

## ENGINEERING EXHIBIT

The proposed minor modification to WXLQ Bristol, VT (File BLED-20090112AAN, facility ID 176918) will change the output channel to channel 206A, increase the ERP to 1.2 kW, and correct the transmitter location's coordinates.

The change to a non-adjacent channel is a permissible minor change as neither the Class of the station nor the Community of License is included in the proposed changes.

The proposed facility complies with all applicable engineering standards and requirements as follows:

**73.203** Not applicable for NCE stations in the reserved portion of the FM band

**73.207** The proposed facility complies with the minimum distance separation requirements for stations separated by 10.6/10.8 MHz:

This following station is the nearest facility to the proposal with IF channel spacing:  
WBTZ, Plattsburgh, NY: facility ID 52807, Class 260C  
Distance from proposal: 73.5 km  
Minimum spacing between Class C (WBTZ) and proposal (Class A) 29 km  
Clearance = 44.5 km

**73.213** Not applicable

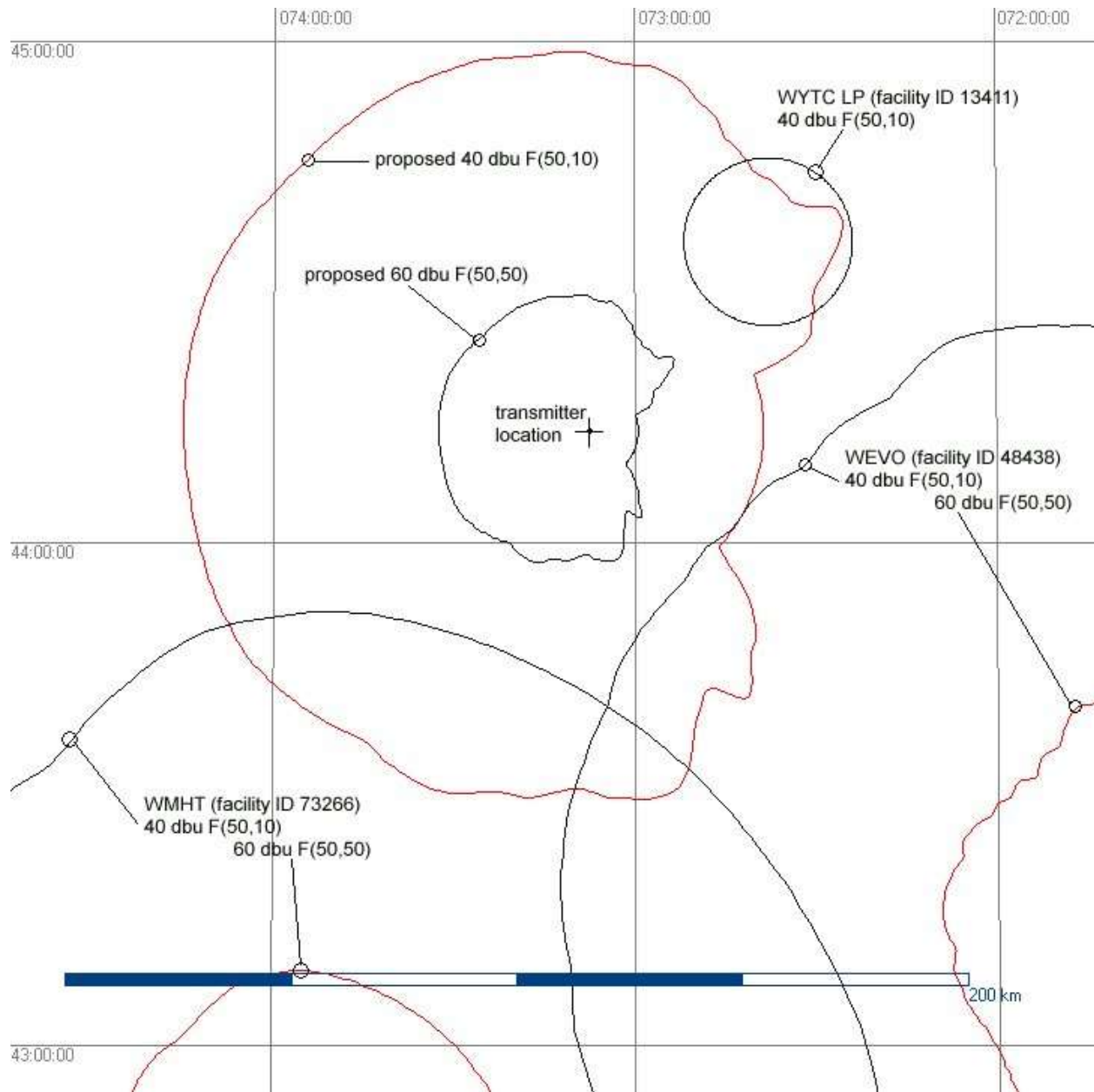
**73.315** Not applicable for NCE stations

