

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
COMMONWEALTH OF PENNSYLVANIA)
)
Licensee of Private Land Mobile Radio Stations)
WPWF792, WPWD808)

ORDER PROPOSING MODIFICATION

Adopted: May 21, 2010

Released: May 21, 2010

By the Deputy Chief, Policy Division, Public Safety and Homeland Security Bureau:

I. INTRODUCTION

1. By this *Order Proposing Modification*, we initiate a proceeding to modify the licenses of the Commonwealth of Pennsylvania (Pennsylvania) for Private Land Mobile Radio (PLMR) Stations WPWF792 and WPWD808 by reducing the Effective Radiated Power (ERP) of the base station locations referenced in Attachment I. We take this action in furtherance of ensuring compliance with international obligations.

II. BACKGROUND

2. Pennsylvania is licensed to operate PLMR Stations WPWF792 and WPWD808 at two fixed locations in the Commonwealth of Pennsylvania. Because Stations WPWF792 and WPWD808 operate in the 800 MHz band and are located within 140 kilometers of the border with Canada, they are subject to the provisions of a bilateral annex with Canada (Arrangement F) and an associated Interim Arrangement which specify the conditions under which 800 MHz PLMR stations may operate along the common border.¹

3. Arrangement F and the associated Interim Arrangement divide the 800 MHz band into band segments and assign primary access to these band segments to either licensees in the U.S. or Canada.² U.S. licensees may operate on band segments designated as primary to licensees in Canada, but only if

¹ See Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Band 806-890 MHz (Jan. 1994) (Arrangement F); *see also* Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Bands 821-824 MHz and 866-869 MHz (Sep. 1990) (Interim Arrangement) both as modified by attachment to letter from Robert W. McCaugern, Deputy Director General, Spectrum Engineering to Mr. Bruce Franca, Deputy Chief Engineer, Office of Engineering and Technology, Federal Communications Commission (Dec. 9, 1994) (Letter Amendment).

² Arrangement F at ¶¶ 3-4. Interim Arrangement at ¶¶ 2-3.

they satisfy certain signal strength limits at the border.³ These signal strength limits are specified in terms of power flux density (PFD) and vary depending on the height of the transmitting antenna.⁴

4. Pennsylvania's licenses, call signs WPWF792 and WPWD808, authorize operation on channel pairs in the 821-823.10 MHz/866-868.10 MHz band segment which is primary to licensees in Canada under the Interim Arrangement.⁵ Consequently, we have calculated the PFD at the border from Pennsylvania's base station locations and listed the results in Attachment I, Table A2. The PFD value from these base stations exceeds the permitted PFD at the border by at least 3.5 dB on the frequencies identified in Table A3 of Attachment I.

III. DISCUSSION

5. Based on the information before us, we conclude that the licenses, call signs WPWF792 and WPWD808, should be modified by reducing the ERP of the base station locations to the levels indicated in Attachment I, Table A3. We propose this modification in order to bring Stations WPWF792 and WPWD808 into compliance with the PFD limits specified in Arrangement F and the associated Interim Arrangement.

6. In accordance with Section 1.87(a) of the Commission's Rules,⁶ we will refrain from modifying the licenses, call signs WPWF792 and WPWD808, until Pennsylvania has received notice of this proposed action and has had an opportunity to file a protest. To protest the license modifications, Pennsylvania must, within thirty days of the release date of this *Order Proposed Modification*, submit a written statement protesting the proposed modifications and proposing an alternate means for bringing Stations WPWF792 and WPWD808 into compliance with Arrangement F and the associated Interim Arrangement. We remind Pennsylvania that the Federal Communications Commission lacks the authority to waive or modify the provisions of international treaties. Pennsylvania's statement must be filed with the Office of the Secretary, Federal Communications Commission, 445 Twelfth Street, S.W., Room TW-A325, Washington, DC 20554.⁷ In addition, please provide an electronic copy of the statement to Brian Marengo, Policy Division, Public Safety and Homeland Security Bureau, at Brian.Marengo@fcc.gov.

³ Letter Amendment at Annex A.

⁴ *Id.* at Annex B, Tables C1 and C2.

⁵ Interim Arrangement at ¶ 3.1(b). Licenses WPWF792 and WPWD808 authorize the Commonwealth of Pennsylvania to operate on the following frequencies which are primary to licensees in Canada in Canada Border Region 2 which includes Erie County, PA and Crawford County, PA: 867.9875 MHz and 867.6625 MHz.

⁶ 47 C.F.R. § 1.87(a).

⁷ Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission. All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

7. If no timely protest is filed, Pennsylvania will have waived its right to protest the proposed modifications and will be deemed to have consented to the modifications. The licenses for Call Signs WPWR792 and WPWD808 will then be modified to reduce the ERP of the base station locations to the maximum permitted levels indicated in Attachment I, Table A3 in compliance with Arrangement F and the associated Interim Arrangement as detailed in Attachment I.

