



Kessler and Gehman Associates
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**MINOR MODIFICATION TO A
CONSTRUCTION PERMITTED
BROADCAST TELEVISION
TRANSLATOR STATION**

CALL SIGN: W51EG-D / W34FE-D
FACILITY ID: 167359
FCC FILE NO.: 000054632
LOCATION: PARKERSBURG, WV

Prepared For:

West Virginia Educational
Broadcasting Authority
600 Capitol Street
Charleston, WV 25301

Prepared By:

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Prepared On:

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1.0 MINOR MODIFICATION APPLICATION

West Virginia Educational Broadcasting Authority (“WVEBA”) is the licensee of a digital low power translator station having call sign W51EG-D / W34FE-D¹, which is licensed² to operate on channel 51 and a Construction Permit³ (“CP”) to operate on channel 34. It is herein proposed to modify the transmitter site to ASRN 1282649 which belongs to the State of West Virginia DHHR/BPH State Trauma Emergency Care System which has an ongoing arrangement to host WVEBA broadcast stations at no cost to them.

Pursuant to 47 CFR Section 74.787(b) the instant application is considered a “minor” change because:

- There is no change in frequency relative to the CP being herein modified.
- There is no change in transmitting antenna location such that the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station as illustrated in Appendix C.
- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station’s antenna location as reference in in Appendix C.

2.0 ALLOCATION ANALYSIS

Appendix B are the summarized results from TVStudy V2.2.5. **It is respectfully requested that the Commission analyze the instant application using a profile point spacing of 0.5 km and a cell size of 0.5 km.** As indicated the proposed W34FE-D facility is not predicted to cause prohibited interference to pre or post transition facilities; however, 9.66% aggregate inbound interference is predicted to which is acceptable to WVEBA.

¹ FCC Facility ID No.: 167359

² FCC File No.: BLDTT-20081103ACQ

³ FCC File No.: 0000054632

3.0 AM STATION PROXIMITY

No AM stations are located within 3.2 km of the proposed facility. Pursuant to 47 C.F.R. Section 1.30002(e), the construction or extension of an antenna-supporting structure shall be considered subject to the moment method analysis and prior notification requirement; however, the instant application does not propose to extend the existing structure or build a new structure. Thus, the proposed facility is exempt from further AM analysis consideration.

4.0 INTERNATIONAL COORDINATION

The W51EG-D transmitter site is 2063.8 km and 282.5 km from the Mexican and Canadian border respectively and will not require international coordination.

5.0 RADIO FREQUENCY RADIATION COMPLIANCE

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain⁴ extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

⁴ Terrain extraction is based upon a 3 arc second point spacing terrain database.

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix D demonstrates that the peak exposure is 1.6% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources near the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and is excluded from further environmental processing since no changes are proposed to the tower structure to accommodate the proposed antenna.

A chain link fence encloses the support structure and the applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off to protect maintenance workers on the tower.

