

Subject Companies: Hughes Electronics Corporation
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General Motors Corporation
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Spectrum and Satellite Efficiencies From the Echostar/Hughes Merger Response to the “Rusch Declaration”

This memorandum addresses the Committee’s request that EchoStar Communications Corporation and Hughes Electronics Corporation respond to the analysis set forth in the so called “Rusch Declaration.”¹ Any analysis of the Rusch Declaration must begin with the simple fact: if the single orbital slot super-satellite envisioned by Mr. Rusch were practical, then EchoStar, Hughes Electronics, and the other DBS firms in the world would have every reason to build it, yet, whatever the *theoretical* technical merit of Mr. Rusch’s satellite, no one anywhere in the world has ever deployed anything like it. Ultimately, his theoretical conclusion simply restates the truism that, with enough time and enough money, almost anything is possible on paper.

The more important question in terms of assessing the merger is whether the scenario described in the Rusch Declaration would be likely to occur in the real world if the merger is not approved. For many technical and economic reasons, the answer to this question is no, not in any time frame that is relevant to the pending merger.

Shortcomings of the Rusch Analysis

The Rusch Declaration suffers from two primary shortcomings: (1) it makes a number of incorrect, unwarranted, or unproven assumptions about the *technical* feasibility of the novel single orbital slot satellite it proposes, and (2) it disregards entirely the question whether

¹ The Rusch Declaration is an analysis written by an engineer named Roger J. Rusch for litigation purposes in a matter unrelated to the proposed merger between EchoStar and Hughes. The substantive conclusions of the Rusch Declaration have never been accepted by any court or regulatory agency.

such a system is *commercially* feasible and thus likely to be deployed in the foreseeable future under real-world conditions. As recognized in the Department of Justice merger guidelines, proper antitrust 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” (Horizontal Merger Guidelines, § 4).

Technical Flaws:

- by focusing solely on the goal of maximizing carriage of local broadcast signals, Mr. Rusch theorized a single orbital slot all spot-beam satellite and disregards completely the different considerations involved in increasing capacity for new national programming, such as HDTV, pay-per-view, video-on-demand, interactive and educational channels;
- Mr. Rusch’s proposed super-satellite would push beyond the mass and power limits of commercial satellite technology, exceeding the capabilities of any currently available, pre-designed satellite and therefore (unlike most commercial satellites) requiring an entirely new design;
- the Rusch design would require a super-size antenna and a significant advance in antenna design and deployment;
- the powerful on-board computing power necessary to process digital signals has never before been attempted with any DBS satellite;
- the proposed satellite would use a new (for DBS) modulation scheme (8PSK modulation) that is significantly more susceptible to interference, compounding the antenna design issues and requiring new set-top boxes for millions of customers seeking to receive local channel service; and
- the Rusch design poses significant risks of failures and poor service quality, particularly due to potential spot beam overlap and the fact that the spot-beams are not aimed at the communities that would want the local channels they would carry.

Lack of Commercial Viability:

- Mr. Rusch does not attempt to estimate the cost of the proposed single orbital slot super-satellite and its associated ground facilities, nor does he analyze at all whether a commercially viable service could be established in light of the projected costs;

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- given its unproven technologies, it could well be prohibitively expensive - or even impossible - to insure the satellite, leaving the satellite carrier at risk for any catastrophic failure;
- in addition to the super-satellite itself, Mr. Rusch's scheme would require elaborate new ground facilities - including six new uplink facilities - at costs that could equal or exceed those of the satellite;
- implementation of the Rusch proposal would render existing investments in spot-beam satellites largely redundant;
- no system like Mr. Rusch's has been implemented anywhere in the world;
- Mr. Rusch's proposed system - even if determined to be feasible - would require between 34 and 44 months to build, launch, test and place in service;
- Rusch does not address - and his expensive system would compound - the economic difficulty posed by small subscriber bases in some DMAs and the high on-the-ground costs of carrying local channels, such as collecting the local broadcasts and transmitting them to a satellite uplink center; and
- even if implemented, Mr. Rusch's proposal would not eliminate the current wasteful duplication of spectrum use, thus denying substantial benefits to consumers.

The Benefits of the Proposed Echostar-Hughes Merger for Expanded Channel Carriage

In contrast, the proposed merger will result in many efficiencies and cost savings. Specific spectrum-related benefits of the merger will include:

- the merger will end redundant broadcasts, creating hundreds of new channels of capacity useful for both national and local programming;
- the combined firm will be able to expand significantly --in an economically viable manner--the number of television markets which receive local programming;
- the merger will provide the unified firm with a more stable and better utilized satellite fleet; and
- the merger will lower the costs of providing DBS service, which will enable the merged firm to offer a better value to consumers and better compete with cable.

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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

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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,” “expects,” “plans,” “anticipates,” “intends,” “continues,” “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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