

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

In the Matter of)	
)	
DIGITAL AURORA RADIO)	WE2XRH
TECHNOLOGIES)	File No. 0187-EX-PL-2008
)	
Experimental License for Terrestrial Digital)	
Audio High Frequency Broadcasting)	

**To: The Chief, Office of Engineering and Technology
Via Office of the Secretary**

**PETITION FOR MODIFICATION OR CANCELLATION
OF EXPERIMENTAL AUTHORIZATION**

ARRL, the national association for Amateur Radio, also known as the American Radio Relay League, Incorporated (ARRL), by counsel and pursuant to Section 5.83(b) of the Commission’s Rules [47 C.F.R. §5.83(b)] hereby respectfully requests that the Commission either modify or cancel the above-captioned experimental license grant, first issued to Digital Aurora Radio Technologies (DART) on or about July 15, 2008 and reissued with modifications on or about October 7, 2008. As good cause for this Petition, ARRL states as follows:

1. DART proposes to conduct a course of experimentation which it hopes will lead to a terrestrial, high-frequency (HF) digital aural (domestic broadcast) service for the citizens of Alaska. Ostensibly to study the operation of this “shortwave” system at high latitudes, and apparently in order to roll out this domestic broadcast service, DART specifies exceptionally high power operation in various segments of the HF spectrum,

including 4.4 - 5.1 MHz, 4.5 – 5.1 MHz, ¹ 7.1 - 7.6 MHz, and 9.25 - 9.95 MHz. ARRL's interest in this matter is limited to the fact that the experimental license includes the band 7.1 -7.3 MHz. That band, part of the 7.0 - 7.3 MHz band, is heavily utilized within International Telecommunication Union (ITU) Region 2 (including Alaska) by, and it is allocated domestically exclusively to, the Amateur Radio Service. Simply stated, ***there is a 100 percent certainty of severe, continuous, harmful interference from operation of the DART facilities as authorized by the Commission to ongoing Amateur Radio operation at 7.1 to 7.3 MHz.*** This authorization must be modified immediately (if not cancelled completely), so as to delete the band 7.1 - 7.3 MHz therefrom.

2. DART has been permitted operation in the 7.1 - 7.6 MHz band using a 20 kHz bandwidth digital emission at a transmitter output power of 100 kilowatts and an ERP of 660 kW within a radius of 1500 km of Delta Junction, Alaska. With respect to interference avoidance, the application is unacceptably terse; it notes only that DART will coordinate with the High Frequency Coordination Conference (HFCC). It does not propose any coordination with any individual or entity in the Amateur Service. There is no showing whatsoever how DART proposes to avoid interference to Amateur Radio operation at 7.1 - 7.3 MHz. In fact, there is no indication that DART is even aware of the allocation. Alaska is within ITU Region 2. In Region 2, and in the United States domestic table of allocations, the band 7.0 - 7.3 MHz is allocated exclusively to the Amateur Service. DART has not established that it has any ability to utilize the HF international

¹ The authorization issued by the Commission is confusing in that it lists, at the same station location, two slightly different but overlapping frequency bands, 4.4 – 5.1 MHz and 4.5 – 5.1 MHz, each having the same emission designator and the same authorized power. Why the second band, wholly included in the first, is listed separately is unclear.

broadcast allocations for a domestic broadcast service. In any case, it has not justified the use of the 7.1 - 7.3 MHz band for this purpose.

3. The 7.0 - 7.3 MHz band is perhaps the most heavily-utilized Amateur HF band in the United States. There is no compatible use that DART can make of this band in any state or territory of the United States, at any time of the day or night. The extremely high power levels to be used by DART will cause preclusive interference to Amateur operation on any frequency on which DART's proposed transmissions will occur within 7.1 - 7.3 MHz. The entire 7.0 - 7.3 MHz band is used heavily within Alaska, especially by radio amateurs located in its remotest areas, at all times. It is particularly critical in times of emergency due to its daytime and nighttime propagation characteristics. The band is also used at all times of the day and night for worldwide communications by radio amateurs.

