

## ENGINEERING EXHIBIT

### Application for Modification of FM Translator Construction Permit

prepared for

**Premier Broadcasters, Inc.**

K278CB Centralia, WA

Facility ID 142916

Ch. 263 100.5 MHz 0.25 kW

*Premier Broadcasters, Inc.* (“Premier”) is the proposed assignee (BAPFT-20160405ABG) of the Construction Permit (BNPFT-20130829ACQ) for unbuilt FM translator station K278CB, Channel 278 (103.5 MHz), Facility ID 142916, Wenatchee, WA. Pursuant to the procedures described in FCC 15-142 (FM translator filing window for AM licensees),<sup>1</sup> *Premier* herein proposes to relocate K278CB to Centralia WA, change to Channel 263 (100.5 MHz), and associate the facility with station KITI(AM) (Class B, 1420 kHz, Fac ID 53398, Centralia-Chehalis WA). *Premier* is the licensee of KITI. Accordingly, the proposal is a “250-mile window application<sup>2</sup>.” *Premier* has secured the consent of the assignor to file this minor modification application.

The proposed translator site is an existing tower structure associated with FCC Antenna Structure Registration number 1059371. The proposed site is located 139.7 miles (224.7 km) from the authorized K278CB site and therefore complies with the filing window’s maximum relocation distance of 250 miles. The proposed transmitting antenna will be side-mounted on the tower structure and no change to the overall structure height will result from this proposal.

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<sup>1</sup>*Revitalization of the AM Radio Service*, First Report and Order, Further Notice of Proposed Rule Making, and Notice of Inquiry, FCC 15-142, released October 23, 2015.

<sup>2</sup>See Public Notices: *Media Bureau Initiates AM Revitalization Outreach Efforts; Modification Window Procedures and Requirements Announced*, DA 15-1215, released October 26, 2015; and *Media Bureau Announces Filing Dates And Procedures For AM Station Filing Window for FM Translator Modifications and Availability of FM Translator Technical Tools*, DA 15-1491, released December 23, 2015.

### **Fill-In Compliance**

K278CB will be a fill-in translator for station KITI(AM). The 60 dB $\mu$  contour of the proposed K278CB is encompassed by the lesser of the KITI daytime 2 mV/m contour and a 25 mile radius from KITI's transmitter site as depicted in Figure 1. As a fill-in translator, the proposed 0.25 kW ERP complies with §74.1235(a). The proposed translator site is co-located with the KITI main studio, thus signal delivery of the audio programming will be a direct feed from the KITI studio.

### **§74.1204 Interference Protection**

Table 1 supplies a summary of the proposal's compliance with the interference protection requirements of §74.1204(a) and (g). The proposed facility complies with the prohibited contour overlap and minimum spacing requirements of 74.1204(a) and (g) regarding all FM full power, low power, and translator stations.

The proposed site is located 174 km from the border with Canada, within the 320 km international coordination zone. The proposed 34 dB $\mu$  interfering contour extends 35.6 km from the proposed site, and thus does not reach the Canada border. The proposal therefore complies with §74.1235(d)(3) and coordination with Canada is not required (see DA 97-1595 and FCC 14-120).

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent relative field at downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 65.2  $\mu$ W/cm<sup>2</sup>, which is 32.6 percent of the general population/uncontrolled maximum permitted exposure limit. No other known non-excluded RF sources are located near enough to be considered a significant emitter at the proposed site. This demonstrates compliance using the FCC's rudimentary "RF Exposure Compliance Worksheet" method. The calculated RF exposure will be much lower when the antenna's elevation pattern is considered.

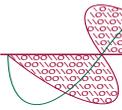
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Coverage Contours – Primary and Translator Stations
Table 1	Channel Allocation Summary
Form 349	Saved Version of Engineering Sections from FCC Form at Time of Upload

**Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.                      July 27, 2016  
207 Old Dominion Road                      Yorktown, VA 23692                      703-650-9600



