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MEMBER, DISTRICT OF COLUMBIA BAR
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January 15, 2020

BY EXPRESS MAIL

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington DC 20554

ATTENTION: Media Bureau, Audio Division
RE: Rhode Island Public Radio
FM Broadcast Station WNPB, Facility ID No. 163899, Newport RI
SUBJECT: Request for Experimental Authorization for Asymmetric Digital Operation

Dear Ms. Dortch:

On behalf of Rhode Island Public Radio, licensee of Noncommercial Educational FM Broadcast Station WNPB, Facility ID 163899, Newport, Rhode Island, and pursuant to Section 73.1510 of the Commission's rules, I transmit herewith in triplicate its informal request for an experimental authorization to permit the station to engage in asymmetric digital broadcast operation.

Kindly communicate any questions directly to this office.

Respectfully submitted,


John Wells King

JWK/

cc: WNPB Online Public Inspection File

Received & Inspected

JAN 17 2020

FCC Mailroom

**TECHNICAL STATEMENT
IN SUPPORT OF REQUEST FOR EXPERIMENTAL AUTHORIZATION FOR
ASYMMETRICAL DIGITAL POWER OPERATION ON
FM BROADCAST STATION WNPB (89.3FM)
NEWPORT, RHODE ISLAND
CHANNEL 207B 7.0KW 254 m HAAT Facility ID 163899**

Rhode Island Public Radio (d/b/a The Public's Radio), licensee of FM broadcast station WNPB 89.3FM Newport, RI, pursuant to Section 73.1510 of the FCC Rules hereby requests experimental authority to test DAB IBOC radio operation with asymmetrical power levels in the digital sidebands.

The proposed experimental operation would set the digital Effective Radiated Power (ERP) as follows:

1. -14 dBc (4% of analog power, or 280 watts) digital power on the lower side band (LSB).
2. -10 dBc (10% of analog power, or 780 watts) digital power on the upper side band (USB).

The attached engineering statement prepared by The Public's Radio I.T. & Engineering Director Aaron Read, and Public Media Engineering's Peter Femal, demonstrates that the proposed operation complies with the contour non-overlap provisions of the FCC's Media Bureau's Jan. 29, 2010 Order: *Digital Audio Broadcasting Systems and their Impact on the Terrestrial Radio Service* (MM Docket No. 99-325).

Public interest would be served by grant of the requested experimental authority, in that the results of the experimental operation would provide information as to the practicality of asymmetrical sideband IBOC operation by FM stations, currently of interest to the Commission.

Sincerely,
Aaron Read

I.T. & Engineering Director
The Public's Radio 89.3FM
1 Union Station, Providence, RI 02903
401-351-2800
aread@thepublicsradio.org

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The Commission specifically sought input on asymmetric HD Radio power levels in DA 11-1832, released November 1, 2011. As of this writing, stations requesting increased digital power using asymmetric sidebands must request such operation by filing an experimental authorization pursuant to 47 CFR 73.1510.

Accordingly, Rhode Island Public Radio (d/b/a The Public's Radio) respectfully requests authority to test IBOC operation with asymmetrical power levels for WNPN 89.3FM, using -10dBc injection on the upper sideband and -14dBc injection on the lower sideband.

The contour map on page 5, generated using Comstudy software, demonstrates there is no prohibited contour overlap, specified in MM Docket 99-325, 25 FCC Rcd 1182, at -10dBc for all stations relevant to the upper sideband:

- WWQZ 89.5FM (ch 208) Baptist Village, MA. Facility ID 177345
- WNCK 89.5FM (ch 208) Nantucket, MA. Facility ID 87830

It also shows that there is prohibited contour overlap for any injection level above -14dBc for all stations relevant to the lower sideband:

- WPKT 89.1FM (ch 206) Norwich, CT. Facility ID 13618
- WBUH 89.1FM (ch 206) Brewster, MA. Facility ID 173933

WNPN is authorized to operate at 7.0 kW ERP with antenna height above average terrain of 254 meters, using a directional Shively 6016 four-panel antenna. Currently WNPN operates with -14dBc digital injection on both the upper and lower sidebands. This application proposes to change this to:

- 10.187 kW Analog Transmitter Power Output (TPO)
- 0.51 kW Digital (USB) -10dBc TPO
- 0.20 kW Digital (LSB) -14dBc TPO
- **10.90 kW Combined (analog + digital)(rounded from 10.897 kW)**

Note: the actual individual sideband powers are -3 dB lower than nominal, because of the effect of summing the two sidebands together to obtain the overall digital ERP. For example, if a station operates with *symmetric* sidebands, each -13 dBc (or 5% of analog carrier), the total digital power in the upper and lower sidebands is 2 x 5% or 10% of analog carrier...also expressed as -10 dBc. In this case, the upper sideband TPO and ERP are -13 dBc and the lower sideband TPO and ERP are -17 dBc.

