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UNION SWITCH & SIGNAL



~~0009-EX-ST-1998~~

Change from Webber to ↑

November 9, 1998

5-3406-EX-98

granted June 1998

FCC Experimental Licensing Branch
Code EAE
PO Box 358320
Pittsburgh, PA 15251-5315

Ref: Call Sign KS2XAU
File # S-3406-EX-98

Dear Sirs:

This submittal is to request renewal for Special Authorization to operate the RF generating equipment described in detail below for a period of six months commencing on December 4, 1998. Experimental Special Temporary Authorization (see attached) was previously granted for this equipment for the period June 4, 1998 through December 4, 1998.

Experimental Special Temporary Authorization is currently requested in order to operate the equipment on New Jersey Transit, the Denville Line. The purpose of the operation is to demonstrate the application of enhanced train location and speed control equipment to New Jersey Transit personnel and Federal Railroad Authority (FRA) personnel. Installation of this equipment will result in increased commuter rail efficiency and safety.

The equipment consists of vehicle-mounted antennas and wayside-mounted transponder devices mounted at several locations along the railroad right of way. In operation, the antenna mounted to the locomotive transmits a low power RF signal directed downward beneath the locomotive to energize the transponder devices mounted between the rails as the locomotive passes over them. The transponder devices are passive devices until the locomotive antenna is within close proximity to them, resulting in the transponder responding with a low power RF signal containing digitally encoded information relative to the physical location of the transponder combined with specific instructions for the locomotive. The information received by the locomotive will allow for accurate position location, optimum train speed control, insertion of restricted speed zones as required, and increased safety of railroad operations.

Equipment details are as follows:

Antenna:

Manufacturer; AT Signal System AB, Spanga, Sweden

Model Number; L320430010

Power Input; 25 Watts

Frequency; 27.115 MHz.

Emission; P0 (17us on, 3us off)

Antenna Mounting; The antenna is mounted beneath the locomotive, approximately 15 inches above the ground.

Quantity of antennas to be applied; 5 antennas. (1 each on 5 vehicles)

Union Switch & Signal Inc.
1000 Technology Drive
Pittsburgh, PA 15219-3120
Tel. (412) 688-2400 / 1-800-351-1520
Fax (412) 688-2399

An Ansaldo Signal Company

Transponders:

Manufacturer; AT Signal System AB, Spanga, Sweden

Model Number; L320440000

Power Input; Maximum, 13 milliwatts

Frequency; 4.5 MHz

Emission; P0

Antenna Mounting; The transponders are ground mounted.

Quantity of transponders to be applied; 44

Sincerely,

A handwritten signature in cursive script, appearing to read "Carrie Webber".

Carrie Webber
Project Director

Cc: File

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL
(Nature of Service)

KS2XAU
(Call Sign)

XD FX.MO
(Class of station)

S-3406-EX-98
(File number)

NAME UNION SWITCH & SIGNAL, INC.

on Denville Line, New Jersey Transit
(Location of station)

Special Temporary Authority is hereby granted to operate the radio transmitting apparatus described below:

Frequency (MHz)	Authorized Power (input)	Emission Designator
27.115	25 watts	xxxxPON
4.5	13 mW	xxxxPON

Purpose of Operation: Demonstration of enhanced train location and speed control equipment.

This special temporary authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This special temporary authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control by the Government of the United States conferred by Section 706 of the Communications Act of 1934.

This authorization effective June 4, 1998 and
will expire 3:00 A.M. EST. December 4, 1998

