has become progressively a more debilitating problem owing to a number of factors, including satellite mandatory carriage obligations and the increased competitive threat posed by the enhanced capabilities of digital cable. While the enactment of the SHVIA alleviated some of the disparity between DBS and cable program offerings by giving DBS providers a limited legal ability to retransmit local broadcast signals starting in November 1999, it did so at a significant cost—the unprecedented spectrum requirements associated with satellite mandatory carriage obligations. Without the merger, must-carry obligations will

capacity to provide programming services that generally complemented, rather than duplicated, one another. It was in that environment that the Commission decided to fragment the DBS spectrum into a patchwork of small channel assignments—issuing separate permits for 11, 3 or even 1 DBS channel at each orbital location. The emergence of digital DBS in the early 1990s and the desire to introduce price competition to cable systems made that paradigm completely obsolete, and led to the current problem of duplicative use of the DBS spectrum.

⁴⁷ See Joint Engineering Statement at 8-10.

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effectively preclude the potential of effective competition with cable in all but the largest metropolitan areas now served by each DBS provider DIRECTV now serves 41 local areas and ECC serves 36 local areas, for a total of 42 areas and with an overlap of 35 areas. All in all, each of ECC and DIRECTV expects to have to carry upwards of 300-400 local must-carry stations starting in January 2002, and most of these stations will be the same from one DBS provider to the other.⁴⁸ Must-carry is expected to bring the total of overlapping programs (both national and local) transmitted by the two companies to over 500.

Moreover, cable operators have aggressively upgraded the capacity of their systems to allow for the digital retransmission of video programming.⁴⁹ Although DBS's digital quality and former capacity superiority have allowed it initially to make inroads into cable's dominant market position, the roll-out of upgraded, digital cable

⁴⁸ For example, as of January 1, 2002, ECC expects that it will be required to transmit numerous local home shopping channels because of the satellite must-carry obligations imposed under the SHVIA. *See* 47 U.S.C. § 338 (Supp. V 1999) (as a condition of using the compulsory license made available by SHVIA for retransmission of local broadcast stations into their home market, DBS providers must carry, on request, the signals of *all* television broadcast stations located within the same local market, subject only to certain limited exceptions).

⁴⁹ *See* Comments of National Cable & Telecommunications Association responding to Notice of Inquiry, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Notice of Inquiry, CS Docket No. 01-129, CS Docket No. 01-129 (dated Aug. 2, 2001), at 25-29 (describing cable companies' \$50 billion investment in upgraded infrastructure over the past five years to facilitate a broad range of video, voice and high-speed data possibilities, as well as improved signal reliability, improved pictures and two-way transmission capability.); *see also* *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Seventh Annual Report, 16 FCC Rcd. 6005, 6009 (2001) (*Seventh MVPD Competition Report*) (Commission observation that [v]irtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas. . . . Many cable operators also are planning to integrate telephony and high-speed data access.).

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facilities has compounded cable's incumbency advantages. A fully upgraded digital cable system now utilizes up to 750 MHz or 850 MHz of equivalent bandwidth, with no theoretical limitation on the ability to increase its bandwidth utilization by upgrading its physical plant.⁵⁰

Digital cable also allows MSOs to offer a bundle of video and high-speed Internet access offerings, which has significantly and negatively affected the willingness of cable subscribers to switch to DBS, as well as other interactive broadband services. For example, many of the MSOs are now running trials of their Video on Demand (VOD) products in test markets, and some have already commercially launched this service. One observer has noted that VOD has emerged as the silver-bullet to DBS, and the MSOs are stockpiling for a 2002 showdown.⁵¹ Even before that showdown, the impact of the video/Internet access/broadband bundle offered by cable has been acutely felt by the DBS providers. As a result of these developments, cable dominance persists and may yet be augmented.⁵² Indeed, in its most recent annual cable competition report, the Commission notes that the cable industry continues to maintain a dominant position in the MVPD market, providing service to about 80% of the national MVPD

⁵⁰ The information capacity per MHz of a digital cable system is not limited by the signal propagation constraints inherent in DBS systems.

⁵¹ Morgan Stanley, *Notes from NCTA 2001* (June 15, 2001); see also Deutsche Banc Alex. Brown, *Cable Industry Outlook*, Apr. 16, 2001, at 19, 38 (VOD is cable's killer app that will highlight cable's technological advances over DBS).

⁵² Brigitte Greenberg, *VOD, High-Speed Data, Voice Keys to Cable Future, Operators Say*, *Communications Daily* (Nov. 29, 2001) at 7 (noting cable operators' optimism that services satellite couldn't deliver video-on-demand (VOD), subscription VOD, interactivity, high-speed data and telephony would solidify cable's relationship with current customers and bring many defectors to satellite back into fold.).

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subscribership.⁵³

Combining the satellite and spectrum resources of ECC and Hughes will eliminate the duplicative use of the limited amount of available DBS spectrum to deliver the same programming,⁵⁴ and allow DBS to compete more effectively against cable's recent offerings. Elimination of this duplication is an enormous efficiency resulting from the merger. The Commission is uniquely equipped to evaluate this benefit because the increased spectrum efficiency resulting from the merger would promote directly its long-standing policy in favor of efficient and non-duplicative use of the spectrum.⁵⁵

The proposed transaction will do much more, however, than serve the Commission's spectrum policies in the abstract. Increased spectrum efficiency will translate into concrete benefits for customers, each recognized specifically by Congress or the Commission as important in its own right: more local channels to more markets; more high definition television (HDTV) channels; better service to rural areas, Alaska and Hawaii; more diverse and educational programming; and broader availability of

⁵³ See *Seventh MVPD Competition Report*, 16 FCC Rcd. at 6008. Cable claimed more than a 77% share of the MVPD market in August 2001. See Comments of National Cable & Telecommunications Association responding to Notice of Inquiry, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129, at 7.

⁵⁴ See Joint Engineering Statement at 8-9.

⁵⁵ See, e.g., *In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992*, 10 FCC Rcd. 3105, 3120 (1994), at 3120 ¶ 39 (1994) (recognizing the public interest in avoiding duplication of programming in the DBS service, which leads to more diversity in programming for the consumer); cf. *Hughes Communications Galaxy, Inc.*, 3 FCC Rcd. 7015 ¶ 2 (1988) (noting that use of the INTELSAT system to duplicate programming already available on domestic satellites would be an inefficient use of the available radio spectrum); *In re Revision of Radio Rules & Policies*, 7 FCC Rcd. 2755, 2783 (1992) (explaining that the Commission restricts duplicative use of spectrum utilized by commercial AM and FM radio stations with overlapping service areas because [t]he limited amount of available spectrum could be used more efficiently by other parties to serve competition and diversity goals.).

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satellite-based Internet access services. These benefits will in turn spur the incumbent cable operators to greater efforts for the benefit of cable as well as cable consumers.⁵⁶ In short, DBS spectrum efficiency will serve as a means to the all-important end: more vigorous competition in the MVPD market.

(a) More Local Channels to More Areas

New EchoStar will provide local broadcast programming to far more communities—100 or more, including at least one city in each state, compared to the 36 and 41 metropolitan areas that ECC and DIRECTV each respectively serve now.⁵⁷ The inability to provide local programming has been recognized by Congress and the Commission as a significant impediment to DBS becoming fully competitive with cable.⁵⁸ The legal constraints that contributed to the competitive imbalance were

⁵⁶ See, e.g., *Merger Impact on Cable: A Wall Street View*, skyreport.com (Nov. 26, 2001) available at <http://www.skyreport.com/skyreport/nov2001/112601.htm#one> (noting financial analysts' prediction that the advantages resulting from a combination of DBS assets would prompt cable to convert their systems to 100 percent digital, ... become more aggressive in developing and distributing both broadband content and communications in order to drive the penetration of broadband connectivity, and to bundle aggressively, with the end result being that [c]osts to the consumer will come down through bundled pricing.); Valerie Milano, *Cable Sees PVRs as Serious Threat, SvoD the Answer*, *Communications Daily* (Nov. 29, 2001) at 8 (pending merger will spur cable toward more innovation).

⁵⁷ See Joint Engineering Statement at 9. The total number of metropolitan areas now served by either DIRECTV or ECC is 42, with 35 of these areas served by both companies.

⁵⁸ In the Conference Report accompanying SHVIA, Congress declared that enabling DBS operators to offer local channels would allow satellite carriers for the first time to provide their subscribers with the television signals they want most: their local stations, and create parity and enhanced competition between the satellite and cable industries in the provision of local television broadcast stations. H.R. Conf. Rep. No. 106-464, at 93; see also *Seventh MVPD Competition Report*, 16 FCC Rcd. at 6010 ¶ 13 (observing that [c]onsumers historically reported that their inability to receive local signals from DBS operators negatively affected their decision as to whether to subscribe to DBS Under SHVIA, DBS operators can offer a programming package more comparable to and competitive with the services offered by cable operators.)

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alleviated somewhat by the passage of SHVIA. The limited channel capacity of DBS providers, however, as well as the burdens to be soon imposed upon that capacity in the form of satellite must carry, continue to limit DBS's ability—even with the implementation of spot-beam satellites and other new technologies—to offer local programming to many consumers. As a result, local-into-local service has for now been confined only to the relatively larger metropolitan areas.⁵⁹ The merger will dramatically expand the number of areas that can receive local broadcast station signals and will result in more vigorous competition to cable in these areas.

(b) More Programming Choices, Including HDTV Channels and More Pay-Per-View

New EchoStar also will have the ability to provide consumers with many more national programming choices than each company is able to provide standing alone. Just as the merger will eliminate the need to duplicate carriage of local channels, it will also eliminate the duplication of national channels, thereby freeing spectrum for more diverse programming choices. This includes more high definition programming that will encourage consumer adoption of digital equipment—another explicit Commission objective.⁶⁰ Currently, ECC and DIRECTV each offer a limited number of HDTV channels—2 for DIRECTV and 3 full-time HDTV channels for ECC. The combined entity will be able to devote several times that number of channels to HDTV content.⁶¹

⁵⁹ See Joint Engineering Statement at Exhibit 2.

⁶⁰ See, e.g., *In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 5946 (2001) (stressing the Commission's desire for a rapid conversion to digital television (DTV)); *id.* at 5950 ¶ 11 (Commission expressing its agree[ment] that the wide availability of digital programming . . . will help speed the transition to DTV.).

⁶¹ See Joint Engineering Statement at 10.

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driving demand for both HDTV content and equipment, and breaking the vicious circle of too little HDTV content to drive consumers to purchase HDTV equipment and too little equipment to justify investment in more content.

The savings in spectrum that will result from the merger will also enable New EchoStar to offer greatly expanded pay-per-view (PPV) and VOD-like⁶² services services that are very important to the economics and competitiveness of MVPD providers. For example, capacity can be devoted to caching (*i.e.*, saving for future viewing) on Personal Video Recorders, allowing users to play PPV movies or have access to specialty programming virtually on demand.⁶³

(c) Expanded Product Offerings to Meet Competition from Digital Cable

The merger will enhance competition by enabling New EchoStar to compete better with new MSO product offerings made possible by the advent of digital cable. As mentioned above, the digital cable roll-out has allowed cable MSOs to offer consumers a broadband bundle, packaging the conventional video services with high-speed Internet access, VOD and other interactive services, and Internet telephony. These packages are increasingly popular with MVPD subscribers.⁶⁴ DBS, on the other hand, is competitively disadvantaged in this regard. The DBS spectrum to a consumer s home is

⁶² See discussion in B(1)(c) below.

⁶³ See Joint Engineering Statement at 11.

⁶⁴ As early in the digital cable roll-out as 1998, the Commission recognized that [m]ulti-service offerings and bundling services for sale seem to enhance subscription to alternative services offered by cable companies. ...Indications are that customers value receiving these services through one-stop-shopping. ...For example, many large MSO s have found that bundling increases penetration of video and of new services. *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Fifth Annual Report, 13 FCC Rcd. 24284, 24322 ¶ 60 (1998) (footnotes omitted).

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now only one-way via satellite and needs to be supplemented by the use of different frequencies and satellites or by using terrestrial technologies to allow a broadband two-way offering. Both ECC and Hughes have attempted to create such broadband packages, ECC with its StarBand investment, and Hughes with its HNS DirecPC and DIRECWAY offerings. However, during the first year of service, subscription rates have been low, with only one percent of total DBS subscribers, less than 200,000, subscribing to these data services nationwide.⁶⁵ As will be seen below, next-generation satellite broadband services require significant investment and will be dramatically improved by combining the resources of both companies.

As mentioned above, the deployment of digital cable has also provided cable operators with the ability to offer new interactive services. These services include video-on-demand, information-on-demand (*e.g.*, sports scores, financial market information, electronic yellow pages, etc.) and electronic shopping services. These services are typically enabled through two-way interaction between the digital cable set-top and server equipment located at the cable operator's headend.

Even though the one-way via satellite architecture of a DBS operator does not allow for the same type of headend to set-top connectivity as exists in a digital cable system, a DBS service can provide many of the same types of interactive offerings as the digital cable operator *provided sufficient bandwidth for content distribution is available to the satellite operator*.⁶⁶ The latency of this type of service (*i.e.*, how quickly

⁶⁵ See Joint Engineering Statement at 14.

⁶⁶ In contrast to cable operators, a DBS provider enables its interactive services by the continuous broadcast of content carousels to its set-top boxes. Under the direction of either the operator or the consumer, each set-top box selects and presents or stores

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the information is presented to the viewer) and depth of the service (*i.e.*, how much information is available to the viewer) is directly proportional to the amount of satellite bandwidth allocated to the content carousel associated with the service. Simply put, the more bandwidth that is applied to a service, the more interactive and robust (and consequently the more competitive) the consumer experience.

Thus the DBS spectrum efficiencies created through the merger will allow New EchoStar to offer satellite-based interactive services that can compete favorably against increasingly sophisticated digital cable offerings and at the same time provide rural consumers with access to interactive services they might otherwise not be able to obtain.

The merger also will enable New EchoStar to compete more effectively against cable companies (and the telephone companies) as a possible third line for a bundle of video/data/Internet services into the home. Cable companies with digital infrastructure can now offer consumers the attractive bundles of video, high-speed Internet access and other interactive services, and Internet telephony. As will be seen below, the merger will allow New EchoStar to provide a truly competitive broadband service, as the new entity will be able to combine the spectrum available to each company for broadband services and use the combined potential subscriber base to achieve more

information from the content carousel transmitted by the satellite. For example, in the case of an interactive financial information service, the consumer would identify the particular stock symbols of interest and the set-top box would wait for the relevant information to be transmitted over the carousel, grab it and display it to the consumer. If the content is transmitted frequently enough, this interaction appears to be instantaneous to the viewer. This content carousel approach applies not only to information-on-demand services but to almost any satellite-delivered interactive service, including video-on-demand services and electronic shopping services.

