May 2018
FM Booster WGGY-FM3
Hazleton, PA Channel 267D
Allocation Study

The instant application is being filed in order to add a new FM booster at Hazleton, Pennsylvania, for FM station WGGY. Contours in this application have been calculated using terrain data extracted from the 3-second terrain database.

The attached spacing study shows the spacing between the proposed booster site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. There are no first-adjacent channel stations or authorizations close enough to required detailed allocation study maps.

The attached spacing study demonstrates compliance with §74.1204(g) and §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation. It is understood that §74.1204(g) does not require proposed FM translators and FM boosters to satisfy IF channel separation requirements to authorized FM translators.

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SEARCH PARAMETERS FM Database Date: 180430

Channel: 267A 101.3 MHz

Latitude: 40 58 9

Longitude: 75 57 28

Safety Zone: 50 km

Job Title: WGGY-FM3 HAZLETON

Call / Status	City / St	FCC File No.	Channel / Freq.	ERP(kW) / HAAT(m)		Latitude / Longitude	Bearing deg-True	Dist (km)	Req (km)
W213BU	HAZLETON		213D	0.002	DA	40-58-10	85.8	0.42	0
LIC	PA	BLFT-81224AAB	90.5	267.0		075-57-10		0.00	TRANS
NOTE: NO SPACING REQUIREMENT TO FM TRANSLATOR									
WFBA	KULPMONT		213A	1.000	DA	40-47-32	241.4	41.02	10
LIC	PA	BLED-31105ALS	90.5	182.0		076-23-06		31.02	CLEAR
WCLH	WILKES-BARRE		214A	0.205		41-11-11	18.9	25.51	10
LIC	PA	BMLED-31212BZN	90.7	296.0		075-51-33		15.51	CLEAR
WLEV	ALLENTOWN		264B	11.000		40-33-54	135.7	62.62	69
LIC	PA	BLH-921218KD	100.7	327.0		075-26-26		-6.38	SHORT
WLEV	ALLENTOWN		264B	11.500		40-33-52	135.7	62.68	69
APP	PA	BPH-80410AAW	100.7	315.4		075-26-25		-6.32	SHORT
W264CP	CLARKS GREEN		264D	0.025	DA	41-28-01	22.2	59.77	0
LIC	PA	BLFT-50127AEM	100.7	345.0		075-41-12		0.00	TRANS
W264CG	WILKES-BARRE		264D	0.099	DA	41-15-01	19.5	33.14	0
LIC	PA	BLFT-21226AAI	100.7	156.0		075-49-32		0.00	TRANS
WVLY-FM	MILTON		265A	1.300		40-57-12	268.7	66.83	31
LIC	PA	BLH-20429AAB	100.9	218.0		076-45-05		35.83	CLEAR
W265CU	SCRANTON		265D	0.025	DA	41-24-34	26.3	54.65	0
LIC	PA	BLFT-61101ABC	100.9	106.0		075-40-01		0.00	TRANS
WBEB	PHILADELPHIA		266B	14.000		40-02-19	149.3	120.03	113
LIC	PA	BMLH-60603AAO	101.1	287.0		075-14-14		7.03	CLOSE
W267BQ	CANDOR		267D	0.200	DA	42-14-29	348.2	144.43	0
CP	NY	BPFT-70626AAV	101.3	210.0		076-19-00		0.00	TRANS
W267CJ	HORSEHEADS		267D	0.250	DA	42-09-43	326.2	160.19	0
LIC	NY	BLFT-61116AAE	101.3	264.0		077-02-15		0.00	TRANS
W267BQ	RICHFORD		267D	0.250	DA	42-14-29	348.2	144.43	0
LIC	NY	BLFT-31223AGY	101.3	0.0		076-19-00		0.00	TRANS
WGGY-FM2	EAST STROUDSBURG		267D	0.002		41-02-39	80.1	49.52	0
LIC	PA	BLFTB-21019ACB	101.3	0.0		075-22-39		0.00	BOOST

