

*ROCKWELL INTERNATIONAL CORPORATION
ADVANCED RAILROAD ELECTRONICS SYSTEMS (ARES)
EXPERIMENTAL PROGRAM - MODIFICATION*

The applicant plans to modify the present experimental program, which operates on 161.325MHz, by extending the program to include development and experimental testing of ARES applicable to the Advanced Train Control System, operating on paired frequencies in the 900MHz band, recently allocated by the Commission for such use.

The extended program will include propagation tests and analysis on a 900MHz frequency for comparison with data obtained, on the 161.325MHz channel employed to date with the prototype system operating in the lower band. As with the present experimental system, the base station will be located in the applicants engineering facility in Cedar Rapids, Iowa, and three mobile units operating within a 50 mile radius. MSK data at 2400 BPS as well as ATCS GFSK data at 4800 BPS will be employed. Occasionally voice communications will be employed for coordination purposes during the tests. Testing in the 900MHz band will normally be carried out on the 935.8875MHz/896.8875MHz pair (channel No. 71); however, it also is desired to carry out some initial testing utilizing one frequency of the pair 935.8875MHz, in order to directly compare the results with that of the single channel 160MHz operation.

Frequency coordination has been carried out with the Association of American Railroads and a copy of the agreement is included herewith as Exhibit 2.

File: C&S 9.10.2

THIS AGREEMENT is made by and between the Association of American Railroads, an unincorporated association, herein termed "AAR", and Rockwell International, Collins Air Transport Division, a corporation, herein termed Rockwell.

AGREEMENT:

AAR hereby permits Rockwell to use radio channels or frequencies licensed to AAR in its radio operations on Rockwell property.

Such permission is given with the understanding that AAR shall have exclusive control of said frequencies.

Operations by Rockwell on the AAR channels or frequencies shall be limited to Advanced Train Control Systems (ATCS) communications or testing thereof.

Rockwell agrees to conform to rules and regulations of the FCC and any other regulatory agency having jurisdiction with respect to the permission herein given.

AAR shall not be liable to Rockwell or others for any interruption or interference with Rockwell transmission and Rockwell so far as it lawfully may, releases and indemnifies AAR from any loss, damage, liability or expense resulting from such interference or interruption or failure by AAR to provide Rockwell with an open channel or frequencies.

The permission herein given may be terminated by either party by giving one year written notice to that effect, or less, by mutual agreement, with the other party.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in duplicate.

ASSOCIATION OF AMERICAN RAILROADSBy Leo M. Ammiel Sr.Date 09/14/88ROCKWELL INTERNATIONALBy James T. SawyerDate 3 October 1988

LMH3