

Technical Report WMST(AM) New Translator

This technical report is submitted for a new translator on channel 259 to serve as a fill-in facility to rebroadcast WMST(AM) 1150 kHz at Mount Sterling, KY, FCC facility I.D. 46745.

New 259D Translator Analysis:

An overlap study in exhibit E-1 shows the new 259D translator will not produce any interference overlaps to other facilities. The 60 dBu F(50-50) contour is contained within the WMST(AM) 2.0 mV/m daytime contour (exhibit E-2).

Antenna System:

The new 259D translator is to be located on the existing 60 meter tower at coordinates:

38 06 08N 83 50 12W NAD 27

A TOWAIR determination (exhibit E-3) shows the tower does not require registration.

An ERI LPX-2E circularly polarized, non-directional antenna will be mounted at a COR AGL of 40 meters, 354 meters AMSL and operate at 0.250 kW ERP.

RF Exposure Calculation:

The RF contribution was calculated using FMModel (exhibit E-4). The resulting RF is calculated to be $1.66 \mu\text{W}/\text{cm}^2$ at a distance of 25.4 meters from the base of the tower, which is below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public/uncontrolled exposure, allowing exclusion from consideration..

Conclusion:

It is concluded that the application for a new 259D translator facility for the WMST(AM) complies with all Commission rules and policies.



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E-1 NEW 275D OVERLAP STUDY

REFERENCE
38 06 08.0 N.
83 50 12.0 W.

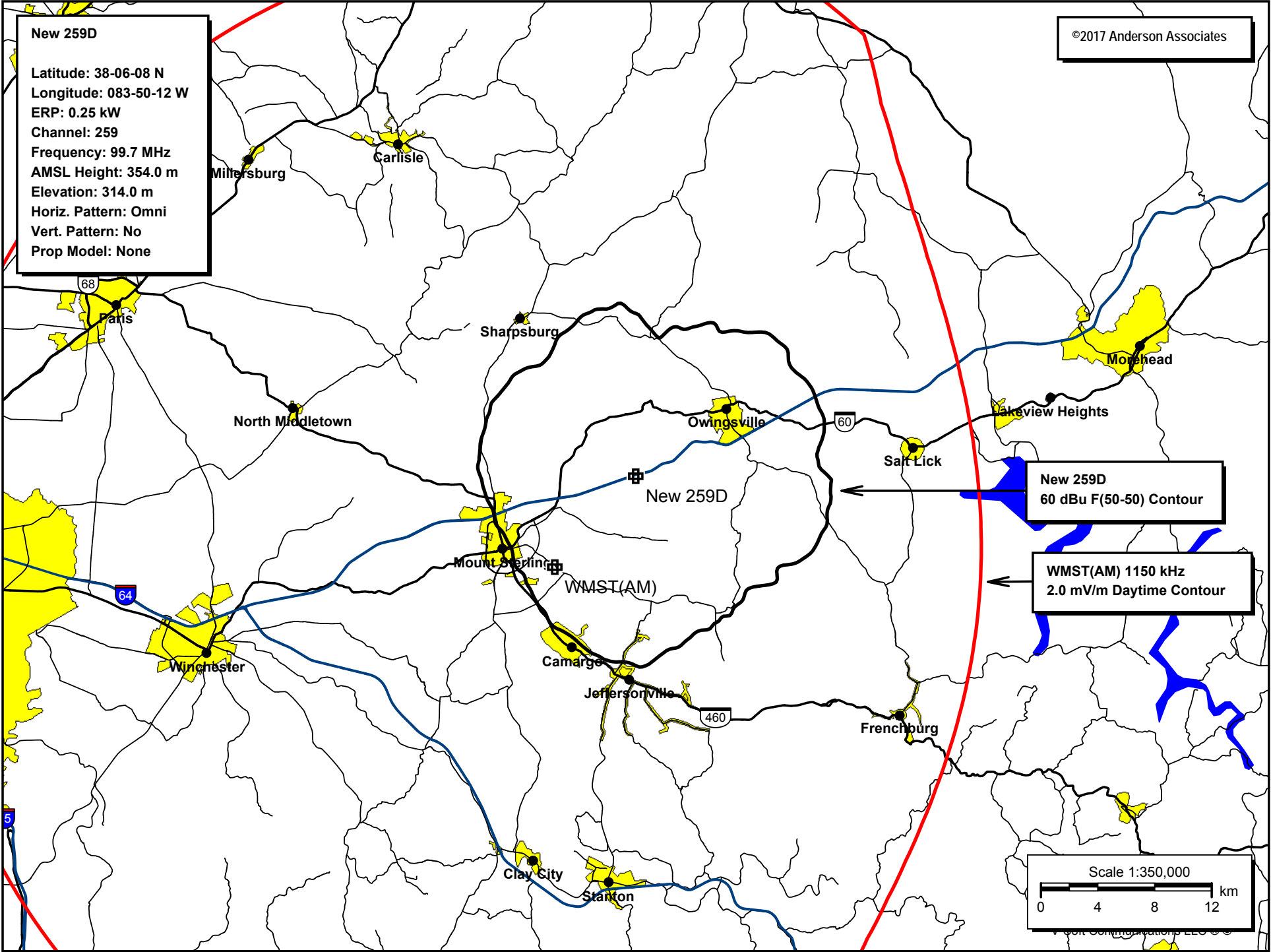
CH# 259D - 99.7 MHz, Pwr= 0.25 kW, HAAT= 0.0 M, COR= 354 M
Average Protected F(50-50)= 7.09 km
Omni-directional