**73.509** No prohibited contour overlap would be produced by this facility:

- regarding co-channel facilities with contour clearances of 25 km or less:

station call letters	WYTC LP	WMHT	WEVO
location	Hyde Park, VT	Schenectady, NY	Concord, NH
FM Channel	206 LP1	206B	206B
file Number	BLL-20050413ABE	BLED-20121121ACB	BMLED-20100630BSW
facility ID	134111	73266	48438
distance to proposal	57.5 km	191.6 km	168.0 km
outgoing interference contour separation	None required	46 km	58 km
incoming interference contour separation	14 km	20 km	13 km

Plotting the 60 dbu f(50,50) protected contours and 40 dbu f(50,10) interference contours for the proposed facility as well as the pertinent stations shows that no objectionable interference will occur.



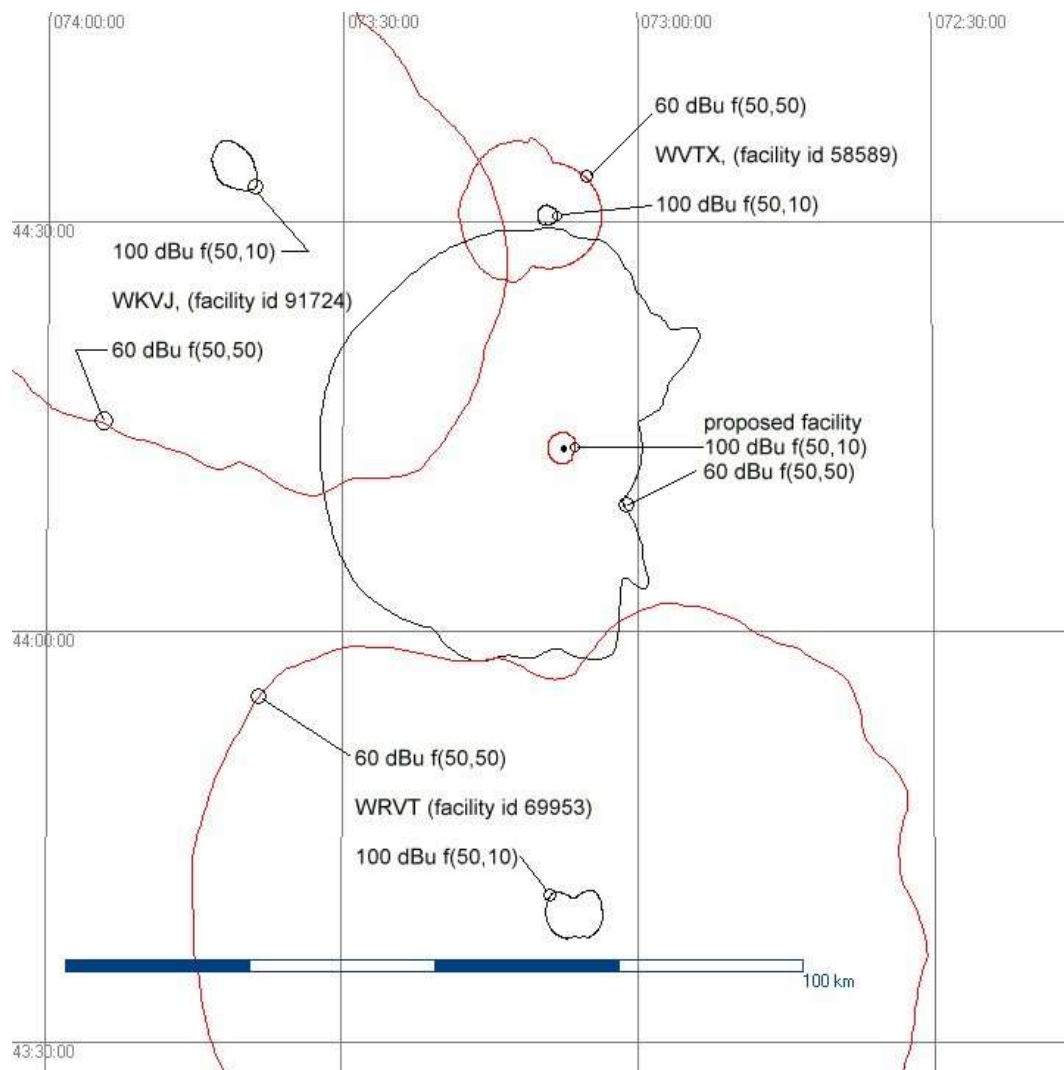
- regarding 1<sup>st</sup> adjacent facilities