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competitive price points and sustain the extraordinary high up-front capital investment that is required to launch quickly an advanced satellite broadband network.

New EchoStar will thus be able to establish a viable satellite-based Internet/data service that would compete with cable modem access and telephone lines as a third line into the home. This efficiency will confer significant consumer benefits by creating an effective competitive alternative in a line of business that is increasingly important to consumers and in which consumer options currently are limited.⁶⁷

(d) Better Service to Rural Areas, Alaska and Hawaii

Another major benefit of the newly-freed spectrum will be New EchoStar's ability to provide Americans living in rural areas, Alaska and Hawaii with more national programming networks and a better signal.⁶⁸ As explained above, by not duplicating each other's programming over the same spectrum, the combined entity will be able to offer a much greater variety of national networks than rural and remote areas can receive today.

This means that New EchoStar will be better able to provide subscribers in Alaska and Hawaii with a programming package more akin to what is available to their fellow citizens on the mainland today. Moreover, the combination of assets, including uplink facilities, will make more feasible the redeployment of finite satellite assets to non-CONUS western orbital slots, portending further improvements to service in Alaska and Hawaii.

⁶⁷ The necessity and importance of spreading the huge costs of pure broadband satellite services across the required critical mass of broadband subscribers is discussed in greater detail below.

⁶⁸ See Joint Engineering Statement at 10.

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The same spectrum and satellite efficiency that will facilitate a greater variety of programming also will provide for a more reliable signal in all rural and remote areas. This could translate into any number of benefits, including potentially smaller dish sizes for some subscribers in remote areas such as Alaska and Hawaii.⁶⁹

In addition, as discussed further below, citizens in rural America will also benefit from the extent to which the combination of ECC and Hughes will improve competition with cable incumbents in numerous metropolitan areas. National pricing is the most practicable and efficient method of DBS pricing, and New EchoStar will commit to continued uniform and non-discriminatory pricing and service throughout the country. As a result of national pricing, rural DBS customers will reap many of the benefits that enhanced competition with cable will provide to customers in non-rural areas. In effect, the national price will act as a conduit that allows the competitive dynamic in such important, highly competitive regions to have a beneficial impact on consumers throughout the nation, including in rural areas where cable does not exist.⁷⁰

Finally, perhaps one of the largest benefits promised by the transaction for rural areas is that the merger will help make seamless satellite broadband a reality for all Americans – deploying faster to all regions, with greater applications and service offerings. Broadband deployment is discussed in more detail below.

(e) More Ethnic, Foreign Language and Niche Programming

The same principle of spectrum efficiency will apply to niche programming such as ethnic, foreign language, or other programs that appeal to

⁶⁹ See Joint Engineering Statement at 11.

⁷⁰ See Willig Decl. at ¶¶ 38-39.

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specialized audiences. These audiences would have greatly expanded viewing opportunities with the additional programming available as a result of the merger. For example, the merged entity could provide several more channels of Spanish-language programming than the companies combined current offerings, as well as increased exposure for foreign language programming with smaller followings – a very important benefit for audiences that desire this programming.

(f) More Educational Programming

The spectrum efficiencies resulting from the merger will allow the provision of additional educational programming, another area in which the benefits from the transaction serve explicit statutory goals. Congress has required DBS providers to set aside a percentage of their capacity for such programming,⁷¹ but the qualified programmers using ECC's and DIRECTV's set-aside channels overlap. For example, DIRECTV and ECC now use different portions of the spectrum to provide the same C-SPAN and C-SPAN II feeds. Eliminating this overlap would free spectrum for additional public interest programming.

(g) Other Efficiencies That Will Result From the Merger

The combination will also allow the rationalization of the two companies' satellite fleets. These satellites are now inefficiently deployed due to the fragmentation of DBS spectrum assignments, which was in turn based on the now-discarded model of analog DBS. The deployment of satellites at 110° W.L. is a good example of this inefficiency. DIRECTV has a satellite at that location for the purpose of using its

⁷¹ See 47 U.S.C. § 335(b) (1994) (DBS providers are required to set aside four to seven percent of channel capacity exclusively for noncommercial programming of an educational or informational nature.).

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assignment of only 3 DBS channels, even as EchoStar's EchoStar 5 satellite now located at that slot and the EchoStar 8 satellite to be launched to that slot are each equipped with 32 transponders and stand ready to use all of the spectrum at that location. The result is that the two DBS companies are constrained in their ability to compete by outdated requirements that are the equivalent of an airline being required to fly its planes only half-full. The merger will allow the companies to align their combined satellite fleet to the dictates of market efficiency.⁷²

In addition, New EchoStar will achieve greater economies of scale and substantial cost synergies as a result of the integration of the ECC and DIRECTV satellite platforms. For example, the proposed merger will allow New EchoStar to offer a common service platform to new customers; to combine and improve each company's distribution networks; and to use the satellite uplink centers for new, rather than redundant, services. The resulting cost synergies resulting from such steps will include: reduced subscriber acquisition costs; reduced customer turnover, or churn; improved signal security as a result of moving to a standardized DBS service platform; reduced programming costs as a result of having a larger subscriber base; and the elimination of duplicative overhead.⁷³ All of these synergies will contribute to the creation of a dramatically stronger competitor to cable's dominance of the MVPD marketplace and will be manifested to the DBS consumer.

⁷² See Joint Engineering Statement at 4-7.

⁷³ See Joint Engineering Statement at 2-3, 7-8, 12.

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2. The Merger Will Have Other Significant Pro-Competitive Effects and Will Not Have An Anti-Competitive Impact In any of the Relevant Markets

MVPD Market. The merger will have significant pro-competitive effects increased competition to cable operators and will not have an anticompetitive impact in the relevant product market the MVPD market. Recent technological and regulatory developments have left no doubt that the relevant market for purposes of analyzing this transaction, as previously defined by the Department of Justice (DOJ), is now the delivery of multiple channels of video programming to the home . . . via . . . cable, satellite, or wireless technologies.⁷⁴ As Dr. Willig testifies, definition of a relevant market for the purpose of competition analysis of mergers depends crucially on demand substitution considerations the degree to which consumers view the products as substitutable.⁷⁵ This ability to raise prices profitably is a function of the degree to which

⁷⁴ See Willig Decl. at ¶¶ 12-13 (discussing the relevant market determination made by the Department of Justice in the *Primestar* case.) In 1998, Primestar, a joint venture of large cable companies, sought to acquire rights to an orbital slot for nationwide DBS service that were held jointly by News Corp. and MCI Telecommunications Corp. DOJ sued to enjoin that acquisition, alleging that allowing cable operators through Primestar to control those DBS assets would eliminate the possibility that those assets could be used to compete against cable. In its complaint, DOJ alleged that the MVPD market was the relevant product market for the purpose of evaluating Primestar's proposed purchase of the DBS assets. See *United States v. Primestar, Inc.*, Civ. No. 1:98CV01193 (JLG) (D.D.C. May 12, 1998).

⁷⁵ See Willig Decl. at ¶ 8. In particular, the U.S. Department of Justice and Federal Trade Commission define a market as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a small but significant and nontransitory increase in price, assuming the terms of sale of all other products are held constant. *Id.* (citing Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, available at http://www.usdoj.gov.atr.public/guidelines/horiz_book/toc.html).

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consumers view two products as providing similar services or benefits. If one firm came to become the only provider of one of the products, but not the other, and if consumers found the products to be good substitutes, then the presence of the second product would prevent the firm from realizing an increase in profits by significantly raising its price. Therefore, the second product would directly constrain the price of the first product, and the relevant market would include the second product.

Dr. Willig has concluded, based on the business behavior of the DBS industry, federal government cases and studies, the views of the cable industry, and the views of independent analysts, that DBS prices are directly constrained by cable prices. Therefore, the relevant market for evaluating the merger of ECC and DIRECTV includes cable providers.⁷⁶

For example, Dr. Willig observes, DBS pricing decisions appear to be driven by competition with cable companies, as the stated primary objective of both companies is to gain market share by luring consumers away from the leading cable providers, and the firms accordingly price their DBS programming services at levels based primarily on the prices charged by cable providers. Additionally, Dr. Willig observes that each company has laid claim to success in luring subscribers away from cable, which is corroborated by public statements of cable companies attributing DBS subscriber growth to aggressive efforts by DBS to target cable customers, the fact that the

⁷⁶ Indeed, Dr. Willig explains that the market is dynamic and the boundary of the market in which DBS providers compete may well expand. As bundled packages with digital television, high-speed Internet access, and video-on-demand become relatively more important in the MVPD market, the participants in the relevant market may grow beyond the historical MVPD participants to include DSL providers, incumbent phone companies, and cellular phone providers. *See id.* at ¶ 17.

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cable industry itself views DBS as a significant competitor, and the acknowledgement by cable companies that their pricing and advertising strategies are influenced by competition from DBS.

Dr. Willig also notes that a number of cases and studies by the federal government confirm that cable firms are part of the relevant market. The DOJ, for example, found that the MVPD market was the relevant market in the *Primestar* case, discussed above. And in its annual analysis of competition in video programming, the FCC groups the cable industry and the DBS industry in the MVPD market.⁷⁷ The FCC has also concluded that DBS and cable services are substitutes.⁷⁸ In sum, Dr. Willig concludes, the relevant market for analyzing a merger between ECC and DIRECTV is the MVPD market.⁷⁹

As previously noted by the Commission, over 96 percent of all television households in the United States are passed by cable television systems and these cable

⁷⁷ See *Seventh MVPD Competition Report*, 16 FCC Rcd. 6037, at ¶ 61.

⁷⁸ In its 2000 *Report on Cable Industry Prices*, the FCC concluded that DBS puts statistically significant downward pressure on demand for cable services. The report continues to state that DBS is a substitute for cable services. This result is different from our earlier finding reported in the *1999 Price Survey Report*, which showed DBS exerting only a modest influence on the demand for cable service. One explanation for the increased importance of DBS as a competitor of cable is the passage of . . . [SHVIA] in November 1999, which eliminated the prohibition on DBS delivery of local network signals into their local television markets. The two DBS operators have begun offering local signals in many major television markets thus more closely matching services provided by cable operators. See *In the Matter of Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992; Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment*, Report on Cable Industry Prices, 16 FCC Rcd. 4346, 4364 (2001), ¶ 53.

⁷⁹ Dr. Willig also explains that, for the purposes of evaluating the competitive impact of the proposed merger, the national pricing for monthly subscription and programming fees by both EchoStar and DIRECTV suggest that a national-level analysis is the most appropriate. See Willig Decl. at ¶ 18.

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operators continue to be the dominant distributors in the national MVPD market.⁸⁰ Indeed, cable television operators maintain nearly an 80 percent share of the total MVPD market.⁸¹ DBS also competes with a number of other MVPD distributors using different transmission media, such as wireless cable, SMATV, open video systems, direct-to-home analog and digital satellite offerings, cable overbuilds and electric utilities.⁸² In addition, there may soon be a number of new providers using technologies and frequency bands that will compete in this market, including terrestrial point-to-multipoint services in several fixed service bands and potential new satellite entrants.⁸³

Evaluated in this market, the proposed merger will have decidedly pro-competitive effects. The effect on competition is not adequately measured by the number of competitors, but rather by their effectiveness. As the DOJ and the Commission have recognized, increasing the effectiveness of DBS competition (and thus ensuring adequate MVPD competition) may only be achievable by foregoing additional DBS competitors.⁸⁴

⁸⁰ See *Seventh MVPD Competition Report*, 16 FCC Rcd. 6005, at App. B, Table B-1 (noting that approximately 96.6 percent of U.S. households with at least one television were passed by cable at the end of 1999); *MCIT*, 15 Comm. Reg. (P&F) 1038, at ¶ 16.

⁸¹ *Seventh MVPD Competition Report*, 16 FCC Rcd. 6005 at ¶ 15.

⁸² *Id.*

⁸³ See, e.g., OpTel, Inc.'s Request for Action, *In the Matter of Petition for Rulemaking To Amend 47 C.F.R. § 101.603 and Related Rules To Allow the use of 12 GHz OFS Frequencies for the Delivery of Video Programming Material*, CS Docket No. 99-250, RM-9257 (dated Nov. 6, 2001).

⁸⁴ For example, when the Commission considered the application of an ECC subsidiary to acquire additional DBS licenses, the Department of Justice commented that MVPD competition is best served by the emergence of a strong high-power DBS competitor with enough capacity to compete effectively with cable. Comments of the United States Department of Justice, *In the Matter of the Application of MCI Telecommunications Corp. and EchoStar 110 Corp.*, File No. SAT-ASG-19981202-00093, at 8 (Jan. 14, 1999). The Commission agreed: [W]e view the potential competitive benefits of allowing EchoStar to become a stronger competitor in MVPD

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As described above and by Dr. Willig, the transaction will result in improved and expanded programming choices for consumers, as well as the provision of innovative new services, which will make New EchoStar a better competitor to cable.⁸⁵ Indeed, as all cable firms roll out their digital upgrades, DBS has a narrow window of opportunity to ignite full-scale competition as cable customers transition to digital service, before consumer inertia and the high switching costs from cable to DBS leave consumers locked in, and cable further entrenched. Moreover, as Dr. Willig discusses, the characteristics of the MVPD market in general and of DBS firms in particular make it very unlikely that a merger of EchoStar and DirecTV would result in higher prices and lower output through either coordinated behavior among participants in the MVPD market or unilateral behavior by the merged firm.⁸⁶

As outlined above, this transaction will produce enormous benefits for all Americans, including the small percentage of U.S. households that are not currently passed by cable operators. These sparsely populated areas already are being served by a number of C-band providers that are beginning to roll out new digital offerings (*e.g.*, 4DTV products) and offer over 500 programming channels.⁸⁷ These products remain very attractive, particularly in areas where dish size is not a significant deterrent.

markets as outweighing the potential competitive costs of reduced entry into the DBS industry. *MCIT*, 15 Comm. Reg. (P&F) 1038, at ¶ 21.

⁸⁵ Willig Decl. at ¶¶ 23-24 (discussing merger specific efficiencies that will lead to benefits such as greater geographic coverage of local channels, more specialty, ethnic and foreign language programming, interactive television services, and video-on-demand).

⁸⁶ *Id.* at ¶ 6.

⁸⁷ *Satellite Today*, C-Band Subscribers on Motorola's Front Burner, April 13, 2001. *See also*, www.4DTV.com.

