Exhibit 1

A Description of the Proposed Program

CNR held an experimental radio station license, class of station -- XD FX, for this program which expired on 1 February 1996; reference Call Sign KF2XEX; File No. 1748-EX-R-94.

CNR has developed a novel HF communication system, based on frequency hopped FSK signaling using a pseudorandom hopping sequence. The system dwells on carrier for less than 5 msec; during this time, it emits an F1 modulated pulse of similar bandwidth to that of a conventional HF RTTY transmitter.

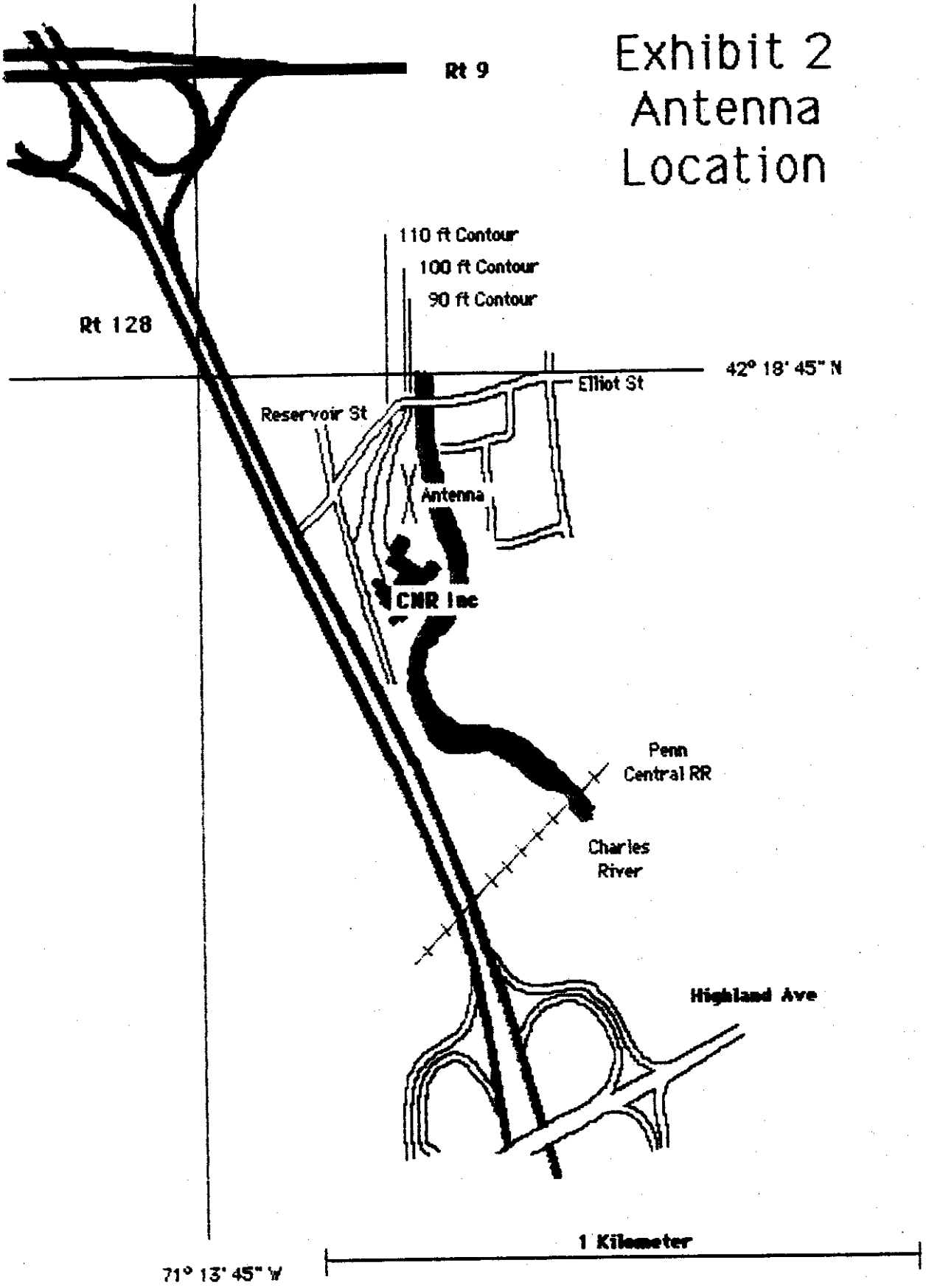
This system incorporates automatic frequency management, link setup, link maintenance, and adaptive data rate; adaptive data rate is achieved using a novel class of error correcting codes. The system automatically adapts its data rate to changing channel conditions, allowing lower rate communications under adverse channel conditions and higher data rates under better channel conditions. The system uses these codes to assure error-free communications under all channel conditions; this is a vital capability for systems transferring error intolerant binary traffic, e.g., cryptographic data.

The system we have developed functions by scanning a preset number of frequency hopping bands, looking for the best frequency band for a given link. The frequency band having been chosen, the adaptive rate error correcting code is used to maximize channel throughput on hat carrier frequency. The frequency band selection and data rate control are fully automatic.

The communications system described above has been developed and tested during the past fifteen years, using laboratory and live link tests. We have added a number of system capabilities including secure voice mail and improved RF subsystem components which require continued on-the-air testing. We now wish to verify their performance with further live link tests.

Our requirements are for the usage of frequency hopping bands in the 2 to 30 MHz range.

Exhibit 2
Antenna Location



Antenna siting has been reviewed by local conservation officials and found to be environmentally benign. Site is already in use by other high powered radio transmitters (PE > 1 KW).

Exhibit 3

Request for Withholding From Public Inspection

We request that the Commission withhold Exhibit 1 of this appellation from public inspection. Wideband and adaptive HF concepts are an active area of current research at CNR and elsewhere. We believe that several of the proprietary features of our approach to the problem with allow us a substantial competitive advantage in this field; therefore, we request that the disclosures of Exhibit 1 remain proprietary to CNR, Inc., and that they be withheld from public inspection.

220 Reservoir St., Needham, MA 02194

Exhibit 4

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL — (Nature of Service)

K F 2 X E X — (Call Sign)

XD FX — (Class of station)

1748-EX-R-94 — (File number)

NAME CNR, INC

Needham, (Norfolk) MA - NL 42 18 45; WL 71 13 45
(Location of station)

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications.

Frequency kHz	Authorized Power (watts)	Emission Designator
2000-2173.5	200 (ERP)	3K00F1B
2190.5-2495	200 (ERP)	3K00F1B
2505-3018	200 (ERP)	3K00F1B
3028-4125	200 (ERP)	3K00F1B
4128-4995	200 (ERP)	3K00F1B
5005-5675	200 (ERP)	3K00F1B
5685-6215.5	200 (ERP)	3K00F1B
6218.5-8359	200 (ERP)	3K00F1B
8362-9995	200 (ERP)	3K00F1B
10005-13360	200 (ERP)	3K00F1B
13410-14990	200 (ERP)	3K00F1B
15010-19990	200 (ERP)	3K00F1B
20010-21850	200 (ERP)	3K00F1B
21870-24990	200 (ERP)	3K00F1B
25010-25550	200 (ERP)	3K00F1B
25670-30000	200 (ERP)	3K00F1B

The station identification requirements of Section 5.152 of the Commission's rules are waived.

Operation: In accordance with Sec. 5.202(i) of the Commission's Rules.

In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

This authorization effective February 1, 1994 and will expire 3:00 A.M. EST February 1, 1996

FEDERAL COMMUNICATIONS COMMISSION