V. ORDERING CLAUSES

8. ACCORDINGLY, IT IS PROPOSED, pursuant to Sections 4(i) and 316 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 316, and Section 1.87 of the Commission's rules, 47 C.F.R. § 1.87 that the licenses for Private Land Mobile Radio Service Stations WPWF792 and WPWD808, held by the Commonwealth of Pennsylvania, BE MODIFIED by reducing the ERP of the base station location to the levels indicated in Attachment I, Table A3.

9. IT IS FURTHER ORDERED that this *Order Proposing Modification* shall be sent by certified mail, return receipt requested, to Commonwealth of Pennsylvania, ATTN Office of Public-Safety Radio Services, 2605 Interstate Drive, Suite 135, Harrisburg, PA 17110.

10. This action is taken under delegated authority pursuant to Sections 0.191 and 0.392 of the Commission's Rules, 47 C.F.R. §§ 0.191, 0.392.

FEDERAL COMMUNICATIONS COMMISSION

Michael J. Wilhelm
Deputy Chief, Policy Division
Public Safety and Homeland Security Bureau

Attachment I**Maximum Permitted PFD at Border on Canada Primary Spectrum
Under Arrangement F and the Interim Arrangement**

Below we calculate the PFD at the border with Canada from the base stations authorized under call sign WPWF792 and WPWD808. We then compare the predicted PFD value with the maximum permitted PFD under Arrangement F for operation on Canada primary spectrum.

Formula for Calculating PFD

The following formula, based on free-space propagation, predicts PFD at the border with Canada.

$$S_{(\text{dBW/m}^2)} = P_{\text{dBm}} - 20\text{Log}(d) - 38.8$$

⇒ S is the PFD in dBW/m²

⇒ P is the ERP in dBm

⇒ d is the distance to the border in meters.

Maximum Permitted PFD

WPWF792 and WPWD808 are licensed to Commonwealth of Pennsylvania and located in Sharing Zone I under Arrangement F and the Interim Arrangement.

The PFD limits for Sharing Zone I are based on the Effective Antenna Height (EAH) of the transmitting antenna. The EAH is calculated by subtracting the Assumed Average Terrain Elevation (AATE) listed in Table A3 of the Interim Arrangement from the antenna radiation center above mean sea level (RCAMSL).

$$\text{EAH} = \text{RCAMSL} - \text{AATE}$$

Using the EAH value, the maximum permitted PFD at the border with Canada for operation on Canada primary spectrum is listed in Table C1 of the Letter Amendment.⁸

⁸ See *supra* note 1.

Base Station Location

In Table A1 below, we list the maximum permitted PFD values, at the border, for operation on frequencies primary to licensees in Canada for the base station locations.

Table A1 – Maximum Permitted PFD (Base Stations)

Call Sign	Location No.	Lat. (N)	Long. (W)	RCAMSL (meters)	AATE (meters)	EAH (meters)	Permitted PFD at border (dBW/m ²)
WPWF792	1	41° 53' 24.7"	080° 21' 14.2"	348.7	183	165.7	-90
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WPWD808	1	41° 38' 43.2"	080° 02' 53.7"	514.5	183	331.5	-95

The predicted PFD at the border with Canada is listed below in Table A2 for the base station locations on the frequencies primary to licensees in Canada. The predicted value is based on the free-space formula listed above.

Table A2 – Predicted PFD (Base Stations)

Call Sign	Location No.	Current Frequency (MHz)	Replacement Frequency (MHz)	ERP (watts)	P _{dBm} (ERP in dBm)	d (Distance to Border in meters)	S _(dBW/m²) (Predicted PFD at Border)
WPWF792	1	867.9875	854.3625	125	51	50,080	-81.8
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WPWD808	1	867.6625	854.2875	40	46	81,906	-91.1

In Table A3 below, we compare the predicted PFD to the maximum permitted PFD at the border and calculate the ERP at which compliance would be achieved for each base station location licensed on a frequency primary to licensees in Canada.⁹

Table A3 – Predicted PFD vs. Maximum Permitted PFD (Base Stations)

Call Sign	Location No.	Current Frequency (MHz)	Replacement Frequency (MHz)	Predicted PFD at Border from Table A2 (dBW/m ²)	Max. PFD at Border from Table A1 (dBW/m ²)	Max. ERP to comply with PFD Limit (dBm)	Max. ERP to comply with PFD limit (watts)
WPWF792	1	867.9875	854.3625	-81.8	-90	42.8	19.0
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WPWD808	1	867.6625	854.2875	-91.1	-95	42.1	16.2

⁹ The PFD limitation applies to both currently licensed frequencies and 800 MHz rebanding replacement frequencies. See *Improving Public Safety Communications in the 800 MHz Band, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969, 15077 ¶ 201 (2004).