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In addition, recognizing the concerns of consumers in the 3.4% of U.S. television households not passed by cable,⁸⁸ New EchoStar is committed to pricing its DBS services on a uniform, nationwide basis. This means that, after the merger, the few consumers in areas not served by cable will in fact benefit from the intensified MVPD competition that will exist in all other areas where New EchoStar will compete with cable. In this way, these rural customers will obtain the benefits of competition between and among DBS, different cable MSOs, as well as the newer cable overbuilders and other emerging competitors offering other solutions throughout the country that increasingly are promoting and comparing their digital offerings to DBS. In other words, those consumers located in sparsely populated areas not currently served by cable will obtain DBS service at prices developed as a result of the more vigorous competition among New EchoStar and the 8 or 9 largest cable operators and other new entrants providing overbuild and other solutions in the rest of the country. In short, not only will the merger not have an anti-competitive impact in rural areas, it will produce tangible competitive benefits for consumers in those areas, too.

Programming. The programming market also will benefit from the proposed merger as a result of the more efficient use of spectrum and the creation of a much stronger alternative distribution outlet for programmers not affiliated with cable MSOs. In this regard, the proposed merger will not create the types of vertical relationships that raised concern in other transactions. The DOJ and the Federal Trade

⁸⁸ See note 81, *supra*. The Commission noted that there were approximately 100.8 million television households during the 1999-2000 television season. See *Seventh MVPD Competition Report*, 16 FCC Rcd. 6005, at ¶ 18. Based on this total, it may be estimated that roughly 3.4 million are not passed by cable.

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Commission have brought a number of cases addressing the vertical relationships between cable MSOs and competition in programming that were settled by consent decree.⁸⁹ In contrast, the Merger Parties do not intend to pursue a strategy of vertical integration with programmers post merger. Combined with the amount of available spectrum that will be freed up, this absence of vertical integration will help create a significant outlet for existing and new non-affiliated cable programmers, which now find it difficult to obtain carriage on the platforms of vertically integrated cable operators.⁹⁰

3. The Merger Will Promote Deployment of Advanced Broadband Services to All Americans

The merger of ECC and Hughes will have a profoundly positive effect on the deployment of facilities-based, advanced, two-way, broadband services via satellite to all Americans, especially in rural areas outside the reach of other broadband alternatives such as DSL and cable modem services. The combined resources of ECC and Hughes will enable the merged company to accelerate and better promote the deployment of such services to both rural and urban markets.⁹¹ This will support the Congressional and Commission policy objectives of providing affordable, high-speed Internet access to all Americans, particularly those living in rural areas.

⁸⁹ See, e.g., Time Warner Inc., et al.; Prohibited Trade Practices, and Affirmative Corrective Actions, 62 Fed. Reg. 11202 (Federal Trade Comm'n Mar. 11, 1997) (consent order).

⁹⁰ Gary Thorne, President of Moviewatch, a programming service expected to premiere next year, underscored this potential benefit, observing that with the proposed merger the additional spectrum at least gives us opportunities to place networks. Because if there was if there is one place where spectrum eventually does get used up, it's on the satellite side of the world. Linda Moss, *New Nets Squeeze Into Consolidated Market*, Multichannel News, Nov. 26, 2001.

⁹¹ See Joint Engineering Statement at 14-16.

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The Telecommunications Act of 1996 specifically directs the Commission to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . .⁹² In its most recent annual report on advanced broadband services, the Commission emphatically stated its commitment to ensuring that advanced services become available to all Americans⁹³ The Commission went on to note, however, that certain consumers (*e.g.*, those in rural areas) are particularly vulnerable to not receiving such services.⁹⁴

Satellite systems are especially well-suited for the provision of broadband services in rural and other underserved areas and for providing a critical competitive alternative in suburban and urban environments. Satellite systems have nationwide coverage areas and are able to offer high-quality, ubiquitous service as soon as the satellite system is launched and operational. As such, satellite systems offer instantaneous deployment to low-population density and low-income areas that may not have enough demand to justify a terrestrial build-out.⁹⁵

⁹² See Telecommunications Act of 1996, Tit. VII, § 706(a), Pub. L. No. 104-104, 110 Stat. 153 (1996), reproduced in the notes following 47 U.S.C. § 157 (Supp. 2001).

⁹³ See *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Second Report, 15 FCC Rcd. 20913, 20917 ¶ 8 (2000) (*Second Report*).

⁹⁴ *Id.* at 20918.

⁹⁵ In addition, satellites offer ubiquitous service at prices that are distance insensitive, in contrast to the distance-based prices that are characteristic of many terrestrial networks. These advantages allow satellite operators to provide first- and last-mile connectivity more cost-effectively than terrestrial systems, which have historically focused their deployment on high-density urban areas. See *Extending Wireless Telecommunications Services to Tribal Lands*, Notice of Proposed Rulemaking, FCC 99-205, WT Docket No. 99-266, ¶ 24 (rel. Aug. 18, 1999).

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In spite of this potential, however true, satellite broadband deployment to date has been minimal. According to the *Second Report*, high speed services over satellite as of 1999 accounted for less than 50,000 lines, with none of these lines satisfying the Commission's definition of advanced services due to the limited upstream capabilities of these facilities.⁹⁶ ECC and Hughes have made reasonable progress compared to that baseline with early-entry interactive Ku-band broadband products. However, to date, only one percent of DBS subscribers has purchased high-speed satellite data services. The current consumer costs for these products, including equipment and monthly fees, given the low market penetration and lack of economies of scale, place them out of reach for many consumers, and make them less competitive with terrestrial offerings that offer bundled video and IP services in one package.⁹⁷

As the Commission has recognized, the future of truly seamless satellite broadband communications lies with the deployment of next-generation systems in the Ka-band. The Commission has licensed these systems in the hope that they would usher in a new age in satellite communications by providing a wide variety of broadband interactive digital services in the United States and around the world.⁹⁸ The reality, however, is that deployment of these new satellite systems is taking longer and requiring more capital than many companies/licensees have been able to sustain. In the more than

⁹⁶ *Id.* ¶ 111.

⁹⁷ See Joint Engineering Statement at 14-16.

⁹⁸ See *In the Matter of Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, and to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd. 22310, 22310 (1997).

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four years that have elapsed since the Commission's May 1997 authorization of the construction, launch and operation of Ka-band satellites in the first round of Ka-band licensing, certain licensees have encountered serious obstacles in their attempts to marshal the enormous capital and infrastructure required to construct, launch and operate satellite systems.⁹⁹ Even well-established satellite companies such as Lockheed Martin Corporation have backed away from the challenge of developing a Ka-band system, with its recent announcement that it will not invest further in its Ka-band venture, Astrolink.¹⁰⁰

Each of ECC and Hughes has already made significant broadband investments and plans future deployment of additional high-speed Internet access services, but there are tremendous economic and technological hurdles that must be overcome to do so using satellites.¹⁰¹ For example, in view partly of the financing community's reluctance to finance such projects, ECC's first Ka-band satellite, EchoStar 9 (to be launched in 2002), is a cautiously modest project, equipped with only a limited number of spot beams designed to serve only a few geographical areas in the United States. And while Hughes will invest approximately \$1.5 billion and has already spent nearly \$1 billion to begin deploying SPACEWAY system spacecraft in early 2003,¹⁰² Hughes is not immune to downturns in the capital markets that could affect the timing of its deployment or its ability to offer competitively priced offerings. Current investments,

⁹⁹ Global Wireless, *Pie in the Sky*, September 1, 2001.

¹⁰⁰ *Decision Near on Astrolink as Lockheed Ends Funding*, Communications Daily, November 1, 2001.

¹⁰¹ See Joint Engineering Statement at 14-16.

¹⁰² The first phase of the SPACEWAY system will consist of two satellites and one spare to serve North America.

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divided between the firms, may lack the economies of scale to compete with terrestrial services, thus implying higher prices to rural communities and less competition in non-rural areas.¹⁰³

The merger will promote exponentially the efforts of both companies to implement truly competitive next-generation broadband systems in a fashion that, absent the merger, would likely be significantly less beneficial to the public. The parties expect that the proposed transaction will allow the two companies to develop a combined critical mass of broadband subscribers to spread the tremendous fixed costs that, as noted above, have deterred other satellite companies from proceeding with broadband satellite systems. The merger will speed broadband service availability, significantly improve subscriber growth, and therefore substantially enhance the competitive position of broadband satellite services vis-à-vis cable operators that can and do offer fully bundled Internet Protocol/video packages.¹⁰⁴ Cross-technology competition always benefits the public. The lower prices resulting from intermodal competition in urban areas will also benefit rural and underserved users with lower prices.

Second, a greater breadth of service will be implemented by the combined company more rapidly than would be possible absent the combination, and thereby will reach the consuming public more quickly. Time to market is of the essence. If next-generation satellite broadband services reach the market only after cable and DSL have commanded 60% of potential broadband customers, it is not clear whether any late-coming service would be able to attract enough of the remaining customers to become

¹⁰³ See Joint Engineering Statement at 14-16.

¹⁰⁴ *Id.*

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viable. This consideration highlights the more general point, noted above, that only a narrow window of opportunity is presented for imposing heightened competitive pressure on cable before cable is able to lock in its dominant position. The fact that effective competition occurs on the basis of bundles of offerings, and that broadband is a critical element of the bundle, reinforces the point further.

The merger will also boost broadband deployment by combining the Ka-band spectrum resources available to each entity. To be competitive with cable high-speed access, a satellite broadband platform needs to be capable of supporting several million U.S. subscribers. Each of ECC and Hughes (including PanAmSat) now has access to Ka-band spectrum at 3 orbital locations (in ECC's case, only two of these slots can support a one-dish solution), but Ka-band spectrum is limited in its ability to provide ubiquitous broadband services as a result of the Commission's satellite-terrestrial sharing decisions in the 18 GHz band. Even with the most advanced technology, each orbital location can only serve a finite number of customers. The number of customers that can be served is directly proportional to the amount of spectrum that is available. By combining resources in a merged entity, ECC and Hughes will be better positioned to create a Ka-band system capable of serving the nation's broadband service requirements while effectively and competitively challenging cable modem and DSL services.¹⁰⁵

In short, commercialization of the Ka-band has been a cornerstone in the Commission's laudable effort to promote rapid deployment and competition in the provision of advanced broadband services and to promote the efficient use of spectrum

¹⁰⁵ *Id.*

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by using the Ka-band to provide a new class of service that is simply not possible in the crowded Ku- and C-bands used for traditional Fixed-Satellite Service.¹⁰⁶ Approval of the proposed transaction will pave the way for the rapid deployment of a Ka-band satellite system capable of providing competitive broadband and other advanced services to all Americans, including those in rural areas, consistent with the Commission's goals and the public interest.

4. The PanAmSat Purchase Is In The Public Interest

The ECC-Hughes combination will result in a transfer of control of Hughes' controlling interest in PanAmSat, either to New EchoStar as a consequence of the merger, or through a separate purchase by ECC of Hughes' indirect interest in PanAmSat in the event the merger agreement is terminated under certain circumstances. In either event, the transfer of control of Hughes' interest in PanAmSat is in the public interest and should be approved.

As outlined above, significant benefits to consumers will result from combining the FSS resources of ECC and Hughes to bring broadband satellite services to market faster. The merger will not create any significant overlap in the provision of FSS services in the same product and geographic markets that should be of any concern to the Commission.¹⁰⁷ ECC does not currently provide any telecommunications services of the type provided by PanAmSat in the United States or elsewhere. While Hughes and

¹⁰⁶ See *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules*, 12 FCC Rcd. at 22312.

¹⁰⁷ While ECC is a potential competitor in the FSS market, there are a number of other existing domestic and international FSS service providers (e.g. Loral/Orion, GE/SES, New Skies, etc.) as well as new entrants.

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PanAmSat own and operate a fleet of FSS satellites and associated earth stations that are utilized primarily to provide domestic and international satellite services, respectively, the Commission has already determined that the consolidation of their businesses and operations under the control of Hughes serves the public interest.¹⁰⁸ Moreover, the combined FSS authorizations held by all three companies do not create market power in any one company in light of the large number of FSS satellite licenses held by other non-affiliated companies.¹⁰⁹

III. WAIVER REQUESTS: APPLICATION CUT-OFF RULES AND ADDITIONAL APPLICATIONS

In connection with the approval of this transaction, the parties respectfully request that the Commission waive the application of its cut-off rules with respect to all pending applications filed by Hughes or its subsidiaries (including PanAmSat) and by ECC for additional space station authorizations, to the extent that those applications have been the subject of an FCC cut-off notice prior to the closing date.¹¹⁰

Section 25.116 of the Commission's rules provides that any pending application will be considered newly filed and therefore may lose its place in a processing round if it is modified by a major amendment including an amendment that specifies a substantial change in beneficial ownership or control of the applicant.¹¹¹ An amendment will not be deemed a major amendment, however, if it reflects a change

¹⁰⁸ See *Hughes Comm., Inc., and Anselmo Group Voting Trust/PanAmSat Licensee Corp.*, 12 FCC Rcd. 7534 (1997).

¹⁰⁹ See, e.g., *TRW, Inc.*, 16 FCC Rcd. 14407 (Int'l Bur. rel. Aug. 3, 1999); *CAI Data Systems, Inc.*, 16 FCC Rcd. 14269 (Int'l Bur. rel. Aug. 3, 1999);

¹¹⁰ Attachment G appended hereto provides a consolidated list of pending applications filed by Hughes and its subsidiaries and by ECC.

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in ownership or control that the Commission determines is in the public interest and the Commission grants an exemption from the cut-off date.¹¹² The Commission has traditionally granted such exemptions where the proposed transaction will serve a legitimate business purpose and will serve the public interest.¹¹³

As described throughout this application, the proposed transaction serves a legitimate business purpose. By combining their satellite assets and operational resources, the transaction will enhance the combined enterprise's U.S. and global service capabilities, allowing it to compete more effectively and efficiently with dominant cable and other MVPD service providers. The transaction involves indeed, it is primarily focused upon operational satellites. Moreover, the applications currently pending are an integral part of Hughes' and ECC's expansion plans that were announced well before this proposed transaction and are essential to the continued competitiveness of their respective businesses. Under these circumstances, there can be no question that the transaction serves an independent business purpose and was not entered into for the purpose of acquiring the pending applications.¹¹⁴ For these reasons, the Commission should exempt all currently pending applications filed by Hughes and its subsidiaries and by ECC from any applicable cut-off rules.

¹¹¹ See 47 C.F.R. § 25.116(b) (2000).