6.0 CERTIFICATION

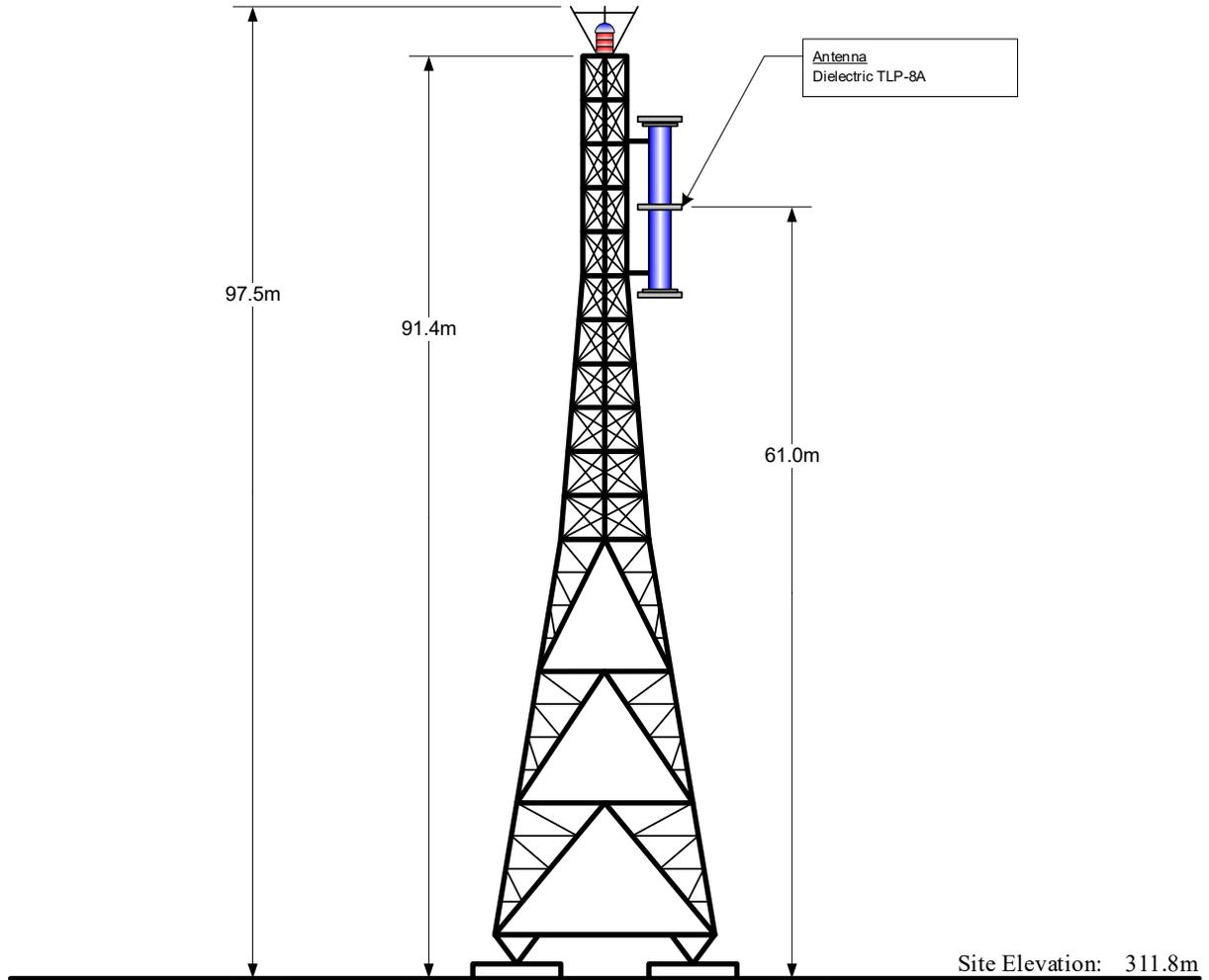
The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed May 20, 2019.

Kessler and Gehman Associates, Inc.



Ryan Wilhour
Consulting Engineer

APPENDIX A – Tower Elevation Diagram



Antenna CRAGL:	61.0 m	NAD 83 Coordinates:	
Antenna CRAMSL:	372.8 m	N. Latitude:	39° 14' 48.1"
Antenna HAAT:	130.3 m	W. Longitude:	81° 25' 01.0"

NOTE: NOT TO SCALE

FAA Study Number	2011-AEA-5057-OE	FCC Tower Registration Number:	1282649
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W51EG-D / W34FE-D – Minor Modification to a Television Translator Station

