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

In Re Applications of	)	FCC File Nos.
	)	49/50/DDS-P/LA-90
Satellite CD Radio, Inc.	)	58/59-DDS-AMEND-90
for New Digital Audio Radio	)	44/45-DDS-AMEND-92
Service Satellite System	)	

TO: The Commission

INFORMAL OBJECTION OF THE SOCIETY OF BROADCAST ENGINEERS, INCORPORATED

The Society of Broadcast Engineers, Incorporated ("SBE"), the national association of broadcast engineers and technical communications professionals, with more than 6,000 members in the United States, hereby respectfully submits its informal objection to the application of Satellite CD Radio, Inc. ("Satellite CD") to the extent that the proposed digital audio radio satellite service seeks to utilize frequencies in the 7 GHz TV Broadcast Auxiliary band for satellite uplinking. The application was placed on public notice by the Commission October 13, 1992. See, Report No. DS-1244.[1] In defense of Part 74 Broadcast Auxiliary applications and broadcast operations in the 7 GHz Band, SBE states as follows:

I. SATELLITE CD RADIO, INC. PROPOSAL

1. Satellite CD Radio, Inc. proposes to utilize frequencies between 7035 and 7055 MHz for satellite uplinking. This would

[1] This pleading is termed an informal objection in that it was not filed prior to the date for comments or petitions on this application, which was November 13, 1992. It is, however, well within the reply/opposition/response period, which does not expire until December 15, 1992.

interfere with existing TV Broadcast Auxiliary operations on Channels B-7 (7025-7050) and B-8 (7050-7075 MHz). SBE therefore believes that this portion of the Satellite CD application must be denied, and the applicant instructed to find a compatible uplink frequency. As justification, the SBE points out the following:

2. The Satellite CD application is premature. There are currently no service rules in Part 25 ("Satellite Communications") that would authorize the proposed frequencies and use. Although the U.S. Table of Frequency Allocations in Section 2.106 of the FCC Rules shows an allocation between 6875 and 7075 MHz for earth-to-space communications, the only portions of FCC rules which apply to this band are Part 74 (TV Broadcast Auxiliary), Part 78 (CARS), and Part 21 (LTTS). All three rule parts cover essentially the same types of services: TV STL, TV ICR, and TVP. TV STL's are the studio-to-transmitter links used by television stations. Any interference to this link disrupts or precludes the entire programming of the station to all viewers. SBE has facilitated shared use of this band for many years, to permit the maximum reuse of shared frequency allocations, both fixed and mobile. TV ICR's are fixed links used to rely programming from a remote point to or from the studio of a television station. TV Pickups are mobile or temporary links used to bring programming from a remote location to a television station or network, or to a cable system or network. TV Pickups are used extensively for the production of live news and sports programming. All such uses are carefully coordinated within

the broadcast and cable industries, through voluntary cooperative measures.

3. There is no engineering exhibit in connection with the Satellite CD application which addresses interference protection to co-channel users from the uplink operation proposed by the applicant. The only statement SBE finds in the Satellite CD application concerning protection of existing terrestrial users of the 7 GHz spectrum is at Page 24, where Satellite CD states

> . . .7 GHz command channels shall be selected to avoid other users. Since the transmissions are at low power and relatively narrow band, this should be simple given the sparse use of the 7 GHz. . .

If this is indeed intended to refer to the spectrum occupied by TV Broadcast Auxiliary users, then it is neither true nor reasonable. The TV Broadcast Auxiliary 7 GHz band is heavily used in all major markets. Especially in Washington, D. C., the proposed uplink location, new TV Broadcast Auxiliary fixed links have already been forced mostly to 13 GHz and higher, or to fiber or landline, where possible, because of congestion in the 7 GHz TV Broadcast auxiliary band. TV Pickups have been forced to use the 7 GHz band because of crowding in the 2 GHz TV Broadcast Auxiliary band, the preferred band for electronic news gathering (ENG). In the Washington, D. C. area, TV Pickup use in the 7 GHz TV Broadcast Auxiliary band is particularly heavy. Satellite CD Radio could hardly have picked a worse geographic location to initiate proposed uplink service.

4. The importance of the 7 GHz TV Broadcast Auxiliary band will increase even more with the advent of HDTV because 7 GHz channels are of wider bandwidth (25 MHz) than 2 GHz TV Broadcast

Auxiliary channels (17 and 18 MHz). A 25 MHz bandwidth may be necessary for HDTV TV Pickups, and possibly also for STL's and ICR's, depending upon the success of compression algorithms and the fragility of digital modulation schemes under field conditions.

5. Although it may be possible for satellite uplink stations and fixed TV Broadcast Auxiliary stations to co-exist, if appropriate desired-to-undesired (D/U) ratios are determined and written into Part 25 of the FCC Rules, pursuant to a rule making notice in accordance with the Administrative Procedure Act, no such protection is possible when mobile (TV Pickup) stations are involved. This is because the location of TV Pickups, by their very nature, can never be known in advance. While satellite uplink stations would undoubtedly employ highly directive antennas and, possibly, steep elevation angles (depending on the satellite location), this is no guarantee of interference-free coexistence with TV Pickups operated from or to helicopters, a very common practice for major market ENG. In effect, grant of Satellite CD's application would preclude ENG operations on Channels B-7 and B-8.

6. SBE believes that the foregoing objections to the Satellite CD uplink application are sufficient for the Commission to dismiss the application as premature. In any event, however, the Commission should require Satellite CD, and any other satellite uplink applicant proposing any portion of the 7 GHz broadcast auxiliary band to coordinate in advance of filing its application with local Broadcast Auxiliary frequency coordinating groups. The burden of interference resolution should, as well, be placed on the

satellite uplink licensee. Such a coordination procedure would ensure that existing terrestrial users are notified of a proposed uplink and are provided an opportunity to review the coordination study and point out any flaws in the study. In major markets such as Los Angeles, where almost all of the 7 GHz TV Broadcast Auxiliary stations are fixed links and little 7 GHz ENG use is presently conducted, a carefully engineered uplink may well be able to co-exist with point-to-point terrestrial TV Broadcast Auxiliary microwave stations. There is nothing, however, in the instant application to indicate that any interference studies have been conducted.

II. SUMMARY

7. Grant of the uplink portion of the Satellite CD application raises serious interference issues to existing terrestrial TV Broadcast Auxiliary users. Such interference could limit the timely dissemination of news and information now possible through ENG. Such limitations on the ability of TV stations to cover late breaking news stories is especially troublesome in the Washington, D. C. area, the seat of the American political system. For these reasons, the SBE believes that the Commission should dismiss the Satellite CD Radio, Inc. application for uplink facilities in the 7 GHz TV Broadcast Auxiliary band.

Respectfully submitted,

SOCIETY OF BROADCAST ENGINEERS, INC.

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December 1, 1992

CERTIFICATE OF SERVICE

I, Margaret A. Ford, Office Manager in the law firm of Booth, Freret & Imlay, do hereby certify that copies of the foregoing INFORMAL OBJECTION OF THE SOCIETY OF BROADCAST ENGINEERS, INCORPORATED were mailed this 1st day of December, 1992, to the offices of the following:

Mr. Robert D. Briskman, President
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Margaret A. Ford

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