¹¹² See 47 C.F.R. at § 25.116(c)(2) (2000).

¹¹³ See, e.g., *DirectCom Networks, Inc.*, DA 01-1683 ¶ 16 (Int'l Bur. rel. Aug. 3, 2001); *Loral Space & Comm. & Orion Network Syst.*, 13 FCC Rcd. 4592, 4599, ¶ 17 (1998); *Hughes Comm., Inc. & Anselmo Group Voting Trust/PanAmSat Licensee Corp.*, 12 FCC Rcd. 7534 (1997); *AT&T Corp. & Loral SpaceCom Corp.*, 12 FCC Rcd. 925 (1997).

¹¹⁴ *GE/SES*, DA 01-2100 at ¶ 56; *Loral/Orion*, 13 FCC Rcd. at 4599.

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IV. SECTION 304 WAIVER

In accordance with Section 304 of the Communications Act of 1934, 47 U.S.C. § 304, the Applicants hereby waive any claim to the use of any particular frequency or of the electromagnetic spectrum because of previous use of the same, whether by license or otherwise.

V. CONCLUSION

For the foregoing reasons, the Applicants respectfully request that the Commission grant this application promptly and provide for any other authority that the Commission finds necessary or appropriate to enable the Applicants to consummate the proposed transactions.

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Respectfully submitted,

GENERAL MOTORS CORPORATION

By:

[name]
[title]

In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC s website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from General Motors. Such documents are not currently available.

General Motors and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM s solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by

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means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, Hughes, EchoStar, or a combined EchoStar and Hughes, to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all; (3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimate, projects, potential, expects, plans, anticipates, intends, continues, forecast, designed, goal, or the negative of those words or other words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

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HUGHES ELECTRONICS CORPORATION

By:

[name]

[title]

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**ECHOSTAR COMMUNICATIONS
CORPORATION**

By:

David K. Moskowitz
Senior Vice President and General Counsel

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**ECHOSTAR COMMUNICATIONS
CORPORATION**

By:

David K. Moskowitz
Senior Vice President and General Counsel

Dated: November , 2001

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Application of

**EHOSTAR COMMUNICATIONS CORPORATION,
GENERAL MOTORS CORPORATION,
HUGHES ELECTRONICS CORPORATION**

Transferors,

and

EHOSTAR COMMUNICATIONS CORPORATION

Transferee,

For Authority to Transfer Control

**DECLARATION OF DR. ROBERT D. WILLIG
ON BEHALF OF
EHOSTAR COMMUNICATIONS CORPORATION, GENERAL MOTORS
CORPORATION, AND HUGHES ELECTRONICS CORPORATION**

I. QUALIFICATIONS

1. My name is Robert D. Willig. I am Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University, a position I have held since 1978. Before that, I was Supervisor in the Economics Research Department of

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Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and welfare theory.

2. I served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the Department of Justice (DOJ) from 1989 to 1991. I also served on the Defense Science Board task force on the antitrust aspects of defense industry consolidation and on the Governor of New Jersey's task force on the market pricing of electricity.

3. I am the author of *Welfare Analysis of Policies Affecting Prices and Products*, *Contestable Markets and the Theory of Industry Structure* (with William Baumol and John Panzar), and numerous articles, including Merger Analysis, IO Theory, and Merger Guidelines. I am also a co-editor of *The Handbook of Industrial Organization*, and have served on the editorial boards of the *American Economic Review*, the *Journal of Industrial Economics* and the MIT Press Series on regulation. I am an elected Fellow of the Econometric Society and an associate of The Center for International Studies.

4. I have been active in both theoretical and applied analysis of telecommunications issues. Since leaving Bell Laboratories, I have been a consultant to AT&T, Bell Atlantic, Telstra, and New Zealand Telecom, and have testified before the U.S. Congress, the FCC, and the public utility commissions of about a dozen states. I have been on government and privately supported missions involving telecommunications throughout South America, Canada, Europe, and Asia. I have written and testified on a wide range of telecommunications issues, including

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the scope of competition, end-user service pricing and costing, unbundled access arrangements and pricing, the design of regulation and methodologies for assessing what activities should be subject to regulation, directory services, bypass arrangements, and network externalities and universal service. On other matters, I have worked as a consultant with the Federal Trade Commission, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, the World Bank, and various private clients. A full list of my articles and other professional publications and activities is presented in my *curriculum vitae*, which is attached as Exhibit A.

II. PURPOSE OF STATEMENT

5. I have been asked by EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation to address certain issues related to the proposed merger between EchoStar and DIRECTV (a subsidiary of Hughes), including the impact of the proposed merger on competition and consumers, and the degree to which there are merger-specific efficiencies that cannot be achieved in the absence of the transaction.

6. To summarize my analysis, which is based on information obtained from interviews of senior executives at both EchoStar and DIRECTV as well as from publicly available information, I conclude that (a) the relevant market for analyzing a merger between EchoStar and DIRECTV is no narrower than the Multi-Channel Video Programming Distributor (MVPD) market, and may be broader than that; (b) the proposed merger offers the possibility of

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substantial efficiency improvements, especially in radio spectrum use, which would directly benefit DBS consumers by providing an expanded array of services (e.g., the provision of local broadcast programming to more metropolitan areas, more High-Definition Television channels, and more specialized programming), and also benefit an even broader group of consumers by creating a more effective competitor to cable providers than either company could be on its own; (c) the nature of competition in the MVPD market makes it very unlikely that a merger of EchoStar and DIRECTV would result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm; (d) the proposed merger is more likely to be of distinct benefit to rural TV households than to diminish competitive benefits available to them; and (e) a merger between EchoStar and DIRECTV would not create or exacerbate any valid concerns the Federal Communications Commission (FCC) has about vertical integration because EchoStar and DIRECTV do not have any significant vertical relationships with programmers, and if anything, the merger could increase competition among program providers.

III. DELINEATION OF RELEVANT MARKET

7. A key step in the competitive analysis of any merger or acquisition is the delineation of the relevant market(s). In the case of a merger between EchoStar and DIRECTV, the relevant market is no narrower than the MVPD market, and may be broader than that.¹ The

¹ The MVPD market includes the cable industry and Direct Broadcasting Satellite (DBS) services. Other available MVPD services include home satellite dishes (HSD), multi-channel multi-point distribution service (MMDS), and private cable or satellite master antenna television (SMATV) systems. See *Annual Assessment of the Status of*

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cable industry has been preeminent in the MVPD market.² Although Direct Broadcasting Satellite (DBS) providers have made significant inroads, cable firms still provided service for more than 77 percent of all MVPD subscribers in July 2001.³

8. The definition of a relevant market for the purpose of competition analysis of mergers depends crucially on demand substitution considerations—the degree to which consumers view the products as substitutable. In particular, the U.S. Department of Justice and Federal Trade Commission define a market as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a small but significant and nontransitory increase in price, assuming the terms of sale of all other products are held constant.⁴ This ability to raise prices profitably is a function of the degree to which consumers view two products as providing similar services or benefits. If one firm came to become the sole provider of one of the products, but not the other, and if consumers found the products to be good substitutes, then the presence of the second product would prevent the firm from realizing an increase in profits by significantly raising its price. The second product would directly constrain the price of the first product, and the relevant market would therefore include the second product.

Competition in the Market for the Delivery of Video Programming, Seventh Annual Report, 16 FCC Rcd. 6005, 6008 (2001) (Seventh Cable Competition Report), at ¶ 3.

² Seventh Cable Competition Report at ¶ 5. The FCC stated: Cable television still is the dominant technology for the delivery of video programming to consumers in the MVPD marketplace.

³ See Comments of National Cable & Telecommunications Association, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated August 2, 2001), at ¶ 7.

⁴ See Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, available at http://www.usdoj.gov/atr/public/guidelines/horiz_book/toc.html

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9. The business behavior of the DBS industry indicates, and Federal government cases and studies, the views of the cable industry, and the views of independent analysts appear to confirm, that DBS prices are directly constrained by cable prices. Therefore, the relevant market for evaluating the merger of EchoStar and DIRECTV includes cable providers.

10. DBS pricing decisions appear to be driven by competition with cable companies. Executives at both EchoStar and DIRECTV confirm that the objective of each firm is to gain market share by luring consumers away from the leading cable providers, and the firms accordingly price their DBS programming services at levels based primarily on the prices charged by cable providers. In determining their prices, the companies collect detailed data on cable pricing of many systems and, as necessary, adjust their pricing to remain competitive on a national basis.⁵ Moreover, the focus on cable providers, rather than the other DBS firm, is highlighted by DIRECTV's lack of response to EchoStar's recent "I Like 9" pricing strategy. According to a DIRECTV executive, EchoStar's "I Like 9" package did not affect DIRECTV's pricing decisions because DIRECTV's focus is on obtaining new customers from cable providers, not the other DBS provider.

⁵ When queried regarding their pricing decisions relative to the other DBS provider, executives at both EchoStar and DIRECTV indicated that they monitor the pricing of the other firm, but that such pricing plays little (if any) role in their own pricing decisions. The executives repeatedly emphasized that the primary determinant of their pricing was the price required to lure cable subscribers to DBS.

⁶ In August 2001, EchoStar began its "I Like 9" pricing strategy. Under the plan, new customers who purchased an EchoStar satellite TV system for \$199 or more received EchoStar's "America's Top 100" programming package for \$9 per month for one year. (EchoStar usually charges \$30.99 per month for the "America's Top 100" programming package.) See EchoStar Communications Corporation, "DISH Network Announces New 'I Like 9' Promotion: Over 100 Channels of Satellite Television for Only \$9 a Month," Press Release, July 31, 2001.

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11. Consistent with the stated focus of DBS providers on attracting cable subscribers, it appears based on statements by executives of both EchoStar and DIRECTV that a majority of new DBS consumers had previously been cable subscribers. In addition, executives responsible for marketing and advertising at both EchoStar and DIRECTV emphasize that their campaigns are focused on convincing extant cable consumers that DBS offers a superior product. This emphasis on cable customers is corroborated by public statements by the cable firms themselves. For example, Cablevision observed in a recent FCC filing that:

The growth in DBS subscribers is due in part to the aggressive efforts of DIRECTV and DISH network to target Cablevision subscribers in their market efforts. For example, DISH network's recent ad campaign featured print ads entitled "Save Money vs. Cablevision," and direct mail, door hangers, and radio live-reads advising consumers that "Cablevision is raising your rates again. DIRECTV's Cable Bites" print ads feature side-by-side comparisons of tier pricing and number of channels.

12. DBS pricing strategies thus appear to be directly constrained by the prices of cable providers, and therefore cable companies are part of the relevant market for analyzing this proposed merger. Such a position has been affirmed in a number of different cases and studies by the Federal government. In its 1998 complaint against Primestar, for example, the Department of Justice alleged that the MVPD market was the relevant product market and stated that:

Cable and DBS are both MVPD products. While the programming services are delivered via different technologies, consumers view the services as similar and to a large degree substitutable. Indeed, most new DBS subscribers in recent years are former cable subscribers who either stopped buying cable or downgraded their cable service once they purchased a DBS system. Cable and DBS compete by

⁷ See Reply Comments of Cablevision Systems Corporation, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 3.

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offering similar packages of basic and premium channels for a monthly subscription fee.⁸

13. The Justice Department noted that the cable industry had a distinct advantage because it could provide consumers with local broadcast services in local markets (the so-called local-into-local issue). Since the Justice Department's Primestar complaint, the Congress has allowed DBS providers to provide local-into-local services, which makes cable and DBS even closer substitutes than that suggested by the quotation above.

14. In its annual analysis of competition in video programming, the Federal Communications Commission (FCC) groups the cable industry and the DBS industry in the MVPD market.⁹ In addition, the FCC concluded that DBS distributors compete with a number of other MVPDs using different transmission media and that competitors in the MVPD market include cable operators, DBS operators, and other technologies, such as wireless cable operators.¹⁰

⁸ See *United States v. Primestar, Inc.*, Civil No. 1:98CV01193 (JLG) (D.D.C.) (May 12, 1998), at ¶ 63.

⁹ See Seventh Cable Competition Report at ¶ 61. The FCC has also concluded that DBS and cable services are substitutes. In its 2000 *Report on Cable Industry Prices*, the FCC concluded that DBS puts statistically significant downward pressure on demand for cable services. The report continues to state that DBS is a substitute for cable services. This result is different from our earlier finding reported in the *1999 Price Survey Report*, which showed DBS exerting only a modest influence on the demand for cable service. One explanation for the increased importance of DBS as a competitor of cable is the passage of the Satellite Home Viewer Improvement Act (SHVIA) in November 1999, which eliminated the prohibition on DBS delivery of local network signals into their local television markets. The two DBS operators have begun offering local signals in many major television markets thus more closely matching services provided by cable operators. See *Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment*, Report on Cable Industry Prices, FCC (2001), at ¶ 53.

¹⁰ See *In re Application of MCI Telecommunications Corp. and EchoStar 110 Corp.*, File No. SAT-ASG-19981202-00093, FCC 99-109 (released May 19, 1999), at ¶ 15 and footnote 40. The U.S. Department of Justice (DOJ) agreed with the FCC's finding in the case. Specifically, the DOJ stated that the transaction will greatly increase EchoStar's capacity to transmit video programming and will enhance its ability to compete aggressively and effectively against other distributors of multichannel video programming, including the cable companies that dominate these distribution markets. See Department of Justice, *Justice Department Urges FCC To Approve Direct Broadcasting Satellite Deal*, News Release, January 14, 1999. Similarly, in response to a General Accounting Office study on the competition between DBS and cable, the FCC filed a comment that it was concerned

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15. Although not itself a proof that cable prices constrain DBS prices, further evidence is provided by the fact that the cable industry itself views DBS as a significant competitor.¹¹ The CEO of Cox Communications, Inc., one of the largest cable providers in the nation, argued, "The satellite companies are very real, very serious competitors for our core business, and we take them extremely seriously."¹² Similarly, in testimony to the Senate Judiciary Committee, National Cable and Telecommunications Association President and CEO Robert Sachs stated that:

Before 1996, cable operators faced video competition primarily from over-the-air television, C-band satellite receivers, video rentals, and movie theaters. Direct broadcast satellite (DBS) competition has changed that forever. Being digital from the start, and having the advantage of substantially greater channel capacity, DBS spurred cable operators to replace hundreds of thousands of miles of coaxial cable with fiber optics so that they too could offer consumers hundreds of channels of digital video and audio services. In responding to vigorous competition from DBS, cable operators have made enormous investments in not just plant but computers, billing systems, personnel, and training resulting in significant improvements in the quality of service we provide to our customers.¹³

about the study's results because the FCC believed that DBS penetration not only influences cable rates but also is influenced by them. See Comments from the Federal Communications Commission in General Accounting Office, "The Effect of Competition From Satellite Providers on Cable Rates," July 2000, page 40.