The nearest 1<sup>st</sup> adjacent station is WVBA, Brattleboro, VT, (BLED-20180712AAL, facility ID 175088) channel 205B1, which is located 160.9 km from the proposed facility with over 90 km of clearance between protected and interference contours.

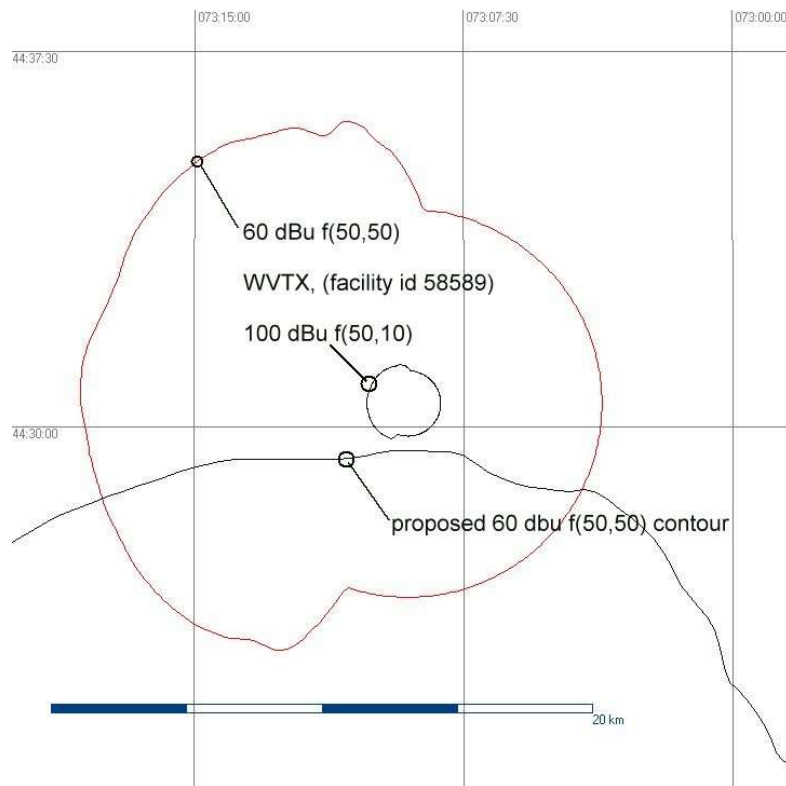
- Regarding 2<sup>nd</sup> and 3<sup>rd</sup> adjacent channel facilities with contour clearances of 25 km or less:

station call letters	WRVT	WVTX	WKVJ
location	Rutland, VT	Colchester, VT	Dannemora, NY
FM channel	204C2	204A	209C2
file number	BLED-20101206ACJ	BLED-20170123FLT	0000151436
facility ID	69953	58599	91724
distance to proposal	62.9 km	31.5 km	58.5 km
outgoing interference contour separation	22 km	21 km	12 km
incoming interference contour separation	31 km	0.5 km	23 km