Parkersburg, WV

APPENDIX B – TVStudy V2.2.5 Allocation Analysis

Study created: 2019.05.17 11:48:19

Study build station data: LMS TV 2019-05-14

Proposal: W51EG-D D34 LD CP PARKERSBURG, WV
File number: W51EG-D at ASRN 1282649
Facility ID: 167359
Station data: User record
Record ID: 3767
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	W30CH	N30-	TX	LIC	CLARKSBURG, WV	BLTTL20070319AAK	92.6 km
No	WKHA	D33	DT	CP	HAZARD, KY	BLANK0000029749	275.7
No	WSTR-TV	D33	DT	LIC	CINCINNATI, OH	BLCDDT20091117ACS	267.5
No	WCSN-LD	D33	LD	LIC	COLUMBUS, OH	BLDTL20100728AAG	161.7
No	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	248.8
No	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	BLANK0000033638	214.2
No	WOCW-LP	D33+	LD	CP	CHARLESTON, WV	BLANK0000071987	91.8
No	WNPB-TV	D33	DT	LIC	MORGANTOWN, WV	BLEDT20121205ACJ	150.5
No	WRC-TV	D34	DT	CP	WASHINGTON, DC	BLANK0000034340	375.5
No	WISE-TV	D34	DT	LIC	FORT WAYNE, IN	BLANK0000064330	380.6
No	WKMJ-TV	D34	DT	CP	LOUISVILLE, KY	BLANK0000034636	394.6
No	WKBD-TV	D34	DT	CP	DETROIT, MI	BLANK0000058478	393.4
No	WSOC-TV	D34	DT	LIC	CHARLOTTE, NC	BLCDDT20040526ANW	447.1
No	W2ODD-D	D34	LD	CP	MARION, ETC., NC	BLANK0000054752	393.3
No	WKBW-TV	D34	DT	CP	BUFFALO, NY	BLANK0000034829	444.0
No	WVTT-CD	D34	DC	LIC	OLEAN, NY	BLDTA20141217ABD	429.2
Yes	WCET	D34	DT	LIC	CINCINNATI, OH	BLEDT20061031AAR	267.8
Yes	WQHS-DT	D34	DT	LIC	CLEVELAND, OH	BLCDDT20031030AGJ	238.6
Yes	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000034522	249.2
No	W38ET-D	D34	LD	APP	EASTLAKE, OH	BLANK0000054261	273.5
No	W45BT-D	D34	LD	CP	BROOKVILLE, PA	BLANK0000050401	285.6
No	W33CR-D	D34	LD	CP	CHAMBERSBURG, PA	BLANK0000053818	326.4
No	NEW	D34	LD	APP	ERIE, PA	BNPDTL20090825BRL	330.6
Yes	WJAC-TV	D34	DT	LIC	JOHNSTOWN, PA	BLCDDT20051123AKN	242.6
No	WPXI	D34	LD	CP	PITTSBURGH, PA	BLANK0000054534	212.2
No	WVLT-TV	D34	DT	CP	KNOXVILLE, TN	BLANK0000025085	424.9
No	WTNZ	D34	DT	LIC	KNOXVILLE, TN	BMLCDDT20040706ABG	423.5
No	W34EV-D	D34	LD	CP	Charlottesville, VA	BLANK0000008300	266.1
No	WPXW-TV	D34	DT	LIC	MANASSAS, VA	BLCDDT20090612AIZ	375.6
No	WZTD-LD	D34	LD	CP	RICHMOND, VA	BLANK0000053792	384.2
Yes	WSLS-TV	D34	DT	CP	ROANOKE, VA	BLANK0000029619	252.9
Yes	WVPB-TV	D34	DT	LIC	HUNTINGTON, WV	BLEDT20120214AAS	107.6
Yes	WNPB-TV	D34	DT	CP	MORGANTOWN, WV	BLANK0000034624	150.5
No	WLWT	D35	DT	LIC	CINCINNATI, OH	BLCDDT20050502ABC	267.8
No	WVIZ	D35	DT	CP	CLEVELAND, OH	BLANK0000034584	238.9
No	WPTD	D35	DT	CP	DAYTON, OH	BLANK0000026763	248.7
No	WJAC-TV	D35	DT	CP	JOHNSTOWN, PA	BLANK0000027312	242.6
No	WJDW-LD	D35	LD	LIC	TAZEWELL, VA	BLDTL20110525ADU	228.7
Yes	WTAP-TV	D35	DT	CP	PARKERSBURG, WV	BLANK0000025208	17.2
No	W35DI-D	D35	LD	CP	ROANOKE, WV	BNPDTL20100514AAS	82.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

W51EG-D / W34FE-D – Minor Modification to a Television Translator Station

Parkersburg, WV

Channel: D34
Mask: Full Service
Latitude: 39 14 48.10 N (NAD83)
Longitude: 81 25 1.00 W
Height AMSL: 372.8 m
HAAT: 130.3 m
Peak ERP: 15.0 kW
Antenna: Omnidirectional
Elev Pattrn: Generic
Elec Tilt: 1.00

50.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	15.0 kW	134.3 m	46.0 km
45.0	15.0	114.0	44.5
90.0	15.0	85.6	41.2
135.0	15.0	110.8	44.2
180.0	15.0	137.8	46.2
225.0	15.0	162.9	48.0
270.0	15.0	157.9	47.6
315.0	15.0	139.3	46.4