4. The Commission's rules, at Section 5.83(b), state that experimental license grants are subject to change or cancellation by the Commission at any time without hearing if in the Commission's discretion the need for such action arises. ARRL submits that this application should never have been granted as applied for in the first place, and there is an urgent need to prohibit operation of the DART high power transmitters in the entirety of the 7.1 - 7.3 MHz band. It is likely that DART has been under a misapprehension that the band is among the international broadcast allocations, because, in ITU Regions 1 and 3, the band is allocated to that Service. However, in Region 2, in Alaska, it is not. After March 29, 2009, the band 7.1 - 7.2 MHz will not be available for broadcasting anywhere.

5. Section 5.85 of the Commission's Rules governing the selection and use of frequencies by holders of experimental authorizations states, in part, as follows:

5.85 Frequencies and policy governing their assignment.

(a) Stations operating in the Experimental Radio Service may be authorized to use any government or non-government frequency designated in the Table of Frequency Allocations set forth in part 2 of this chapter, *provided that the need for the frequency requested is fully justified by the applicant.*

(b) Each frequency or band of frequencies available for assignment to stations in the Experimental Radio Service is available on a shared basis only, and will not be assigned for the exclusive use of any one applicant, and such use may also be restricted to one or more specified geographical areas. *Not more than one frequency in a band of frequencies will normally be assigned for the use of a single applicant unless a showing is made demonstrating that need for the assignment of additional frequencies is essential to the proposed program of experimentation.*

(c) *Frequency assignments will be made only on the condition that harmful interference will not be caused to any station operating in accordance with the Table of Frequency Allocation of part 2 of this chapter.*

(emphasis added).

There is no justification submitted by DART for the use of the frequency bands requested, particularly with respect to 7.1 - 7.3 MHz. It is unclear why such large segments of spectrum were specified by DART, given its stated course of experimentation, and given its narrow occupied bandwidth. It would appear that a single channel, or at least a single channel in each of the bands proposed by DART, would have been sufficient. Furthermore, DART should have been required to conduct its frequency coordination efforts in advance of the filing of its application. Finally, as noted above, DART has failed to make any showing as to how it would avoid interference to Amateur Radio operation at 7.1 - 7.3 MHz. ARRL submits that such a showing could not be made

in any case. Therefore, the license grant should either be cancelled entirely, or at least modified so as to delete the reference to any Amateur HF allocation.

6. Finally, Section 5.111(a)(2) of the Commission's Rules, dealing with general limitations on use of experimental facilities, requires as follows:

(2) When transmitting, the licensee must use every precaution to ensure that the radio frequency energy emitted will not cause harmful interference to the services carried on by stations operating in accordance with the Table of Frequency Allocations of part 2 of this chapter and, further, that the power radiated is reduced to the lowest practical value consistent with the program of experimentation for which the station authorization is granted. If harmful interference to an established radio service develops, the licensee shall cease transmissions and such transmissions shall not be resumed until it is certain that harmful interference will not be caused.

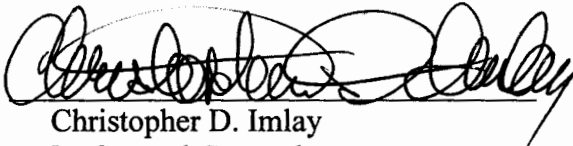
DART's proposed facilities cannot possibly meet this obligation, and there is no showing that the transmitter power is the lowest practical value consistent with the program of experimentation. Nor has it even taken Amateur Radio operation into account.

Therefore, the foregoing considered, ARRL, the National Association for Amateur Radio, respectfully requests that the Commission either modify the experimental authorization of DART as suggested herein, or cancel the authorization outright as improvidently granted.

Respectfully submitted,

**ARRL, THE NATIONAL ASSOCIATION
FOR AMATEUR RADIO**

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October 20, 2008

CERTIFICATE OF SERVICE

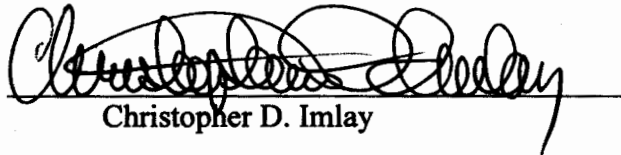
I, Christopher D. Imlay, do hereby certify that I caused to be mailed, via first class U.S. Mail, postage prepaid, and via e-mail, a copy of the foregoing PETITION FOR MODIFICATION OR CANCELLATION OF EXPERIMENTAL AUTHORIZATION, to the following, this 20th day of October, 2008.

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