Environmental Impact

The WPNP Class B hybrid facility will have no significant environmental impact as defined in §1.1307 of FCC Rules. Since the power density will be less than 5% of the Maximum Permissible Exposure (MPE) for controlled or uncontrolled areas at any point on the ground, it is not considered a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions will be insignificant & well within the maximum allowable requirements.

The applicant will cooperate with other tower users by reducing or eliminating power to the antenna whenever maintenance workers on the tower are in danger from RF energy emanating from the antenna.

DETERMINATION OF COMPLIANCE WITH THE OCCUPATIONAL / CONTROLLED POPULATION LIMIT

EFFECTIVE RADIATION CENTER HEIGHT

1. Enter proposed "Height of radiation center above ground" OR as listed in line 1	260.0m
2. Is antenna supporting structure located on the roof of a building ? (check one)	No
3. If line 2 is "yes," enter the building height measured at the base of the antenna If line 2 is "no," enter "0" in line 3	0
4. Subtract line (3) from line (1)	260.0m
5. Subtract the value 2.0 from line (4)	258.0m

TOTAL EFFECTIVE RADIATED POWER (If "beam tilt" is utilized, list maximum values)

6. List Effective Radiated Power in the Horizontal Plane (inc'd digital)	7.49 kW
7. List Effective Radiated Power in the Vertical Plane (inc'd digital)	7.49 kW
8. Add Lines (6) and (7) OR list value from Line 2 in Worksheet 1A	14.98 kW

PERCENTAGE OF FCC RF LIMIT(S) FOR MAXIMUM PERMISSIBLE EXPOSURE

9. Multiply Line (8) by 33.41	500.4818
10. Multiply the value listed in line (5) by itself	66564
11. Divide Line (9) by Line (10)	0.00751888
12. Multiply Line (11) by (100)	0.75%

DETERMINATION OF COMPLIANCE WITH CONTROLLED/OCCUPATIONAL LIMIT

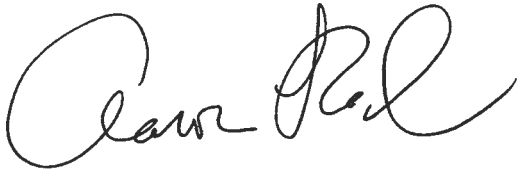
13. Does Line (12) exceed 100%	NO
<i>IF YOU ANSWERED "NO" IN LINE (13), THEN THE SITE SHOULD COMPLY WITH THE FCC'S CONTROLLED/ OCCUPATIONAL RF EXPOSURE LIMITS FOR GROUND LEVEL EXPOSURE.</i>	

DETERMINATION OF COMPLIANCE WITH THE UNCONTROLLED / GENERAL POPULATION LIMIT

14. Does Line (12) exceed 20%	NO
<i>IF YOU ANSWERED "NO" IN LINE (14), THEN THE SITE SHOULD COMPLY WITH THE FCC'S UNCONTROLLED/ GENERAL POPULATION RF EXPOSURE LIMITS FOR GROUND LEVEL EXPOSURE. NO FURTHER STUDY REQUIRED.</i>	

Certification

This technical statement was prepared by Aaron Read, I.T. & Engineering Director of The Public's Radio. Mr. Read has been working with the firm in this role since 2012. Prior to that, he has served in radio broadcast engineering roles dating back to 2000, including working as a professional wireless engineering consultant for Isotrope, LLC (d/b/a Broadcast Signal Lab) from 2002 to 2008. He is a graduate of Boston University. As a professional in the field of telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