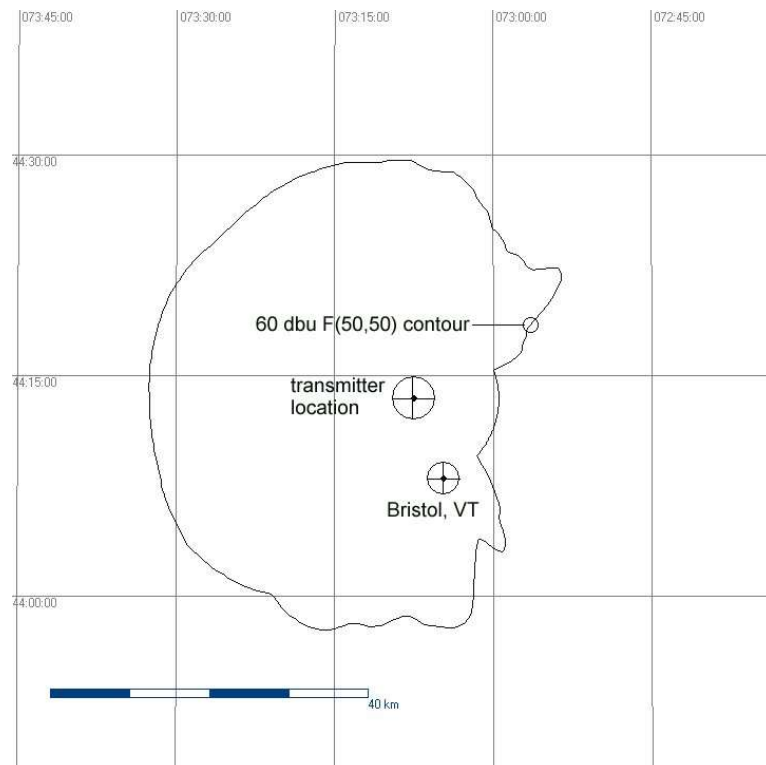
Plotting the 60 dbu f(50,50) protected contours and 100 dbu f(50,10) interference contours for the proposed facilities as well as the pertinent stations shows that no objectionable interference will occur.



(detail regarding incoming interference from WVTX showing lack of contour overlap)



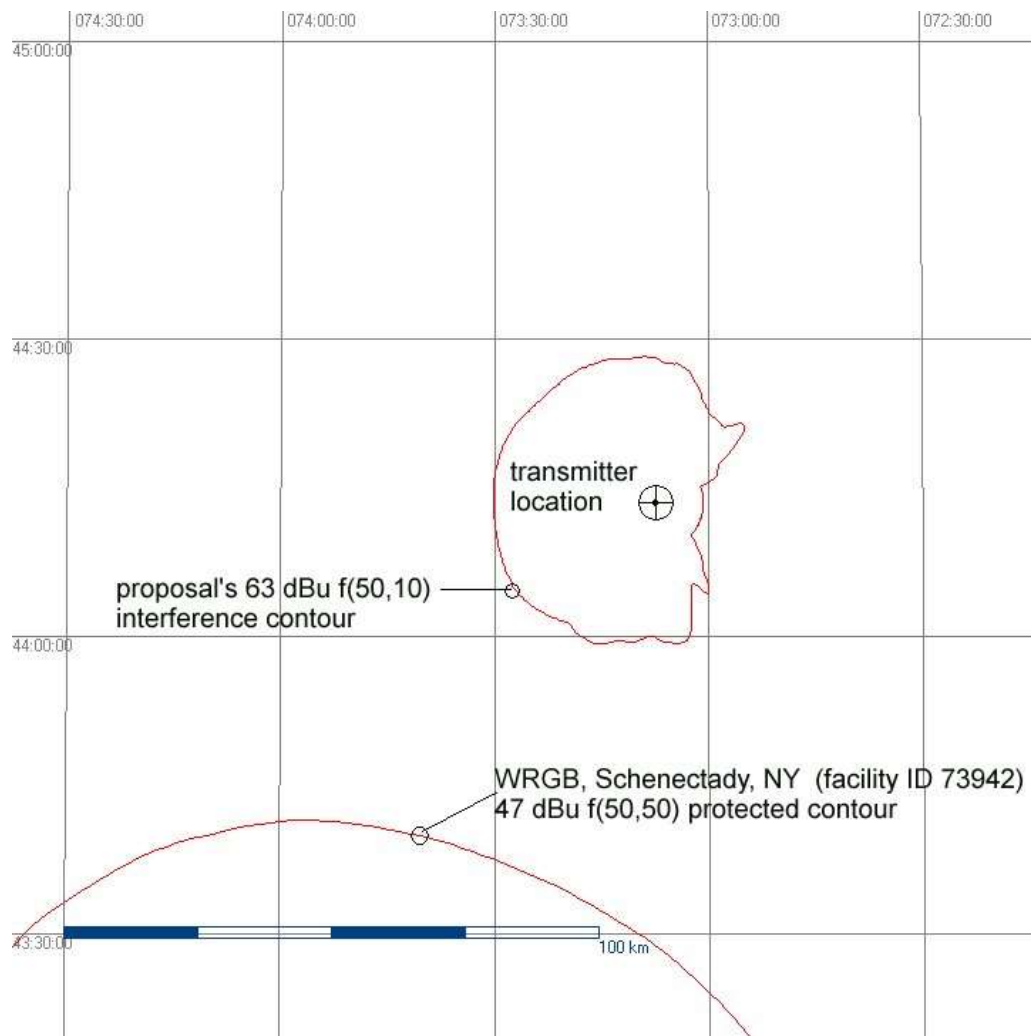
**73.515** The community of license (Bristol, VT) would continue to be included within the 60 dbu contour of the proposed facility, as it currently is for WXLQ. This can be seen from the following plot:



**73.525** WRGB TV Channel 6 (facility ID 73942) is located 191.6 km from the proposed FM facility on channel 206. As this is less than the 211 km required in 73.525 Table A, WRGB is considered an affected station and the possibility of Channel 6 interference must be investigated further.

Full-power DTV facilities are protected to the 28 dBu f(50,90) contour. This protected contour is roughly equivalent to the analog 47 dBu f(50,50) contour requiring protection in 73.525.

Using the +16 dB Undesired to Desired ratio (from 73.599) and plotting the proposed FM facility's 63 dBu f(50,10) interference curve, it can be shown that no objectionable interference will occur within WRGB's protected contour.



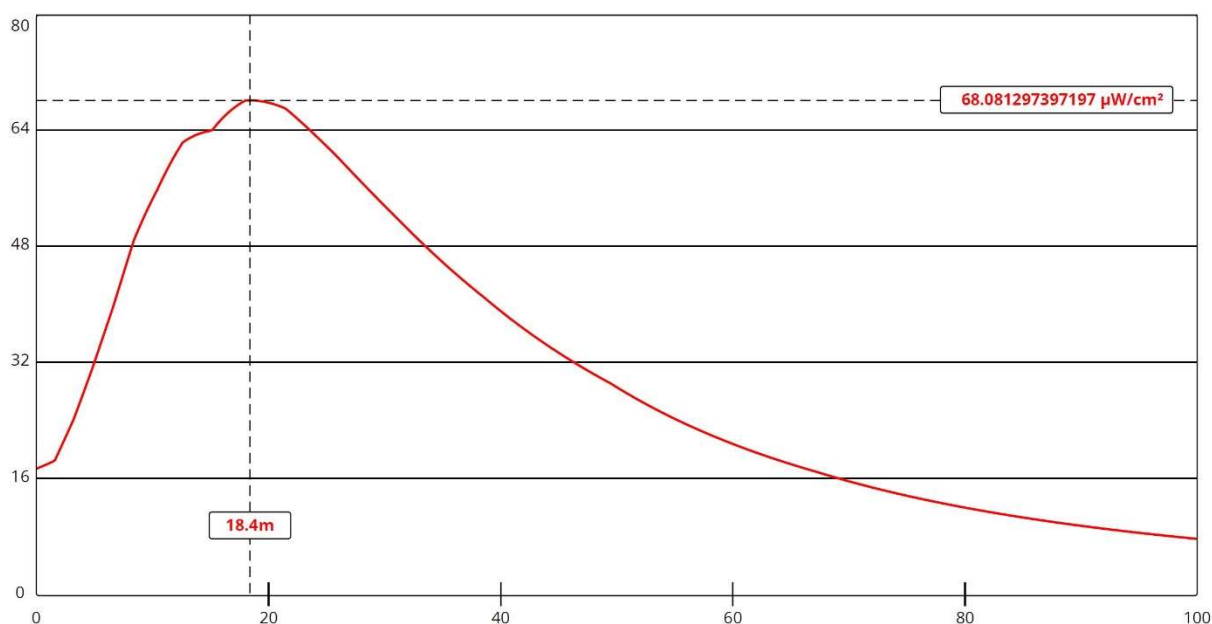
## Environmental

The proposed antenna will be side-mounted on an existing tower. No change to the height of the tower is proposed. No excavation or construction is involved.

The proposed antenna is a single-bay SWR Model FM3. This is an opposed-V double dipole design, EPA Type 2.

Using the FCC's "FM Model", a maximum exposure of  $68.1 \mu\text{W}/\text{cm}^2$  would occur 2 meters above ground level, which is 34% of the limit for casual/uncontrolled exposure of  $200 \mu\text{W}/\text{cm}$ . There are no other broadcast facilities at this site.

Appropriate safety signage and access controls are provided at the site. The applicant agrees to reduce power or temporarily suspend operations in order to protect workers on the tower.



Channel Selection	Channel 206 (89.1 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="20"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="1200"/>	ERP-V (W)	<input type="text" value="1200"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	Apply	