Proposal 25.68 dBu contour does not cross Canadian border
Distance to Canadian border: 282.5 km

Distance to Mexican border: 2063.8 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 89.9 degrees Distance: 395.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 280.5 degrees Distance: 2032.5 km

Study cell size: 0.50 km

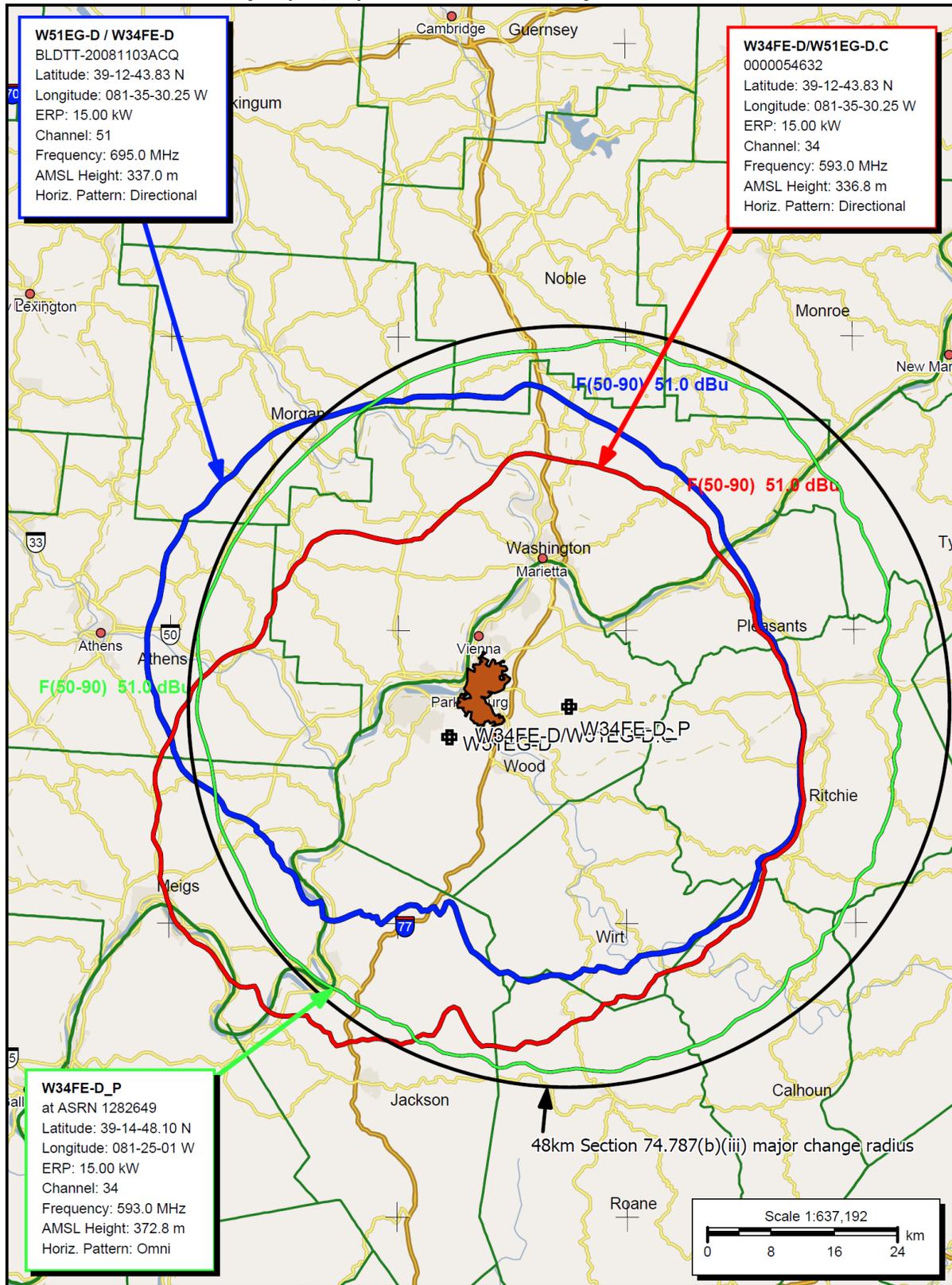
Profile point spacing: 0.50 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