DI SPLAY DATES
DATA 11-11-17
SEARCH 11-11-17

CH CITY	CALL	TYPE	ANT STATE	AZI ---	DI ST FI LE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LI CENSEE	*IN* (Overl ap	*OUT* in km)
259D Mt.	1762556 Sterling	APP	C_ KY	0.0 0.0	0.00 BNPFT20170726AEZ	38 06 08.0 83 50 12.0	0.250	39.0 354	11.4 Gateway	-50.4* Radio Works,	-50.4* Inc.
259A Grayson	WUGO	LIC	_CX KY	71.2 251.7	79.47 BLH20130402ABE	38 19 44.0 82 58 33.0	4.800 111	80.2 351	24.0 Carter County	-14.1* Broadcasting	7.4
258C3 Ri pl ey	WAOL	LIC	_CX OH	346.0 165.9	62.54 BLH20021101ABS	38 38 55.0 84 00 42.0	13.000 140	59.6 390	39.9 Dreamcatcher	-9.0 Communi cation	5.1
261C2 Wi nchester	WKQQ	LIC	_NC_ KY	272.7 92.3	53.28 BLH20000306ACK	38 07 24.0 84 26 37.0	20.000 194	5.3 485	49.3 Citi casters	36.8 Li censes,	2.7 Inc.
260A Vanci eve	WMTC-FM	LIC	_CN KY	148.0 328.3	64.85 BLH19920821KC	37 36 23.0 83 26 48.0	6.000 100	44.0 400	27.1 Kentucky Mountain	9.5 Bible Co	19.3
259L1 Lexi ngton	WXCN-LP	LIC	____ KY	261.7 81.3	54.45 BLL20160428ACR	38 01 47.6 84 27 01.7	0.075 39	328	26.5 Lexington Chri sti an	12.7 Networ	
256A Keene	WJMM-FM	LIC	_CX KY	266.1 85.7	57.19 BLH20100927ADS	38 03 56.0 84 29 13.0	2.100 170	2.4 460	28.2 Chri sti an Broadcas	43.7 ting Sys	27.8
205C1 Ri chmond	WEKU	LIC	_CN KY	240.1 59.8	49.59 BMLED19990407KA	37 52 45.0 84 19 33.0	50.000 219	0.0 482	0.0 Eastern Kentucky Uni	21.5R versi t	28.1M

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
***affixed to 'IN' or 'OUT' values = site inside restricted contour.

E-2 New 259D 60 dBu Contour Plot



TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	38-06-08.3 north
Longitude	083-50-11.7 west

Measurements (Meters)

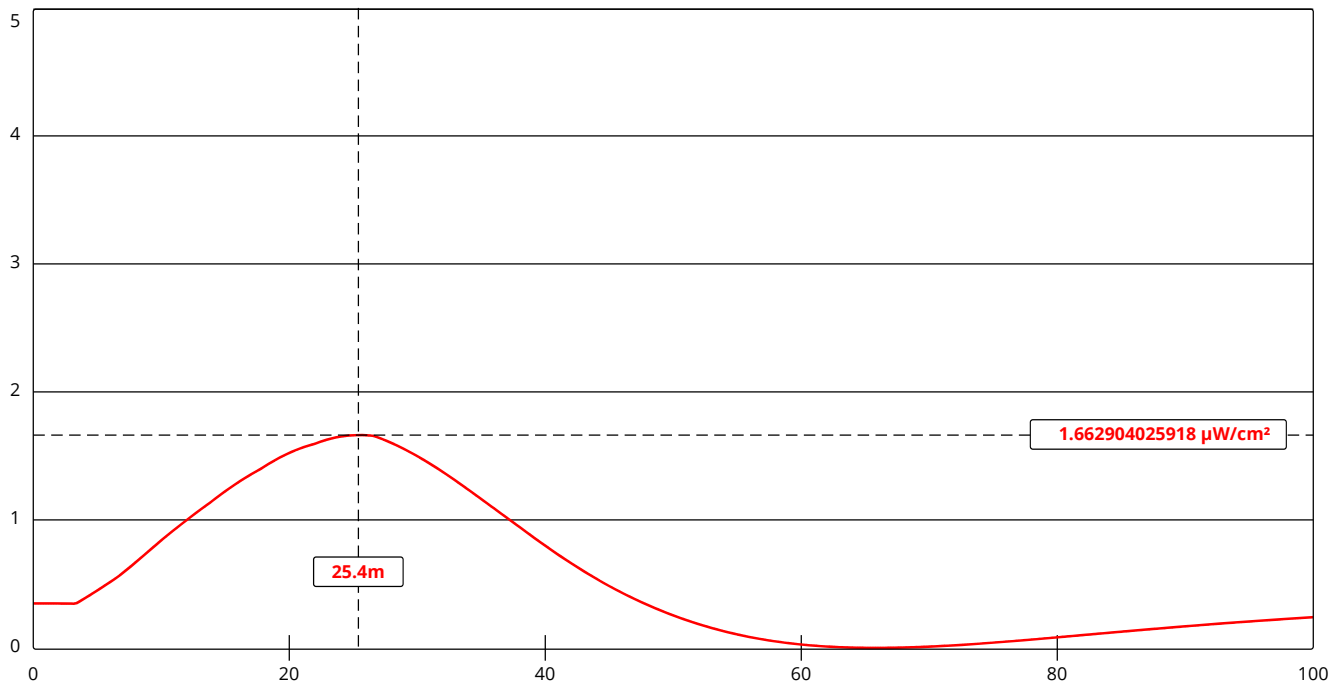
Overall Structure Height (AGL)	60
Support Structure Height (AGL)	0
Site Elevation (AMSL)	314

Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

E-4 New 259D RF Calculation

FM Model



Channel Selection	Channel 259 (99.7 MHz)		
Antenna Type +	EPA Type 3: Opposed U Dipole		
Height (m)	40	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	2	Element Spacing (λ)	1
Num of Points	500		