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)		Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
WGGY-FM1	HONESDALE		267D	0.050	DA	41-34-45	40.8	89.90	0
LIC	PA	BMLFTB-61207AAJ	101.3	0.0		075-15-09		0.00	BOOST
WGGY-FM1	HONESDALE		267D	0.020	DA	41-34-28	40.8	89.23	0
CP	PA	BPFTB-70530AAU	101.3	0.0		075-15-27		0.00	BOOST
WROZ	LANCASTER		267B	7.400		40-02-04	208.5	117.96	178
LIC	PA	BLH-10126AAK	101.3	379.0		076-37-08		-60.04	SHORT
WGGY	SCRANTON		267B	7.000		41-25-38	18.9	53.83	178
LIC	PA	BLH-31124AOM	101.3	365.0		075-44-53		-124.17	SHORT
W267BJ	WILLIAMSPORT		267D	0.095	DA	41-11-43	286.8	88.82	0
LIC	PA	BLFT-20511AED	101.3	428.0		076-58-18		0.00	TRANS
WKXW	TRENTON		268B	15.500		40-16-58	125.0	131.84	113
LIC	NJ	BMLH-70926AKD	101.5	275.0		074-41-11		18.84	CLEAR
WDKC-FM1	CANTON		268D	0.006		41-39-14	315.7	106.92	0
LIC	PA	BLFTB-41006AEH	101.5	0.0		076-51-19		0.00	BOOST
W268BL	MIFFLINVILLE, ETC.		268D	0.001		40-56-20	265.3	39.55	0
LIC	PA	BLFT-81224AAC	101.5	396.0		076-25-33		0.00	TRANS
W269CF	CLARKS SUMMIT		269D	0.024	DA	41-28-01	22.2	59.77	0
LIC	PA	BLFT-40428AAM	101.7	341.0		075-41-12		0.00	TRANS
W269CF	CLARKS SUMMIT		269D	0.062	DA	41-28-01	22.2	59.77	0
CP	PA	BPFT-70718AGT	101.7	341.0		075-41-12		0.00	TRANS
W269BX	HILLSVILLE		269D	0.010		41-02-01	84.2	74.85	0
LIC	PA	BLFT-61201BPR	101.7	184.0		075-04-20		0.00	TRANS
W270CC	HAMLIN		270D	0.190	DA	41-32-37	32.8	76.12	0
LIC	PA	BLFT-10721ABI	101.9	353.0		075-27-44		0.00	TRANS
WAVT-FM	POTTSVILLE		270B	29.000		40-49-50	233.9	26.17	69
LIC	PA	BLH-810127AA	101.9	171.0		076-12-32		-42.83	SHORT

==== END OF FM SPACING STUDY FOR CHANNEL 267 ====

May 2018
FM Booster WGGY-FM3
Hazleton, PA Channel 267D
RF Exposure Study

Facilities Proposed

The proposed booster operation will be on Channel 267D (101.3 MHz) with an effective radiated power of 250 watts. Operation is proposed with a directional antenna to be mounted on an existing tower, with FCC Antenna Structure Registration Number 1232866.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

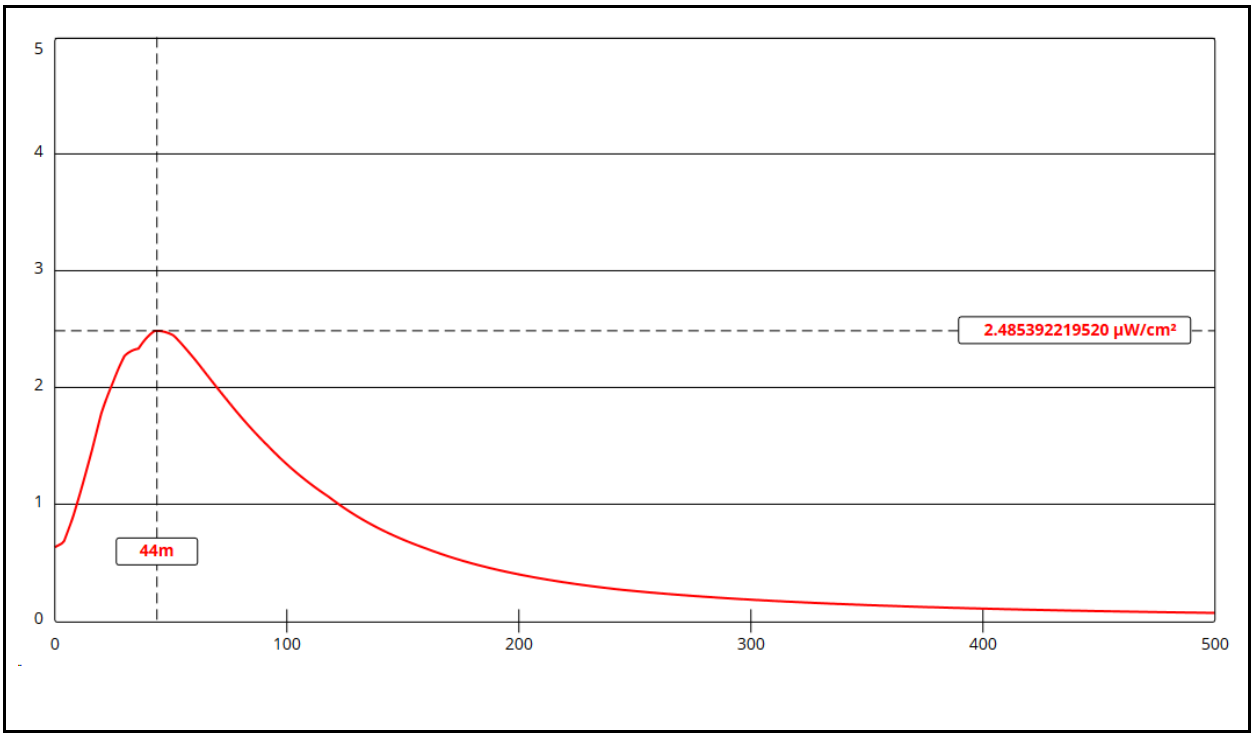
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 2 element pattern, which is the element pattern for the PSI model PSIFMT-6DB-1 antenna proposed for use. The highest calculated ground level power density occurs at a distance of 44 meters from the base of the antenna support structure. At this point the power density is calculated to be 2.5 μW/cm², which is 1.25% of 200 μW/cm² (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit

at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

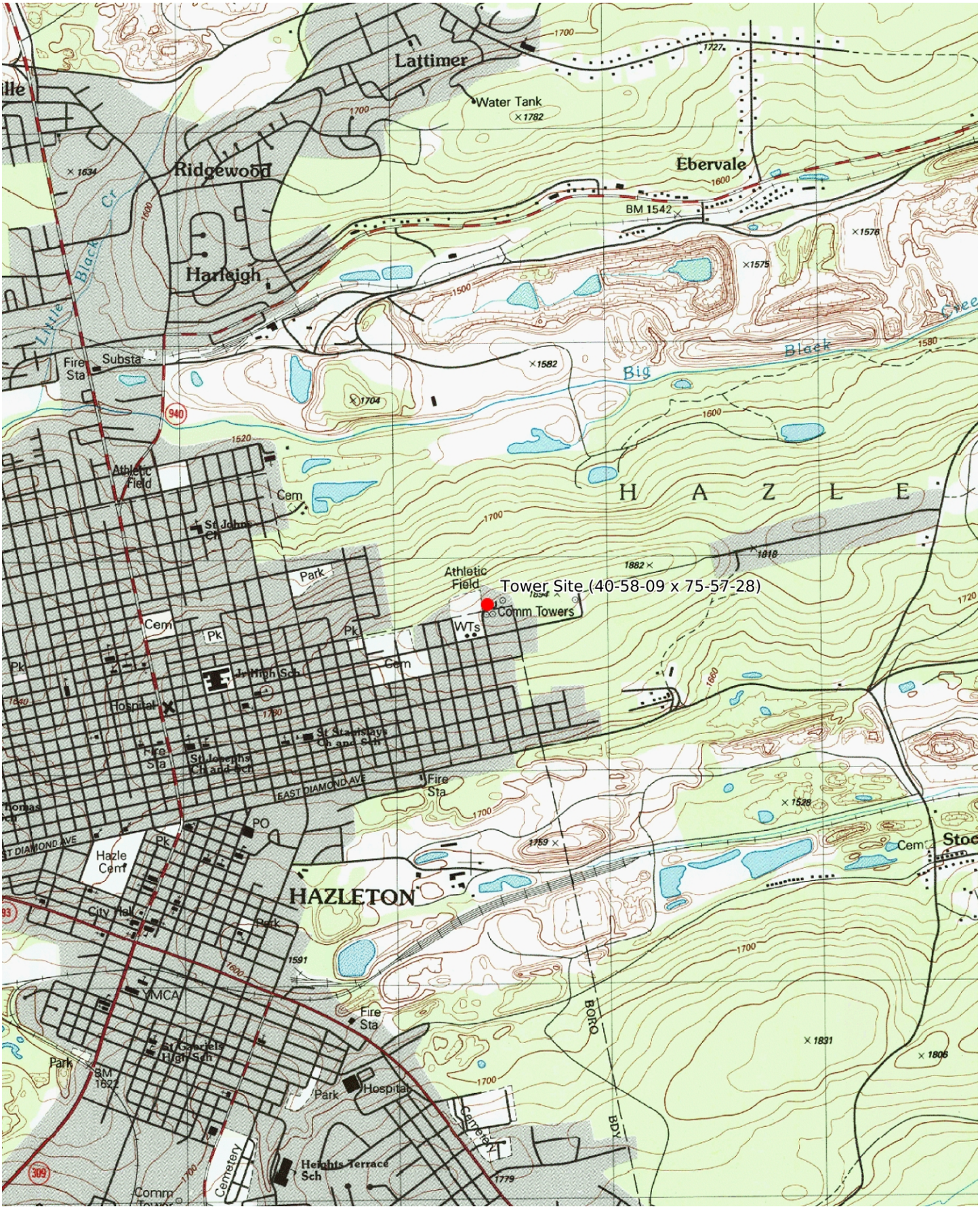


Ground-Level RF Exposure **OET FMModel**

WGGY-FM3 267D Hazleton

Antenna Type:	PSI PSIFMT-6DB-1 (Type 2)
No. of Elements:	1
Element Spacing:	1.0 wavelength
Distance:	500 meters
Horizontal ERP:	250 W
Vertical ERP:	250 W
Antenna Height:	45 meters AGL

Maximum Calculated Power Density is 2.5 µW/cm^2 at 44 meters from the antenna structure.



Mercator Projection
NAD27 Conus
USNG Zone 18TVL

CalTopo

0.5 1.0 1.5 2.0 2.5 km

0.5 1.0 1.5 mi

Scale **1:24000** 1 inch = 2000 feet

MN -12°

N