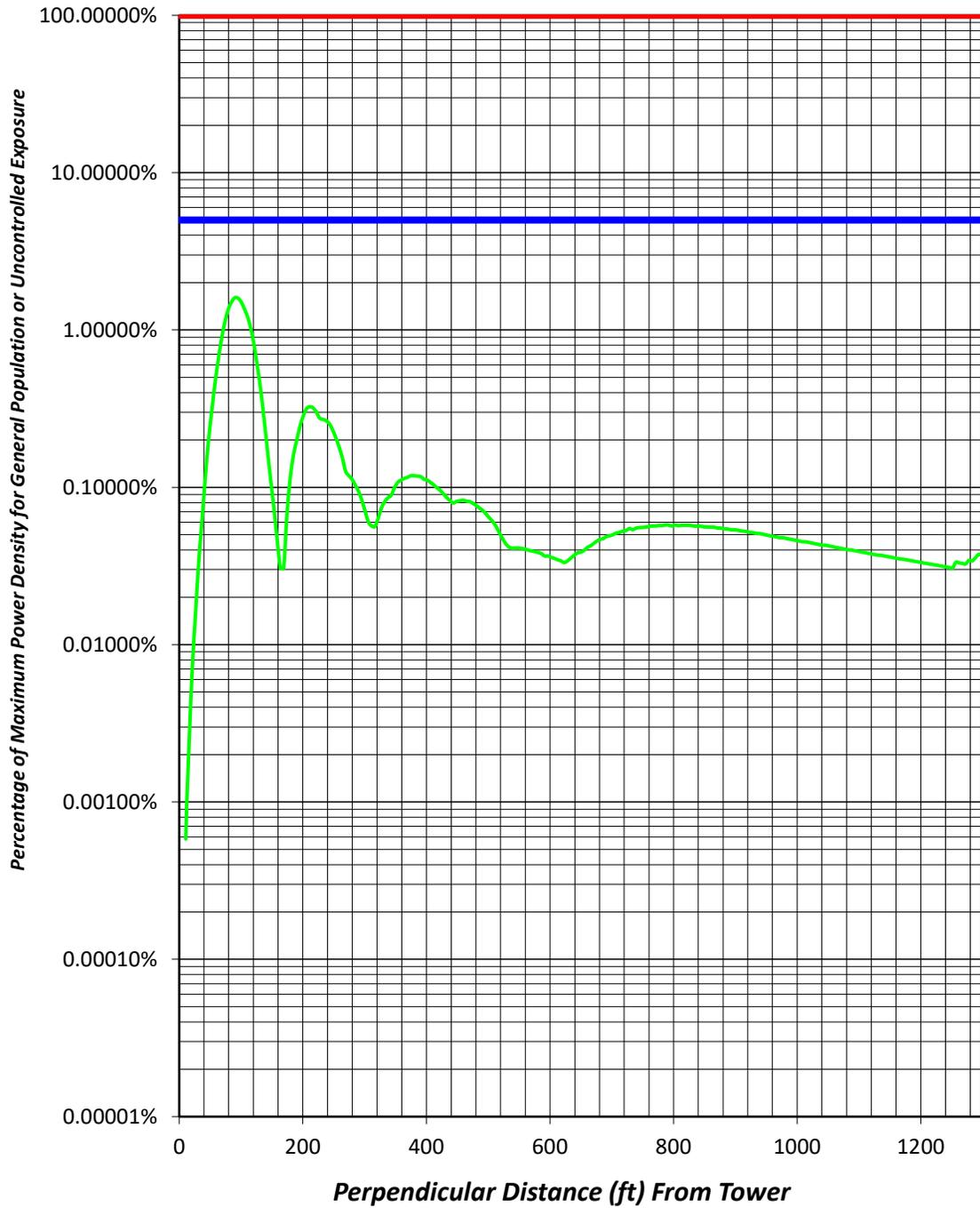
---- Below is IX received by proposal W51EG-D at ASRN 128264 ----

Proposal receives 9.66% interference from scenario 1
No IX check failures found.

APPENDIX C – 51dBμ F(50,90) Licensed and Proposed Contour



APPENDIX D – Far Field Exposure to RF Emissions



- Maximum Allowable General Population or Uncontrolled Exposure
- 5 % of Maximum General Population or Uncontrolled Exposure
- Percentage of Maximum General Population or Uncontrolled Exposure