

BENJAMIN F. DAWSON III, PE
THOMAS M. ECKELS, PE
STEPHEN S. LOCKWOOD, PE
DAVID J. PINION, PE

ERIK C. SWANSON, PE
THOMAS S. GORTON, PE
MICHAEL H. MEHIGAN, EIT

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151
FACSIMILE (206) 789-9834
E-MAIL hatdaw@hatdaw.com

JAMES B. HATFIELD, PE
PAUL W. LEONARD, PE
CONSULTANTS

MAURY L. HATFIELD, PE
(1942-2009)

RF EXPOSURE SURVEY INCLUDING
NON-IONIZING ELECTROMAGNETIC FIELD MEASUREMENTS
AND ANALYSIS OF ROOFTOP EXPOSURE ENVIRONMENT

PREPARED FOR

Citadel Broadcasting Company

Licensee of WDVW(FM), KKND(FM) & KMEZ(FM)

Broadcast Auxiliary Stations

THE PLACE ST. CHARLES BUILDING

201 ST. CHARLES AVE

NEW ORLEANS, LOUISIANA

JUNE 2010

INTRODUCTION

Citadel Broadcasting Company ("Citadel") has retained Hatfield & Dawson Consulting Engineers to make proper radiofrequency electromagnetic (RF) field strength measurements near the licensed WDVW FM broadcast auxiliary station to determine if there are any areas that exceed the Federal Communications Commission (FCC) guidelines for human exposure to RF fields. These measurements have been made in connection with a Form 302-FM application for modification of the WDVW auxiliary antenna license BXLH-20091001ALC, and will also serve to satisfy the measurement condition which the Commission has placed on construction permits to operate auxiliary facilities for KKND (see BXPH-20100604AFC) and KMEZ (see BXPH-20100604AFB) using this same antenna system, with a single frequency-agile transmitter, such that no more than one auxiliary facility would be operating via this antenna system at any given time.

BACKGROUND

The auxiliary station utilizes a two-bay Jampro JCPB-2M antenna. This antenna is mast-mounted above the mechanical penthouse atop the Place St. Charles building (formerly the Bank One Center and First NBC Center), 201 St. Charles Ave, in downtown New Orleans, Louisiana.

The JCPB-2M antenna is mounted well above head height for persons standing on the roof deck. It is fed by 150 feet or more of 7/8" foam Heliac LFDF5-50A transmission line connected to a Broadcast Electronics 1C1 low power FM transmitter. This frequency-agile transmitter can support auxiliary operations for stations WDVW, 92.3 MHz (Channel 222C), KKND, 102.9 MHz (Channel 275C3), and KMEZ, 106.7 MHz (Channel 294C1).

A locked door and hatch restricts access to the roof. RF advisory signage is installed near the hatch. Visitors must sign a "Communications Visitors Register" before they are allowed access to the rooftop. However, it is not apparent that all persons who access the roof have participated in an RF Safety Program (RFSP). Therefore, the rooftop must be considered an Uncontrolled Environment because not all persons who gain access to the roof are *fully aware* of RF exposure conditions or able to *exercise control* over their RF exposure.

It is possible that a person on the roof deck could approach near enough to one or more of the rooftop antennas to cause that person's RF exposure to exceed exposure limits. An RF exposure survey was performed to determine RF exposure conditions at various rooftop locations.

DESCRIPTION OF RF EXPOSURE SURVEY METHOD AND EQUIPMENT

The author performed the RF exposure survey on May 16 and 19, 2010. Citadel Chief Engineer Doug Holland assisted in the survey. The survey took place during a Friday and a Monday, between approximately 10:30 a.m. and 12:00 noon both days. The auxiliary facilities were operating under an STA during the survey.

The equipment and measurement procedures used during the survey conform to the most recent FCC guidelines as set forth in FCC/OET Bulletin No. 65, Edition 97-01, released in August 1997. Measurements were taken with a Narda model 8718B RF Survey Meter (S/N 00001), and a Narda 8742D Isotropic Shaped-response Electric Field probe (S/N 05003). Both the meter and probe have been calibrated at the factory within 12 months of the measurement survey.