¹¹ Further confirmation that cable and DBS compete within a single market comes from Wall Street analysts. A number of analyst reports explain changes in DBS subscriber growth by actions taken by cable companies, and vice versa. For example, Merrill Lynch recently cited aggressive digital cable rollouts as a reason for the decline in projected DBS subscriber growth. See Merrill Lynch: "Eye in the Sky: 3Q01 Preview," October 8, 2001, page 2. Similarly, Goldman Sachs argued that "Increased competition from cable operators not only has the potential of increasing churn of DIRECTV (winning back cable subscribers), but also affecting the amount of gross subscribers the company adds." See Goldman Sachs, "Hughes Electronics Corp.," September 18, 2001, page 2.

¹² See Christopher Stern, "Cable's Satellite Wars: Communications Giants Are Waging A Multibillion-Dollar House-to-House Battle for Subscribers," *The Washington Post*, August 13, 2000, page H01.

¹³ Robert Sachs, Testimony Before Subcommittee on Antitrust, Business Rights, and Competition, Committee on the Judiciary, United States Senate, April 4, 2001, pages 2-3. The National Cable and Telecommunications Association (NCTA) further argued, "Today consumers nationwide may turn to direct broadcasting satellite (DBS) as a fully substitutable alternative to cable for MVPD service. See Reply Comments of National Cable & Telecommunications Association, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 1-2. In addition, Daniel Brenner of NCTA wrote to the General Accounting Office that "Cable operators have responded to competition from DBS in a variety of ways that increase the value of their services to customers. These include: (1) DBS's far greater channel capacity has spurred cable operations to increase the number of

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16. Cable companies have also stated that their pricing decisions and advertising strategies are influenced by competition from DBS providers. AT&T has argued that, Cable operators' behavior reflects the significant marketplace constraints imposed by DBS. In addition, AT&T Broadband has focused entire advertising campaigns on luring DBS customers back to digital cable, underscoring AT&T's apparent belief that digital cable is a substitute to DBS.¹⁵ Furthermore, in explaining a recent pricing decision, a general manager of a New England cable company said that "We have sought to strike a balance between the need to offset some of our increased programming costs, and the need to price our products competitively against DIRECTV and other satellite providers."¹⁶

17. Based on the evidence presented above, I conclude that the cable industry should be included in the relevant market for analyzing a merger between EchoStar and DIRECTV. Moreover, markets are dynamic and the boundary of the market in which DBS providers compete with cable operators may be expanding. For example, as bundled packages with digital

channels they provide; (2) cable operators have improved reliability and added new services; and (3) operators have introduced new program packaging options. See Comments from the National Cable and Telecommunications Association in General Accounting Office, "The Effect of Competition From Satellite Providers on Cable Rates," July 2000, page 44.

¹⁴ See Comments of AT&T Corporation, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated August 3, 2001), at 12.

¹⁵ In a November 2001 AT&T Broadband television commercial, a woman states that "so, with this basic satellite plan, we have to share a receiver? The service man replies, "well, look on the bright side, ma'am. While your husband's watchin' sports in the den, you'll have sports in your room, you'll have sports in the kids' room, and you have sports right here in the kitchen. Be like a sports bar." The announcer then says, "with satellite, additional TVs are a problem. Different channels on different TVs at the same time. No extra equipment to buy. Problem solved. Digital cable from AT&T Broadband." Campaign Media Analysis Group, "AT&T Broadband Sports," November 2001.

¹⁶ Lisa Marie Pane, "Cox To Increase Cable Rates Statewide," *Associated Press State and Local Wire*, July 10, 2001.

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television, high-speed Internet access, and video-on-demand become relatively more important in the MVPD market, the participants in the relevant market may well grow beyond the historical MVPD participants which include cable firms, DBS providers, overbuilders, C-Band providers, private cable or satellite master antenna television (SMATV) systems, and multi-channel multi-point distribution service (MMDS) providers to include DSL providers, incumbent phone companies, and cellular phone providers. As technologies evolve, the distinction between video and data services may become increasingly blurred (e.g., video could increasingly be delivered over the Internet, and broadband data services could increasingly be delivered via satellite). To be sure, predicting the future course of the industry is extremely difficult and the market structure may develop in ways that are unanticipated today. Nevertheless, cable and DBS operate in a dynamic market and the relevant market may extend beyond the current MVPD industry.

18. Finally, for the purposes of evaluating the competitive impact of the proposed merger, the national pricing for monthly subscription and programming fees by both EchoStar and DIRECTV suggest that a national-level analysis is the most appropriate (see below for further discussion of the competitive effects of the proposed merger).

IV. MERGER-SPECIFIC EFFICIENCIES

19. The evidence that I have examined shows that the merger offers substantial efficiency benefits, especially in radio spectrum use.

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20. Spectrum has become an increasingly scarce resource as the number of commercially viable uses of the spectrum has expanded over the past several decades. Both DBS firms indicate that each is making full use of its current spectrum to provide its existing services, and the prospects for the DBS industry to receive additional spectrum in the next few years are small. Therefore, improving the efficiency with which the DBS sector uses its spectrum is the only viable way for additional spectrum-intensive services to be provided to DBS customers. Such efficiency improvements would directly benefit DBS consumers by providing an expanded array of services, and also benefit a broader number of consumers by increasing competition with the cable industry. Both EchoStar and DIRECTV emphasize that the potential for additional improvements in spectrum efficiency by each firm individually is minimal. Future spectrum efficiency improvements must therefore reflect the elimination of redundant DBS spectrum use or some technological advance that is not currently anticipated by the DBS industry.

21. In the DBS industry, most of the communication is one-way and the marginal consumer requires virtually no additional spectrum.¹⁷ In other words, unlike some other uses of spectrum, doubling the number of DBS consumers receiving one-way services requires essentially no increase in spectrum. Currently, EchoStar and DIRECTV each broadcast many identical cable channels and broadcast station feeds that is, they both use spectrum for identical programming (e.g., CNN, HBO, local network affiliates, etc.). Such programming could be

¹⁷ The trivial increase in spectrum requirements reflects the need to transmit instructions to the set-top box regarding the relevant service package. The amount of spectrum required for such purposes is extremely small.

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eventually provided with roughly half the current spectrum if EchoStar and DIRECTV were combined. And the spectrum ultimately freed up by a merger of EchoStar and DIRECTV would thus allow New EchoStar to provide new services and other content especially local channels in many local communities that would not otherwise receive them that DBS executives emphasize would not be possible in the absence of the merger.

22. Increased spectrum efficiency obtained through a merger of EchoStar and DIRECTV would benefit consumers in a variety of ways.¹⁸ Several broad categories of benefits are apparent. The most important benefit may be that additional DBS spectrum efficiency would facilitate new and improved services (such as greater geographic coverage of local channels, more specialty, ethnic, and foreign language programming, interactive television services, and video-on-demand) that would help DBS more vigorously compete against the cable industry's ability to upgrade unilaterally its bandwidth to provide these services on a digital-cable tier.

23. Examples of the potential consumer benefits that would result from spectrum made available through the merger include improved and expanded programming choices:

¹⁸ As the Joint Engineering Statement attached to this application notes, many merger-specific benefits will occur almost immediately, while others will take some period of time to be fully achieved. For example, New EchoStar will need to transition to a common set-top box platform to capture the full benefits of eliminating the current duplicative use of spectrum. The transition to a common set-top box platform, however, will take some time and cost to implement. As a result, the full merger-specific efficiencies will not be achieved until the transition to a common set-top box platform is complete. See the Joint Engineering Statement for further discussion of this issue.

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More local channels to more metropolitan areas. New EchoStar believes it can provide local broadcast programming for 100 or more communities (while fulfilling the must-carry rules), compared to roughly 40 overlapping communities that the companies serve now. Providing local programming is spectrum intensive, which limits the ability of current DBS providers to deliver such service outside the largest metropolitan areas. Both EchoStar and DIRECTV are launching new spot beam satellites to satisfy the must-carry rules for the roughly 40 local metropolitan areas that are already served. To use the spot beam technology, each company has to set aside a certain amount of spectrum (and a corresponding amount of transponder capacity) for regional use. Further upgrades using spot beams to serve even more local areas would require the sacrifice of yet more spectrum, as well as the substantial costs of launching more satellites with spot beam transponders for less potential return as they attempt to serve less populated communities. With only a fixed amount of spectrum (and transponder capacity), each company faces the opportunity cost of giving up frequencies that would otherwise carry satellite networks that are necessary to compete with cable. EchoStar and DIRECTV executives indicated that providing local programming is crucial to encouraging subscribers to switch to DBS from cable; EchoStar and DIRECTV executives added that their internal data show that subscriber growth in areas where local programming is now available has been higher than that in areas without such local programming. The lack of such services in all

¹⁹ EchoStar currently provides local broadcasting services in 36 metropolitan areas, while DIRECTV provides local services in 41 communities. The communities with local broadcasting service overlap significantly: both firms currently provide local-into-local service in 35 of the same metropolitan areas.

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but the largest metropolitan areas attenuates the competitive pressures imposed on cable providers by the DBS industry.²⁰

More HDTV channels. New EchoStar has committed to use a portion of the spectrum freed up by the merger to provide consumers with additional high-definition programming. Each company currently offers only two to four channels of HDTV programming, largely because HDTV is extremely spectrum intensive.²¹ By freeing up additional spectrum, the combined entity will be able to offer an expanded number of HDTV channels. This commitment of spectrum to HDTV programming will provide additional incentives for consumers to invest in HDTV hardware, and for producers to invest in HDTV content. It may thus help to jump-start the sluggish HDTV adoption process.

More diverse programming. Spectrum efficiencies will also permit expanded specialized programming. Such programming could include ethnic, foreign language, educational, or other programs that appeal to specialized audiences.

²⁰ See Seventh Cable Competition Report at ¶ 13. The FCC stated that [c]onsumers historically reported that their inability to receive local signals from DBS operators negatively affected their decision as to whether to subscribe to DBS. Goldman Sachs added that, The ability to offer local-into-local programming is extremely important for DIRECTV and DISH Network because it enables the companies to more effectively compete with cable operators. See Goldman Sachs, Satellite Communications: DBS Operators, December 18, 2000, page 26.

²¹ EchoStar currently offers four HDTV channels (including a pay-per-view channel), while DIRECTV offers two channels. In addition to a HDTV HBO channel, DIRECTV provides a combination of live and taped sports and entertainment programming and pay-per-view programming on one of its HDTV channels. (The sports and entertainment programming is broadcast for roughly 18 hours per day, while pay-per-view is available for approximately six hours per day.)

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24. Another important benefit is that the merger may spur further innovations in DBS product offerings. New EchoStar's larger subscriber base would significantly increase the ability of the firm to make the investments necessary to develop advanced services, such as price-competitive high-speed Internet access, and to achieve the scale necessary to spread the fixed costs among a sufficient number of subscribers.²² These new services could include:

Competitive broadband services. A larger customer base would allow New EchoStar to increase the speed of deployment and the scale of investment in satellite-based, high-speed Internet access systems that could effectively compete with cable modem and DSL services. Industry executives believe that current satellite-based, high-speed Internet offerings are not competitive with cable modem and DSL services for a variety of reasons. For example, given current spectrum allocations and technological constraints, executives stated that the number of subscribers that could be provided broadband service by either EchoStar or DIRECTV was significantly below the subscriber levels needed to achieve a price-competitive satellite-based system. Because of its broader base of DBS subscribers, however, the combined entity would be in a better position to develop a satellite-based broadband system that achieves sufficient economies of scale to compete with cable modem and DSL services. Such economies of scale could be captured by the proposed merger because satellite-based broadband service requires a redundancy system, in case a primary

²² The FCC has recognized that firms that can take advantage of scale economies by spreading development costs over a larger customer base are more likely to invest in infrastructure. See *Competition, Rate Regulation, and the FCC's Policies Relating to the Provision of Cable Television Services*, Report, 5 FCC Rec. 4962, 5003, at ¶ 71:

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satellite fails, and doubling the number of subscribers does not require a doubling of the number of back-up satellites. The acceleration of competitive satellite-based broadband services would benefit consumers across the United States by providing an alternative to cable modem and DSL services; it would also be particularly beneficial to those in areas such as rural America without access to cable modem or DSL service. (See below for further discussion of the competitive impact on the high-speed Internet access market and the consumer benefits to rural areas.)

New services. The elimination of spectrum redundancies will allow New EchoStar to provide a variety of services, including interactive offerings and the necessary bandwidth to provide video-on-demand using personal video recording devices. DBS providers are currently adding these options, but spectrum constraints limit their ability to expand the services to include more choices and more features. For example, as I understand it, spectrum constraints limit the near video-on-demand offerings of DBS providers to the top 10 or 20 movies; additional bandwidth would allow New EchoStar to significantly expand such services to include a larger library of movies and potentially true video-on-demand. Because digital cable has more bandwidth available and is therefore able to offer such advanced services, DBS providers must offer a similar set of services to be competitive.

25. The merger would also reduce per subscriber programming costs through the

"[I]ncreased concentration [in the cable industry] has provided economies of scale and fostered program investment.

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expansion of the subscriber base. According to executives at EchoStar and DIRECTV, programming costs account for between one-third and two-fifths of the firms' expenses of providing service, and a significant share of MVPD/programmer contracts—including many existing contracts between programmers and either EchoStar and DIRECTV—include volume discount clauses. Since the merger will increase the customer base of New EchoStar substantially, such volume discount clauses would allow the combined entity to benefit immediately from lower programming costs. The larger customer base would also allow New EchoStar to obtain future programming contracts that are more consistent with the prices paid by the largest cable operators, such as AT&T and Time Warner Cable. Neither DBS company believes it would be able to achieve such programming cost savings on its own.

26. Another obvious area of cost savings involves operational costs. A merger would produce significant savings in key business areas, such as uplink and backhaul expenditures and satellites (satellites typically cost between \$220 million and \$300 million to construct, launch, and insure).²³ One other potential long-term efficiency gain involves the standardization of set-top boxes. Such standardization could reduce manufacturing costs through volume purchasing, allow easier integration into TVs and other hardware, and facilitate the production of new technologies. Moreover, the merger would produce administrative cost savings.

²³ The costs of construction, launch, maintenance, and insurance of the spot beam satellites do not depend on the number of consumers receiving the signal. A combined entity, with a larger customer base in each local area, would be more willing to assume the fixed costs associated with the required satellites.