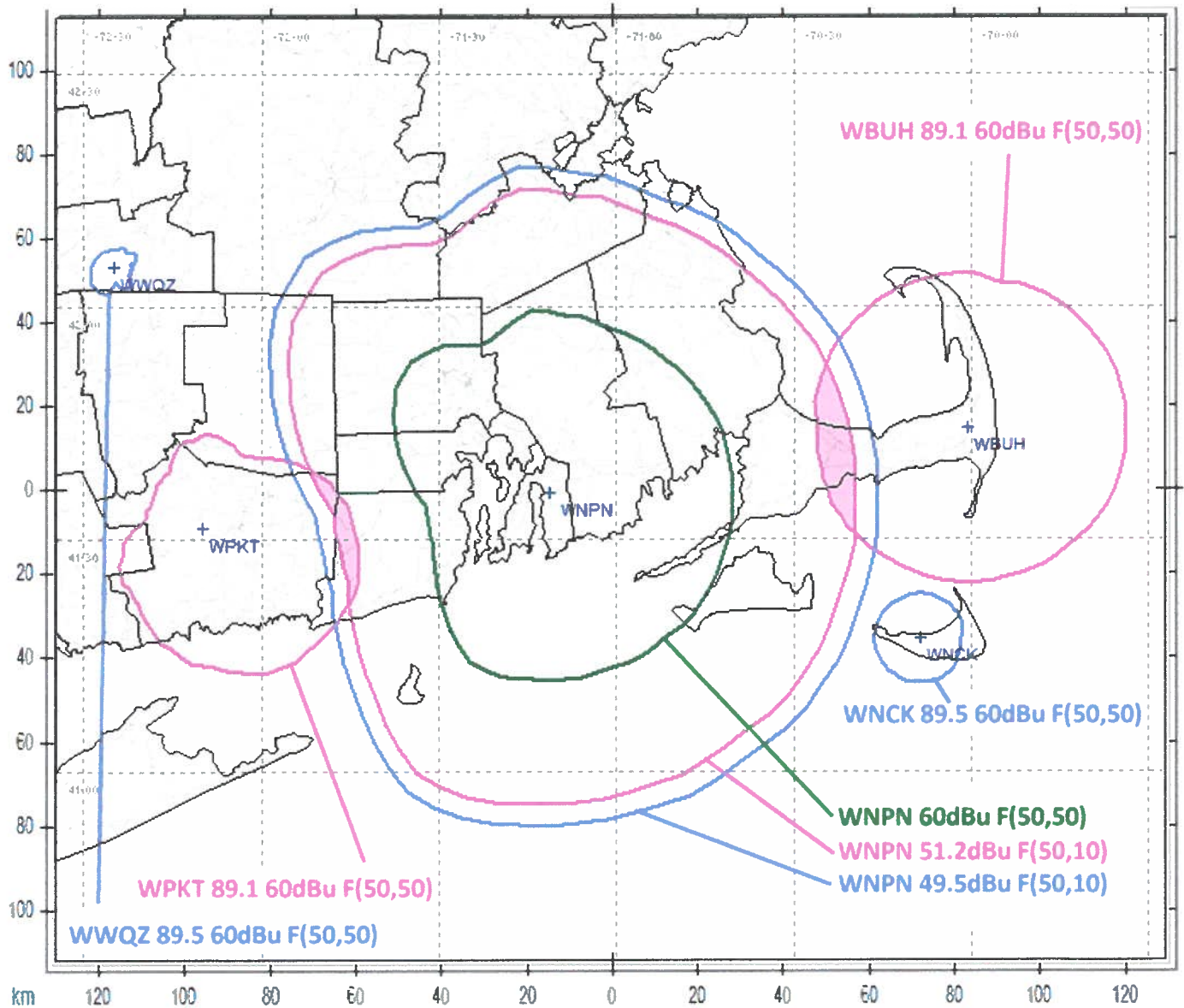


1/14/2020

AARON READ
I.T. & Engineering Director
The Public's Radio 89.3FM

Dated

Proposed WNPB 89.3FM -14dBc Lower Side Band & -10dBc Upper Side Band



As defined in FCC DA 10-208 / MM Docket No. 99-325, there is contour overlap between WNPB's 89.3FM's 51.2dBu interfering contour and with WPKT 89.1 and WBUH 89.1's 60dBu service contours. Therefore, WNPB is limited to -14dBc HD Radio digital injection on the lower sideband.

There is no contour overlap between the WNPB 89.3FM 49.5dBu interfering contour and any facility on 89.5FM. Therefore, WNPB may use up to -10dBc HD Radio injection on the upper sideband.