This meter and probe combination is a broadband instrument which measures power densities over a wide spectrum as required by IEEE Standard C95.3-2002, *IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz – 300 GHz*. The meter/probe combination provides readings of RF exposure conditions in percentage of the Public / Uncontrolled Environment (i.e., "Public") Maximum Permissible Exposure (MPE) limits allowed by the FCC rules, as specified in *CFR 47 §1.1310*.

The Public MPE limit for all FM broadcast frequencies is 0.2 mW/cm². A frequency-dependent calibration factor was entered into the survey meter to ensure that the measurements had the highest accuracy at each station's operating frequency.

Rooftop locations were scanned with the Narda equipment using the "Max Hold" feature of the survey meter to capture peak RF exposure levels with the auxiliary station activated. At the

locations of the highest peak exposure conditions the Narda probe was moved from close to the roof deck up to a height of approximately two meters (6' 7"). During this procedure the averaging feature of the survey meter was activated to capture Spatially-Averaged (SA) RF exposure levels.

RESULTS OF RF EXPOSURE SURVEY

An indoor survey of the radio equipment room on the 53rd floor was conducted prior to the rooftop survey. The auxiliary transmitter power levels at each frequency were noted. All transmitter cabinets and transmission lines were "swept" with the Narda probe. With the auxiliary transmitter activated, the highest peak exposure level found anywhere in the equipment room was less than 0.5% of the Public MPE limit.

The rooftop survey determined that the highest RF exposure conditions due to the auxiliary operations are on the northern portion of the roof deck where the auxiliary antenna is mounted. Repeated measurements at the three station frequencies indicated that the highest exposure conditions occurred at the WDVW frequency. The measurements were used to determine the distances from the auxiliary antenna where exposure conditions dropped to below the Public MPE limit.

A "safety exclusion zone" where RF exposure conditions exceed Public MPE limits was defined with respect to the location of the auxiliary antenna and the northern roof edge. This exclusion zone extends 30 feet east and west of the antenna, and 20 feet from the roof edge. This area will be painted with yellow stripes, and yellow RF "Caution" signs will be affixed to the walls of mechanical penthouse.

CONCLUSIONS BASED ON EXPOSURE SURVEY AND FEDERAL REGULATIONS

FCC rules and the auxiliary station authorizations require that "Any rooftop areas found to exceed the recommended [FCC] guidelines [for human exposure to RF fields] must be clearly marked with appropriate additional signage."

Yellow stripes will be painted over the "safety exclusion zone" area, and yellow RF "Caution" signs will be installed on the eastern and western walls of the mechanical penthouse. Those signs should specify the access rules and procedures for persons who may approach the safety exclusion zone. A phone number for a responsible party should be included on the signs, for example "Call (504) XXX-XXXX before approaching the yellow stripped area."

Once the above mitigation is complete, then the auxiliary station will be in compliance with current FCC rules and guidelines regarding Public RF exposure. This determination is based on recent RF field measurements and exposure survey, and information obtained from representatives Citadel Broadcasting Company.

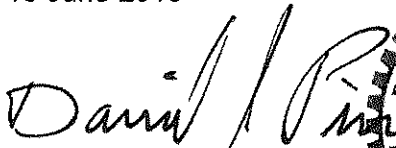
The analysis presented in this report is based solely on the comparison of measured and estimated RF exposure conditions in specific areas with the corresponding safe exposure limits set forth in the FCC guidelines. The FCC exposure limits are based on recommendations by federal and private entities with the appropriate expertise in human safety issues.

The FM broadcast auxiliary transmitter must be shut down whenever personnel are in the immediate vicinity of the auxiliary antenna aperture.

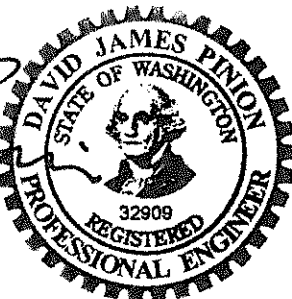
QUALIFICATIONS

I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a partner in the firm of Hatfield & Dawson Consulting Engineers, I am registered as a Professional Engineer in the States of Washington, Oregon, California and Hawaii, and I hold an FCC General Radiotelephone Operator License PG-12-21740. All representations contained herein are true to the best of my knowledge.

16 June 2010



David J. Pinion, P.E.



Hatfield & Dawson Consulting Engineers