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V. COMPETITIVE EFFECTS

27. The characteristics of the MVPD market and of DBS firms, in particular, make it very unlikely that this merger will result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm.

28. A price increase as a result of coordinated interaction is unlikely following the proposed merger, in part due to the way the DBS and cable industries are structured. Both DBS firms currently set their monthly subscription and other programming fees on a national basis;²⁴ both firms' executives indicate that allowing the price to vary on a regional or local basis would be impractical.²⁵ First, customers not adequately served by cable are geographically dispersed.

²⁴ In 1992, DIRECTV entered into an agreement with the National Rural Telecommunications Cooperative (NRTC). As part of the agreement, which was substantially revised in 1994, NRTC paid more than \$100 million and, in exchange, received an exclusive right in certain regions of the country to distribute most DIRECTV programming transmitted on 27 of the 32 frequencies at the 101° slot. (According to NRTC, it holds such exclusive distribution rights for eight percent of television households.) The influx of resources for DIRECTV was important in the early 1990s because it provided a rural distribution network and, as the Chief Executive Officer of NRTC has noted, it helped to capitalize the launch of the first DBS service in America. See, for example, B.R. Phillips, Chief Executive Officer of NRTC, Testimony Before Subcommittee on Courts and Intellectual Property, Committee of the Judiciary, United States House of Representatives, February 4, 1998. As a result of the agreement, for customers in NRTC areas, prices for the DIRECTV programming exclusively distributed by NRTC and its affiliate entities are determined by NRTC and its affiliate entities; prices for all other programming distributed by DIRECTV (e.g., premium channels) are determined by DIRECTV on a national basis. DIRECTV and NRTC are currently engaged in a contractual dispute regarding the scope of NRTC's exclusive distribution rights. New EchoStar will commit to continued uniform and non-discriminatory pricing and service throughout the country.

²⁵ Another element of obtaining DBS service is the upfront cost to the subscriber for the equipment and installation. Local variations for such costs are more practical, and both firms, in fact, have offered temporary local promotions on equipment and installation in the past. However, these local promotions have been offered as a reaction to cable firm activities (e.g., a cable price increase) in particular local areas; according to executives of both firms, these promotions have been aimed at cable subscribers and not in response to activity by the other DBS provider. Furthermore, several factors suggest that New EchoStar would not want to, and likely could not, raise equipment and installation prices in specific regions above their competitive levels, especially for any extended period of time. First, consumers could purchase their equipment at any location including over the Internet making extended regional price differentiation difficult, if not impossible, to implement. Second, EchoStar and DIRECTV executives

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Thus, it would be extremely difficult to segment such customers from others. Second, pricing by region or local area would require modifications to the companies' billing and customer support systems; would require retraining of customer service representatives; would limit the companies' ability to engage in national price advertising, including advertising and marketing over the Internet; and may cause customer confusion and dissatisfaction. New EchoStar has committed to maintaining its policy of uniform national pricing for its programming.

29. To set their national prices, DBS firms examine the prices charged by the various cable systems around the country and use these cable prices as a benchmark for setting their prices. Cable firms, on the other hand, set price on a local franchise-by-franchise basis, and prices can differ depending on many factors that are specific to the market in which the franchise is located. Although New EchoStar will face competition from at least one cable firm in any particular franchise area, tacitly reaching an agreement on a coordinated price is not simply a question of reaching an agreement with one other firm. New EchoStar will set its price based on a function of what cable firms are charging in the various franchise areas. In order to elevate price, the various cable multiple system operators (MSOs), each of whom owns systems in a mix of areas, would somehow need to raise price across their range of systems. From the perspective of the cable firms, the optimal price for New EchoStar to charge would likely differ from firm to firm, making an agreement all the more difficult to reach. Thus, a coordinated price increase after the merger would require an agreement among multiple cable firms and New EchoStar, not just an agreement between two firms.

emphasize that they have reduced upfront costs in the past to attract customers, and that they would continue to offer promotions and other incentives so that New EchoStar's upfront consumer costs would be low enough to attract

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30. The danger of a coordinated price increase is further attenuated by the fact that many of the major metropolitan areas have more than one non-cable, non-DBS MVPD provider.²⁶ For example, in New York City, Cablevision has argued that it faces significant competition from various providers of SMATV service.... Terrestrially, RCN also provides service throughout much of the New York metropolitan area, and boasts of its substantial growth in the New York market.²⁷ In Washington, DC, Starpower a joint venture between RCN and the local utility is competing against Comcast, the DBS providers, and SMATV entities.²⁸ More broadly, one overbuilder (RCN) is currently providing service in seven of the ten largest metropolitan telecommunications markets.²⁹

31. Furthermore, a unilateral price increase is unlikely after this merger for two principal reasons. First, under current market conditions, I understand that in response to any price increase by either of the DBS firms, subscribers who would leave DBS for cable would substantially outnumber the subscribers who would leave one DBS firm for the other DBS firm. As noted above, executives at both EchoStar and DIRECTV indicated that the majority of subscribers to DBS service were previously cable subscribers and the majority of subscribers that

cable consumers to DBS.

²⁶ These non-cable, non-DBS providers include overbuilders, multi-channel multi-point distribution service (MMDS), private cable or satellite master antenna television (SMATV) systems, and incumbent local exchange carriers (ILEC) using Very High-Speed Digital Subscriber Lines (so-called VDSL).

²⁷ See Reply Comments of Cablevision Systems Corporation, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 3-4.

²⁸ See Reply Comments of Comcast Corporation, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 10-11.

²⁹ See RCN Announces Third Quarter Results, Press Release, November 7, 2001.

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discontinue one DBS service choose to subscribe to cable rather than to subscribe to the other DBS service. The smaller the diversion of subscribers from one DBS firm to the other, the smaller would be the expected price increase from conceivable unilateral competitive effects after the merger.³⁰

32. Second, the merger could reduce marginal costs through a reduction in the cost of programming per additional subscriber. Even if some subscribers would be diverted from one DBS firm to the other after a price increase, a reduction in marginal costs resulting from the merger could cause the DBS firms to lower their price.³¹

33. In addition, the merger could serve to promote competition by providing New EchoStar with the bandwidth and economies of scale to match the new bundled services offered by cable companies. According to executives at both EchoStar and DIRECTV, the introduction of digital cable which reduces or eliminates the historical quality and capacity advantages of DBS over (analog) cable combined with the possibility of bundling high-speed Internet access, video-on-demand, and other advanced services is a competitive threat to future DBS subscriber growth.³² Given spectrum constraints, DBS firms are unable to fully match the existing and potential services offered by cable companies that can unilaterally increase their bandwidth. The danger is therefore that DBS will become less competitive with the leading cable providers. As

³⁰ Robert D. Willig, Merger Analysis, Industrial Organization Theory and Merger Guidelines, *Brookings Papers on Economic Activity: Microeconomics*, 1991 at 299.

³¹ Carl Shapiro, Mergers with Differentiated Products, Remarks before the American Bar Association, 1995.

³² For example, Goldman Sachs concluded that We see the bundling of [cable] services as the most significant threat to DBS because of its potential not only to slow gross additions, but also to win back subscribers (seen through higher churn). Both have the obvious effect of slowing net subscriber growth for DISH Network and DIRECTV. See Goldman Sachs, Satellite Communications: DBS Operators, December 18, 2000, page 1.

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discussed above, New EchoStar has committed to providing more local channels, more diverse programming, and more advanced services. In addition, executives at the two DBS firms believe that the proposed merger will enable them to develop a more competitive satellite-based, high-speed Internet access option that will help New EchoStar better compete with digital cable's bundled offerings. The combined entity could therefore represent a more effective competitor to the dominant cable firms than the combined competitive impact from each DBS provider on its own.

34. Finally, satellite and uplink infrastructure require substantial investments. By contrast, the marginal costs of providing additional customers with service are relatively low. Such a cost structure would provide New EchoStar with strong incentives to spread its fixed costs among a wider subscriber base. Executives at both firms emphasize that New EchoStar's incentives are to attract new customers before digital cable becomes further entrenched, since consumers who commit to a digital cable/cable-modem bundle may perceive fewer benefits to moving to DBS (relative to analog cable customers).³³ The dynamic incentive to expand the customer base of DBS service will continue after the proposed merger.

Competitive issues in rural America

35. A number of analysts have raised concerns about the impact of an EchoStar-DIRECTV merger on rural consumers. The concern appears to arise from the perception that

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cable is not available in some rural areas, and therefore that the proposed merger would create a monopoly in the rural MVPD market. Based on interviews with top executives of both firms and a review of publicly available industry data, such concerns appear to be unfounded for three reasons.

36. First, nearly every household in America with a television is passed by cable: according to the FCC, 96.6 percent of TV households are passed by cable.³⁴ After the merger, the vast majority of households would thus continue to have the benefit of direct price competition described earlier. Furthermore, those households not passed by cable are geographically diverse—that is, they do not appear to be concentrated in any specific areas. Even in the absence of its national pricing commitment, it would be very difficult for New EchoStar to price discriminate in its monthly subscription and other programming fees against households that are not passed by cable (given the geographical mixing of those with and without cable access and the other impediments to price discrimination for DBS service described above).³⁵

³³ Goldman Sachs similarly notes that “As cable operators upgrade their networks and roll out new service, cable subscribers will have less incentive to churn to DBS. See Goldman Sachs, *Satellite Communications: DBS Operators*, December 18, 2000, page 33.

³⁴ A debate exists about precisely the correct way to calculate the percentage of households passed by cable. See Seventh Annual Report at ¶ 18. See also U.S. Department of Commerce and U.S. Department of Agriculture, *Advanced Telecommunications in Rural America: The Challenge of Bringing Broadband Service to All Americans*, April 2000 at 19. I have cited the most commonly used statistic, which is also the principal statistic cited by the FCC in the current and past reports on competition in the market for the delivery of video programming.

³⁵ As noted in footnote 25, the cost of equipment and installation has on occasion varied across markets as a result of targeted local promotions. But, as discussed above, several factors suggest that the prices of equipment and installation would not rise above their competitive levels following the proposed merger. Furthermore, rural subscribers should be able to take advantage of retail subsidies that are made through geographically diverse retail chains or over the Internet. In other words, rural customers would likely be no worse off following the merger, and may benefit from more intense competition between New EchoStar and cable companies; rural customers would also benefit from the above-mentioned expansions of DBS programming and services that would otherwise not be available in the absence of the merger.

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37. Second, many rural consumers not passed by cable would still enjoy some choice of MVPD providers. For example, C-Band Satellite or Home Satellite Dish (HSD) has nearly one million subscribers.³⁶ New C-Band digital equipment continues to be developed and made available to customers in order to access and view digital programming. Companies like Motorola have developed C-Band products to compete directly with DBS and allow subscribers to receive digital signals.³⁷

38. Third, New EchoStar has committed to maintaining its national pricing plan. The implication of such a commitment is that MVPD prices for rural consumers will be driven by competition in urban areas. As noted above, executives at both EchoStar and DIRECTV view a national pricing strategy as providing cost savings and advertising benefits, and contributing to higher levels of customer satisfaction. This history suggests, and New EchoStar's stated commitment underscores, that national pricing would be perpetuated.

39. In addition, as noted above, with national pricing, monthly service prices are not likely to rise as a result of the merger. According to executives at EchoStar and DIRECTV, these prices are generally driven by the prices set by the major cable MSOs throughout the country, which often face competition from overbuilders and other MVPD providers. Such

³⁶ See Sky Research, Volume 8, Number 11, November 2001, page 3.

³⁷ It is important to note that C-Band has high up-front costs, with dish costs averaging \$2,000. However, more than a hundred broadcast channels are available for free, and a package of two movie channels and 50 basic services can be purchased for as low as \$30 to \$35 per month. See Orbit magazine's C-band Frequently Asked Questions (FAQ) at <http://www.orbitmagazine.com/orbfaqs.htm>. Motorola's 4DTV offers nearly 300 free channels. For \$30 per month, 4DTV offers 59 subscription channels and 22 movie channels, in addition to the free channels. See http://www.4dtv.com/4DTV/what_4dtv.html.

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pricing pressure would not change after a merger of EchoStar and DIRECTV.

40. Thus, it is more likely that the merger would be of distinct benefit to rural TV households than that it would diminish competition's benefits available to them. First, many of the new programming services that could be potentially created from spectrum freed up by the merger would benefit all customers, including rural customers. Second, as emphasized above, the proposed merger will allow the combined entity to have the subscriber base and the spectrum needed to offer a more price-competitive, satellite-based broadband service to rural consumers. For many such rural consumers, satellite broadband is the only feasible means of obtaining high-speed access to the Internet. In evaluating the impact of the proposed merger on rural consumers, it is therefore significant to consider the benefits of expanded broadband delivery.

VI. VERTICAL INTEGRATION

41. In the past, the FCC has raised the concern that vertical integration between video programmers and MVPD providers may deter competitive entry in the video marketplace and/or limit the diversity of programming.³⁸ At the same time, the FCC has instituted program access rules, with the stated purpose of preventing vertically integrated MVPDs from treating non-integrated MVPD providers in a discriminatory fashion to the detriment of competition in the MVPD market.³⁹ Put simply, the concern is that an integrated entity (a) would not want to carry programming that competes with programming it owns or (b) would not make available

³⁸ See Seventh Annual Report at ¶ 172.

³⁹ *Id* at ¶ 178.

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programming it owns to competing MVPD providers on reasonable commercial terms. This merger, however, clearly does not create or exacerbate any concerns the FCC might have about vertical integration because EchoStar and DIRECTV do not have any significant vertical relationships with programmers.⁴⁰

42. If anything, this merger may increase competition among program providers. The FCC has noted that many programming services have been planned, but have not been able to launch. One factor that has limited the launch of these new networks is the lack of channel capacity, particularly among analog cable systems.⁴¹ The merger between EchoStar and DIRECTV, as stated above, will remove duplication among the two services and thereby provide bandwidth to be used as vehicles to launch new programming services.⁴² In addition, the approximately 15 million subscribers of the combined entity should provide an attractive platform for launching new programs, providing an interested programmer with a large percentage of the subscribers it would need to create a viable network.⁴³ New EchoStar would be unaffiliated with any programming interests, and therefore, would not face any disincentives to carry new programming that its subscribers would value. Therefore, this merger could result in an increase in the programming offerings available to consumers.

⁴⁰ News Corporation has an ownership interest in EchoStar that it has been selling off over time. It currently has less than a five-percent interest in EchoStar.

⁴¹ See Seventh Annual Report at ¶ 176.

⁴² For example, the President of Moviewatch, a network that will be launched next year, recently stated that one advantage of an EchoStar and DIRECTV merger is that additional spectrum... gives us opportunities to place networks. See *New Nets Squeeze Into Consolidated Market, Multichannel News*, November 26, 2001, page 60.

⁴³ This estimate of the combined subscriber base of New EchoStar excludes the subscribers of NRTC and its affiliate entities who receive DIRECTV programming.

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VII. CONCLUSION

43. The proposed merger of EchoStar and DIRECTV offers the possibility of substantial efficiency improvements, especially in radio spectrum use, which would directly benefit DBS consumers by providing an expanded array of services (e.g., the provision of local broadcast programming to more metropolitan areas, more High-Definition Television channels, more interactive services, and more specialized programming), and also benefit a broader number of consumers by increasing competition with the cable industry. These efficiencies do not appear to be available without the merger.

44. Furthermore, the nature of MVPD market competition makes it unlikely that a merger of EchoStar and DIRECTV would result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm. Indeed, the proposed merger could serve to promote competition by providing New EchoStar with the bandwidth and economies of scale to match the new bundled services offered by cable companies. The proposed merger of EchoStar and DIRECTV is thus in the public interest.

In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent

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solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC's website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from General Motors. Such documents are not currently available.

General Motors and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM's solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, Hughes, EchoStar, or a combined EchoStar and Hughes, to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all; (3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future acquisitions, strategic

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partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimates, projects, potential, expects, plans, anticipates, intends, or the negative of those words or other comparable words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document. continu

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Attachment B

Joint Engineering Statement in Support of Transfer of Control Application

This joint engineering statement is being submitted to the Federal Communications (FCC) by EchoStar Communications Corporation (ECC) and Hughes Electronics Corporation (Hughes) in support of their Consolidated Application for Authority to Transfer Control of various FCC licenses. This statement will address some of the more significant efficiencies that will be achieved by the proposed merger of ECC and Hughes.

Transition Plans. ECC and Hughes have determined that there will be substantial efficiencies and synergies (including expense savings and revenue enhancements) as a result of the merger of their two businesses. Many of these benefits will occur almost immediately, while others will take some period of time to be fully achieved. ECC and Hughes have developed a process for determining how best to transition their respective businesses upon completion of the merger. The parties anticipate that many of these transition decisions will have been made by the time the merger closes within the constraints of applicable law, while many other decisions will be made upon consummation of the merger.

Explanation of Transition Process. A joint ECC/Hughes team of key executives and employees has been formed to address the most important transition issues associated with the merger of the businesses of both companies. This team will be led by Charles W. Ergen, the Chairman and Chief Executive Officer of ECC and the person designated to become the Chairman and CEO of the combined company (New EchoStar). Other members of this transition team include Michael T. Dugan, President and Chief Operating Officer of ECC, Eddy Hartenstein, Chairman and CEO of DIRECTV and Jack A. Shaw, President and CEO of Hughes. All decisions will be made in the best interests of the combined companies and their subscribers. Some of the

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more important operational issues that will need to be addressed include: which set top box platform to use, how best to transition customers to a common set top box platform, the repositioning of existing and planned satellite resources that takes the maximum advantage of the spectrum efficiencies gained by the merger, and the types of programming to be added to the current mix of local, national and high definition programming.

Set Top Box Transition. One of the most important issues that will have to be addressed is which set top box platform to employ on a going forward basis. Each company has chosen different methods for meeting the anticipated needs of its respective customers, including different conditional access systems, transport streams and descrambling structures, which has resulted in the development of set top boxes that are not compatible with one another. ECC has chosen to deploy an MPEG-2, DVB compatible digital architecture that allows for software upgrades via satellite and enhanced addressable security features to minimize signal piracy. ECC's entire family of receivers and outdoor units currently supports multiple satellites in multiple orbital locations. While ECC is the principal manufacturer of its set top boxes, JVC and others also produce consumer equipment compatible with ECC's system architecture. ECC's latest models include hard drives that allow for personal video recording (PVR) of up to 35 hours of programming, as well as a High Definition (HDTV) receiver that offers state-of-the-art picture quality.

DIRECTV's digital technology to deliver its programming differs from ECC's in that DIRECTV's receivers use a slightly different error correction method, slightly different compression techniques, and a substantially different conditional access system for protection from signal theft. DIRECTV also employs an MPEG-2 based digital architecture in its set top boxes, but the transport format differs from ECC's as does its signal encryption scheme. The signal format

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and receiver technology used by either company can provide similar, video quality and consumer oriented features. In many receiver models, the primary integrated circuits used are identical. The receiver software provides the unique characteristics associated with either service.

In order to obtain the most significant consumer benefits from the merger, it will be necessary to transition to a common set top box platform. One platform will enable the combined company to achieve substantial manufacturing efficiencies, lowering the overall research and development costs as well as the per unit cost of building receivers for a larger subscriber base. A common set top box platform will also allow each subscriber to receive the maximum amount of programming that a combined fleet of satellites and ground stations can offer. Also, a common set top box will place the combined company on a more level playing field with cable, which has for some time had common technology and shared research and development costs for their set top boxes.

The transition to a common set top box platform will begin almost immediately after the merger. Currently, ECC and DIRECTV together serve approximately 15 million subscribers utilizing separate fleets of DBS satellites located in different orbital positions.¹ The amount of time it will take to complete such a transition is dependent upon the number of set top boxes that may need to be exchanged. Of course, this exchange program would be done as seamlessly as possible at no cost to existing subscribers. During this transition period, satellite signals will be simulcast or simulcrypted, so that subscribers owning either set top box platform can receive their existing programming.

¹ This subscriber number is exclusive of those subscribers who receive DIRECTV programming directly from NRTC and its affiliate entities.

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Satellite Fleet Transition. In addition to developing a plan for obtaining a common set top box platform, it will be necessary to develop a complementary plan for transitioning the existing and planned satellite fleets of each company. Today, ECC has six DBS satellites located at four orbital locations. (See Exhibit 1 attached hereto.) From two of these locations (119° W.L. and 110° W.L.) ECC can reach virtually all of the Continental United States (CONUS) as well as Hawaii and portions of Alaska. Due largely to the fact that its first two satellites were assigned to 119° W.L., most of ECC's national programming and approximately 10 percent of its local broadcast programming originate from that location, where it now has two satellites (EchoStar 4 and 6) operating on 21 DBS frequencies.² (One of these satellites EchoStar 4 only has limited operational capacity due to a deployment failure and other in-orbit anomalies.) ECC's only other CONUS location is at 110° W.L. where it currently has one satellite (EchoStar 5) providing both national programming and most of its local broadcast programming over 29 DBS frequencies. Two other DBS satellites (EchoStar 1 and 3) provide several types of programming, including HDTV, niche and international programming from the non-CONUS 61.5° W.L. and 148° W.L. orbital locations.³ (EchoStar 2 is in the process of relocating to the 148° W.L. orbital location to augment service at that slot.) In the near future, ECC will launch its first spot-beam satellite (EchoStar 7) to the 119° W.L. orbital slot. Later next year ECC intends to launch its second spot-beam satellite (EchoStar 8) to the 110° W.L. orbital slot.

ECC's satellites operate in a combination of low power and/or high power modes. Generally, the higher the power, the stronger the received signal, the less need for error correction,

² Throughout this Engineering Statement, reference will be made to DBS frequencies or DBS transponders. The FCC has allocated 500 MHz of downlink spectrum for DBS service at 12.2 – 12.7 GHz. This spectrum has been further channelized into 32 frequencies/transponders.

³ The 61.5° W.L. and 148° W.L. orbital locations can reach varying parts of the CONUS with a quality DBS signal.

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and the more video and audio channels that can be compressed into each DBS transponder. EchoStar 1 and 2 are only capable of operating in a low power mode utilizing up to 16 CONUS transponders. EchoStar 3, 4, 5 and 6 were each designed to operate with up to 32 low power CONUS transponders or up to 16 high power CONUS transponders or a combination of both, while EchoStar 7 and 8 were each designed to operate with 16 high power CONUS transponders and, by operating on five other frequencies re-used 5 times, 25 spot-beam transponders.

While one antenna dish can see both the 110° W.L. and 119° W.L. orbital locations, multiple dishes are required to receive programming from the 110°/119° W.L. and either of the 61.5° or 148° W.L. non-CONUS slots. Approximately 80 percent of ECC's subscribers currently have antenna dishes capable of viewing programming from both the 110° and 119° W.L. orbital locations. Approximately five percent of ECC's subscribers have installed multiple antenna dishes for viewing the programming from the non-CONUS orbital locations.

DIRECTV currently has five operational DBS satellites located at three CONUS locations - 101°, 110° and 119° W.L. (See Exhibit 1 attached hereto.) Most of its national and local programming currently originates from the three satellites (DIRECTV 1R, 2 and 3) located at 101° W.L. and operating over its 32 assigned DBS frequencies. Recently, DIRECTV's first spot-beam satellite (DIRECTV 4S) was launched into orbit and soon will be located at 101° W.L. to provide primarily additional local broadcast programming. Additional programming is originated from DIRECTV 6, which is located at 119° W.L. DIRECTV is assigned 11 DBS frequencies at that location. Another satellite (DIRECTV 5) is planned to be launched during the first quarter of 2002 and will be located at 119° W.L. in order to replace DIRECTV 6, which is operating at reduced capacity due to power subsystem issues. DIRECTV also has one satellite (DIRECTV 1) operating on 3 assigned DBS frequencies at 110° W.L. DIRECTV 1 is currently being used for

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local broadcast service only. DIRECTV currently has on order another spot-beam satellite that is planned to be in service by the end of the year 2003.

DIRECTV's satellites also have both high power and low power DBS transponders. DIRECTV 1, 2 and 3 can operate with a maximum of 8 high power CONUS transponders or 16 low power CONUS transponders. DIRECTV 1R has 16 high power CONUS frequencies, whereas DIRECTV 5 and 6 were each designed to operate with a maximum of 16 high power or 32 low power CONUS transponders (although DIRECTV 6 is now limited to 11 low power DBS transponders due to power subsystems issues). DIRECTV's newest spot beam satellite (DIRECTV 4S) is capable of operating on up to 10 high power CONUS transponders as well as 44 spot beam transponders (by re-using 6 frequencies an average of 7.33 times). Most DIRECTV subscribers currently have a single antenna dish that can view only the satellites located at 101° W.L. A small percentage of its subscriber base have antenna dishes that can view programming from DIRECTV's 101° W.L. and 119° W.L. satellites, and an even smaller subscriber base can view programming from the 110° W.L. orbital slot.

There are several possible scenarios for redeploying the combined satellite fleets post merger that would significantly improve the utilization of the DBS spectrum and satellite resources. Under one possible scenario, most national programming could be placed on the 32 DBS frequencies at 110° W.L. with most Western U.S. local and specialty programming moving to 119° W.L. and most Eastern U.S. local and specialty programming moving to 101° W.L. Under another possible scenario, most national programming could be placed on the 32 DBS frequencies at 101° W.L. with corresponding local and specialty programming located on satellites at other CONUS slots. With the existing satellite resources of both companies (assuming spot beam satellites are successfully placed in service), New EchoStar could provide from the three CONUS

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locations upwards of 320 national standard definition (SDTV) programming channels (assuming a 10:1 compression ratio i.e., each DBS transponder compressing 10 SDTV channels) and over 1000 local broadcast stations for up to 100 metropolitan areas throughout the United States, including Alaska and Hawaii.

Such a combined fleet of satellites would also eliminate the obvious inefficiencies associated with splitting up the 32 DBS frequencies at the 110° W.L. and 119° W.L. orbital slots between the two companies. Today, in order for DIRECTV to provide service from its three assigned DBS frequencies at 110° W.L. it must place one of its satellites at that location and equip its subscribers that want to receive its programming with a special three-feed antenna. Even after its spot beam satellite (DIRECTV 4S) becomes operational, DIRECTV will use at least two of its CONUS frequencies at 101° W.L. for the retransmission of local broadcast programming, leaving approximately 240 SDTV video channels available for national programming (again, assuming 10:1 compression ratios). Conversely, ECC is currently limited to providing approximately 210 national SDTV video channels from its 21 assigned DBS frequencies at 119° W.L., assuming no local broadcast channel feeds. Without spot beam satellites, this figure would be reduced on a one-for-one basis as every local station is added, and would be lowered to a maximum of approximately 160 national SDTV video channels when EchoStar 7 becomes operational (i.e., ECC would be able to retransmit up to 250 local SDTV stations using five CONUS frequencies, but in so doing reduce the number of SDTV channels available for national programming by 50).

Ground Station Transition. Today, ECC operates two ground station complexes, one in Cheyenne, Wyoming and the other in Gilbert, Arizona, primarily to backhaul national and local programming and to uplink that programming to its fleet of satellites. These facilities also provide primary and backup telemetry, tracking and command (TT&C) for its in-orbit satellites.

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DIRECTV has similar earth station complexes in Los Angeles, California and Castle Rock, Colorado. Each complex includes numerous earth station antennas and associated electronics and hardware, and must be manned by an extensive staff of skilled technicians, operators, and engineers on a 24x7 basis.

There are several potential scenarios post merger that will result in significant cost savings for the New EchoStar. Clearly, both companies must invest significant recurring dollars to backhaul local stations across the country to each of their uplink facilities which requires nearly a one hundred percent duplication of equipment and fiber. Much of this duplication could be eliminated post merger. While it is desirable to maintain some site diversity between uplink centers, additional benefits can be obtained by minimizing equipment redundancy between the companies, and by eliminating the need to expand continually the existing facilities to support the growing list of must carry local broadcast channels.

Comparison of Channel Capacities. A combined ECC/DIRECTV will have significantly more DBS channel capacity at its disposal to provide more national and local programming to its subscribers than each company would have absent the merger. ECC and DIRECTV currently are assigned 50 and 46 CONUS transponders, respectively. Assuming a 10:1 compression ratio for SDTV channels and no spot beam satellites (which is the case today), ECC can employ up to 500 SDTV video channels while DIRECTV can employ up to 460 SDTV video channels. Of this amount, however, a substantial number of these channels are currently being utilized by each company for the provision of the same local broadcast channels (4 to 5 channels per metropolitan area) in approximately 35 metropolitan areas. Upon the successful launch and placement in orbit of spot beam satellites, each company should be able to maintain approximately

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the same number of metropolitan areas with local broadcast stations while fulfilling its must carry obligations under the Satellite Home Viewer Improvement Act of 1999 (SHVIA).

Today, each company also offers its subscribers a national programming lineup that is very similar in content, substantially duplicating each other s programming. (See Exhibit 2 attached hereto.) ECC has approximately 235 national programming channels and DIRECTV has approximately 179 national programming channels. Of these, approximately 150 channels are duplicative. DIRECTV also carries about 40-50 pay-per-view (PPV) channels depending on the season, whereas ECC carries about 39 PPV channels, six of which are simulcast on the satellites located at 61.5° W.L. and 148° W.L. This leaves only enough channel capacity to offer the requisite minimum of educational and public affairs programming and a few HDTV channels, which require significantly more bandwidth than SDTV video channels.

The combined company would be able to eliminate much of the substantial duplication of local broadcast and national programming and thereby increase significantly the amount of national programming choices and local broadcast areas, as well as more HDTV, educational, niche and international programming.

More Local-Into-Local Stations and Metropolitan Areas. Each DBS company typically offers only a few local broadcast stations to a small number of metropolitan areas. Today, ECC offers 4-5 local stations in 36 metropolitan areas, whereas DIRECTV offers approximately the same number of local stations in all but one of these metropolitan areas plus an additional 6 metropolitan areas for a total of 41 metropolitan areas. (See Exhibit 2 attached hereto.) Post merger, the combined company will be able to eliminate much of this local channel duplication and free up additional channels to serve upwards of 100 metropolitan areas with local programming, including at least one metropolitan area in each of the fifty states.

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More HDTV Programming. Currently, DIRECTV and ECC only have enough satellite capacity to offer 2-3 full-time HDTV channels to their subscribers. Moreover, in order for any subscriber to obtain this programming he or she must purchase and install a special antenna dish. This is because ECC only offers HDTV programming from its non-CONUS 61.5° W.L. and 148° W.L. locations, while DIRECTV utilizes some of its capacity at 119° W.L. for this programming. Absent the merger, it is unlikely that many more, if any, additional HDTV programming would be carried on either DBS company's channel lineup due to the significant bandwidth requirements for such programming and the competing demands for other programming choices. Post merger, with the spectrum freed up by avoiding the duplication of national and local programming, it is anticipated that New EchoStar will be able to offer at least 12 HDTV channels from one or more of its full CONUS orbital locations.

Better Service to Alaska and Hawaii. It has been a challenge for DBS providers to offer the full range of programming choices to residents in Alaska and Hawaii due to their far western and northern locations in relation to the CONUS orbital slots centered over the United States. Most subscribers in these locations also require larger antenna dishes. Neither company is able to offer any local broadcast channels over their current operational fleet of satellites; however, with the upcoming launches of ECC's spot beam satellites, it will be able to offer such programming if it can do so and still meet its satellite must carry obligations.

With the combined satellite and spectrum resources of both DBS companies, New EchoStar will be able to offer more program choices to the residents of Alaska and Hawaii. Not only will they receive the best available programming currently being offered by each DBS provider, but they also will benefit from the increased programming choices available as a result of the spectrum efficiencies outlined above.

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More Reliable Service. New EchoStar's increased spectrum efficiency and better utilization of satellite capacity will also enable it to provide more reliable service. This benefit is derived from two primary areas: the increased redundancy associated with more in-orbit satellites in case of unexpected satellite failures; and the ability to utilize the additional capacity where available to increase the amount of error correction applied to the DBS signal.

More Diverse National Programming. As shown in Exhibit 2, there is substantial duplication of the existing national programming currently being offered by ECC and DIRECTV. There is substantially more video programming, music programming, and other programming services available to DBS providers than they currently have the channel capacity to provide to their subscribers. For example, of the approximate 300 national programming channels available today, ECC currently includes about 235 on its programming menu. DIRECTV includes even fewer channels on its programming menu.

Enhanced Near Video-on-Demand Capabilities. Today, due to their spectrum constraints both ECC and DIRECTV have limited capabilities to offer their subscribers video-on-demand services. While both companies now offer set top boxes with personal video recorders (PVR) that allow the viewer to download up to 35 hours of programming on hard drives for later viewing, this convenience is not equivalent to video-on-demand service. Such service requires the storage of an extensive library of movies and other programming by the DBS provider for almost instantaneous retrieval by millions of active subscribers. Through the offering of more pay-per-view channels with staggered viewing times, as well as more extensive use of PVR caching, however, New EchoStar will be better able to approximate video-on-demand services for its subscribers.

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Substantial Procurement, Operational and Manufacturing Savings. The combined company, with its larger subscriber base and unified fleet of satellites and ground infrastructure, will be able to achieve substantial cost savings as a result of the merger. ECC's preliminary estimates for these expected cost savings amount to almost \$3 billion per year. A significant portion of these savings will be achieved through reductions in subscriber acquisition costs, more efficient distribution of product offerings, reduced production cost, more cost-effective set-top box research and development, and more efficient advertising. New EchoStar should also benefit from substantial savings through reduced programming costs associated with having a larger subscriber base since most DBS distribution arrangements offer additional discounts on a volume basis. In addition, New EchoStar can expect to achieve substantial savings from a reduction in subscriber churn as more services are offered over a unified platform that can better compete with digital cable. Moreover, significant cost savings will be achieved by rationalizing the satellite fleet of both companies, by eliminating future satellite procurements and capital expenditures, by achieving operating efficiencies and by eliminating duplicative overhead expenses. For example, the merged company could serve its national customer base and fully utilize the spectrum resources at the three CONUS DBS locations with only two satellites at each orbital slot. Indeed, upon the successful launch of EchoStar 7 and 8, ECC could utilize fully all 32 DBS transponders at 110° W.L. and 119° W.L. orbital locations operating just two satellites at each location instead of the four that are slated to operate at there.

Technological Developments. The combined resources of the merged companies will also lead to the more rapid and efficient deployment of newer technologies, including possibly the introduction of advanced modulation, coding and compression techniques that would further enhance overall channel carrying capacity. Given the current platforms that each company

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employs and their existing fleet of satellites, however, neither DBS provider alone can expect to achieve any significant improvements in channel capacity using the limited spectrum resources available to them. Each company already compresses its digital signals to achieve approximately a 10:1 ratio of SDTV programs per DBS transponder. Four to five years ago, compression ratios of 6-8 were achievable and the future outlook using existing hardware is only expected to achieve ratios of about 12:1 with acceptable service quality.

Moreover, while spot-beam satellites soon will be launched that will enable greater frequency reuse and allow for additional local programming over the same number of DBS transponders, they were designed based upon the current inefficiencies in the fragmented assignment of DBS frequencies. For example, ECC designed both of its spot beam satellites with the understanding that it had access to only 21 DBS transponders at 119° W.L. With this limit in mind, ECC could only devote five of these transponders to spot beams, since it needed the remaining 16 DBS frequencies for national programming. Each spot beam satellite was also designed with the understanding that it could be used as a backup for the other spot beam satellite in case of a launch or in-orbit failure.

In any event, these future achievements in spectrum efficiencies are being more than offset by the increased demands for satellite bandwidth. As noted above, DBS providers soon will be required by the satellite must carry provisions of SHVIA to retransmit a significantly greater number of local broadcast channels in each metropolitan area that they currently provide local programming. It is estimated that ECC alone will need up to 300 more video channels to maintain all of its local programming areas. Similarly, DIRECTV will require approximately 330 more video channels in its local programming areas to comply with SHVIA. In addition, as viewers begin to watch more HDTV programming, it will become more difficult to satisfy their demand for

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such programming using existing satellite and spectrum resources. Today, ECC and DIRECTV need an entire DBS transponder to produce one HDTV channel (as opposed to approximately 10 SDTV channels in each transponder). While there may be some improvements in this compression ratio over time, with the limited spectrum resources of each company it simply will not be possible to satisfy the potential demand for high definition programming.

DBS providers also compete today with digital cable that is offering an ever growing number of national and pay-per-view programming to their subscribers. ECC and DIRECTV are therefore extremely constrained in devoting any more of their national DBS capacity to local programming or other services and expect to continue to compete at a national level. Tradeoffs constantly must be made as to how best to employ their limited spectrum resources.

Broadband Satellite Deployment Efficiencies. ECC's and Hughes' experiences to date with their investments in several broadband technology companies have been mixed. While ECC currently offers a two-way broadband service through its affiliate, Starband, the subscriber take rate for this service has been slow with the prospects unlikely for increasing the number of subscribers significantly in the near future. Starband leases CONUS transponders on Ku-band satellites and offers a two-way broadband service to residential consumers starting at about \$70 per month. Hughes' satellite broadband offerings (DirecPC and now DIRECWAY) also have not yet obtained sufficient scale in their residential subscriber base to achieve stand-alone viability. When used for point-to-point services, current Ku-band satellite platforms do not provide sufficient spectral efficiency to achieve the competitive price levels needed for significantly faster subscriber ramp up.

ECC and Hughes also have investments in Ka-band projects Wildblue and Spaceway, respectively. While these programs both use Ka-band satellites, they differ in their

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technological and commercial approach. Wildblue has announced plans that include launching a Ka-band payload on board the Canadian satellite Anik F2 in 2002, whereas Spaceway plans on deploying a number of Ka-band satellites starting in 2003. Both companies are using spot-beams, although Spaceway will be using a larger number of beams and on-board processing (enabling services using a single hop) and packet replication which will significantly increase the flexibility of the platform. ECC also is building a Ku/Ka-band satellite (EchoStar 9) with limited spot beam capabilities. This satellite could be used to backhaul DBS programming to ECC's uplink facilities and/or to provide limited broadband services.

ECC and Hughes believe that Ku-band two-way broadband satellite services, such as those implemented by Starband and Hughes, will struggle to achieve sufficient economies of scale to effectively compete with terrestrial DSL and cable broadband services. Both companies believe, however, that the new Ka-band satellite platforms offer the opportunity to achieve price points that will allow broadband satellite services to compete with terrestrial broadband alternatives. In order to achieve the necessary economies of scale and scope, one company must have access to a sufficient number of state-of-the-art satellites in relatively close proximity to one another and must have enough spectrum to sustain a critical mass of subscribers. ECC and Hughes estimate that at least 5 million subscribers would be necessary in the next 5 years to recover the significant up front investment and subscriber acquisition costs associated with launching and marketing such two-way broadband satellite service. Since each Ka-band orbital slot can only serve at most 1.5 to 2.0 million subscribers with the use of spot beam satellites, access to a number of orbital locations is necessary to begin to meet even these minimum subscriber objectives.

Broadband satellite systems also require ground stations and access gateways, both primary and redundant, as well as the provision of customer support facilities. Considerable

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efficiencies will be achieved through the merger of these operational activities and investments leading to reduced costs and lower service prices. In addition, the consumer terminals required for the provision of satellite broadband services are more expensive than the equivalent terrestrial terminals. Significant reductions in satellite terminal costs can be achieved by manufacturing efficiencies brought about by increased volumes. Increasing the size and rate of development of the Ka-band systems will have a major positive impact on terminal cost, in turn, significantly increasing the competitiveness of these systems.

In summary, New EchoStar, with its combined Ka and Ku-band spectrum and satellite resources, will be able to achieve operating scale and efficiencies that will allow it to provide broadband services that will compete effectively with terrestrial broadband systems. It will have access to a sufficient number of Ka-band orbital slots within an arc of 22 degrees, which will facilitate a one dish solution for consumers and allow for needed redundancy in case of operational problems. It also will be able to achieve scale in manufacturing to significantly reduce subscriber terminal costs, and offer bundled DBS and broadband services that will permit full competition with digital cable by significantly increasing the perceived value of the services. In addition, New EchoStar can offer its broadband services to a much larger DBS subscriber base, which will help alleviate the high subscriber acquisition costs and provide services that will compete effectively with terrestrial broadband systems. Finally, by combining the investments of both companies and standardizing the product, the fixed costs for the system will be reduced by 50%, providing a more competitive and compelling product to the American consumer.

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In connection with the proposed transactions, General Motors Corporation (GM), Hughes Electronics Corporation (Hughes) and EchoStar Communications Corporation (EchoStar) intend to file relevant materials with the Securities and Exchange Commission, including one or more Registration Statement(s) on Form S-4 that contain a prospectus and proxy/consent solicitation statement. Because those documents will contain important information, holders of GM \$1-2/3 and GM Class H common stock are urged to read them, if and when they become available. When filed with the SEC, they will be available for free at the SEC's website, www.sec.gov, and GM stockholders will receive information at an appropriate time on how to obtain transaction-related documents for free from General Motors. Such documents are not currently available.

General Motors and its directors and executive officers, Hughes and certain of its officers, and EchoStar and certain of its executive officers may be deemed to be participants in GM's solicitation of proxies or consents from the holders of GM \$1-2/3 common stock and GM Class H common stock in connection with the proposed transactions. Information regarding the participants and their interests in the solicitation was filed pursuant to Rule 425 with the SEC by EchoStar on November 1, 2001 and by each of GM and Hughes on November 16, 2001. Investors may obtain additional information regarding the interests of the participants by reading the prospectus and proxy/consent solicitation statement if and when it becomes available.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Materials included in this document contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. The factors that could cause actual results of GM, Hughes, EchoStar, or a combined EchoStar and Hughes, to differ materially, many of which are beyond the control of EchoStar, Hughes or GM include, but are not limited to, the following: (1) the businesses of EchoStar and Hughes may not be integrated successfully or such integration may be more difficult, time-consuming or costly than expected; (2) expected benefits and synergies from the combination may not be realized within the expected time frame or at all; (3) revenues following the transaction may be lower than expected; (4) operating costs, customer loss and business disruption including, without limitation, difficulties in maintaining relationships with employees, customers, clients or suppliers, may be greater than expected following the transaction; (5) generating the incremental growth in the subscriber base of the combined company may be more costly or difficult than expected; (6) the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; (7) the effects of legislative and regulatory changes; (8) an inability to obtain certain retransmission consents; (9) an inability to retain necessary authorizations from the FCC; (10) an increase in competition from cable as a result of digital cable or otherwise, direct broadcast satellite, other satellite system operators, and other providers of subscription television services; (11) the introduction of new technologies and competitors into the subscription television business; (12) changes in labor, programming, equipment and capital costs; (13) future

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acquisitions, strategic partnership and divestitures; (14) general business and economic conditions; and (15) other risks described from time to time in periodic reports filed by EchoStar, Hughes or GM with the Securities and Exchange Commission. You are urged to consider statements that include the words may, will, would, could, should, believes, estimates, projects, potential, expects, plans, anticipates, forecast, designed, goal, or the negative of those words or other comparable words to be uncertain and forward-looking. This cautionary statement applies to all forward-looking statements included in this document.

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EchoStar-DIRECTV Merger Benefits

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