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

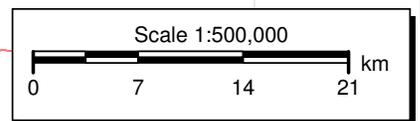
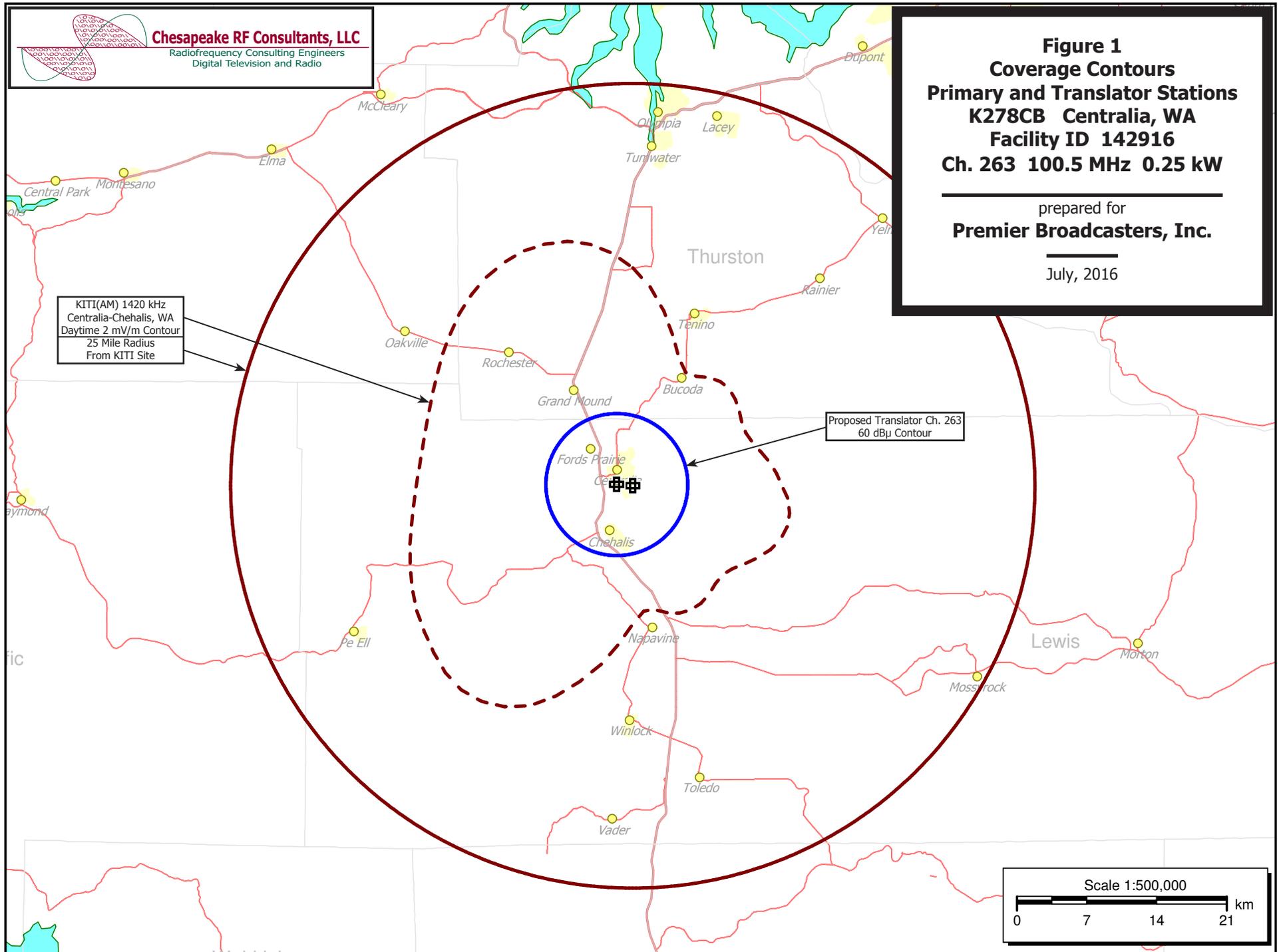
**Figure 1**  
**Coverage Contours**  
**Primary and Translator Stations**  
**K278CB Centralia, WA**  
**Facility ID 142916**  
**Ch. 263 100.5 MHz 0.25 kW**

prepared for  
**Premier Broadcasters, Inc.**

July, 2016

KITI(AM) 1420 kHz  
Centralia-Chehalis, WA  
Daytime 2 mV/m Contour  
25 Mile Radius  
From KITI Site

Proposed Translator Ch. 263  
60 dBμ Contour



**Table 1**  
**Channel Allocation Study Summary**  
**Premier Broadcasters, Inc.**  
**K278CB Centralia, WA**



CH CITY	CALL	TYPE	ANT STATE	AZI. <-->	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
264C Seattle	KKWF	LIC	DC WA	39.4 220.1	115.79 BLH20081120AFT	47 30 14.0 121 58 29.0	68.000 707	139.1 940	94.7 Entercom License, Llc	10.9
266D Olympia	K266BM	LIC	C WA	335.2 155.1	33.08 BLFT20130402ACL	46 58 24.0 123 08 11.0	0.010 656	0.2 858	14.9 Northwest Rock N Roll Pres	17.0
262L1 Olympia	KOLP-LP	CP	WA	1.3 181.4	33.60 BNPL20131114AZW	47 00 19.7 122 56 35.5	0.009 96	187	Olympia All Ages Project	17.3
260C Seattle	KISW	LIC	ZC WA	39.4 220.1	115.79 BLH20080730AKM	47 30 14.0 121 58 29.0	68.000 707	13.5 940	94.7 Entercom License, Llc	20.0
263D Aberdeen	K263BE	LIC	C WA	293.6 113.1	64.54 BLFT20130531AAF	46 56 00.0 123 43 57.0	0.250	39.2 201	11.4 Jodesha Broadcasting, Inc.	29.3
209A Roy	KWFJ	LIC	DEN WA	46.3 226.6	42.46 BLED19950725KA	46 57 59.0 122 32 56.0	1.000 30	6.0 154	6.0 9.5R Bible Broadcasting Network	33.0M
262C Portland	KKRZ	LIC	C OR	173.0 353.1	132.25 BLH20011214AAE	45 31 21.0 122 44 45.0	100.000 470	128.5 561	86.1 Citicasters Licenses, Inc.	36.0
262D Tacoma	K262CI	CP	C WA	51.4 231.9	64.28 BNPFT20130820AAP	47 03 43.0 122 17 24.0	0.215 37	14.3 215	10.3 Edgewater Broadcasting, In	43.8
266C Portland	KXL-FM	LIC	C OR	172.6 352.7	133.08 BLH20100503ACD	45 30 58.0 122 43 59.0	100.000 502	12.7 594	87.7 Alpha Media Licensee Llc	44.3
210A Gig Harbor	KGHP	LIC	DEX WA	13.0 193.1	61.34 BLED20061204AHL	47 14 27.0 122 46 16.0	1.350 61	12.8 86	12.8 9.5R Peninsula School District	51.8M
266D Raymond	K266BL	LIC	DV WA	268.1 87.6	59.37 BLFT20100506ADI	46 41 00.0 123 43 54.0	0.040 -89	0.4 17	4.0 Jodesha Broadcasting, Inc.	54.3
265D Aberdeen	K265DP	LIC	C WA	293.7 113.1	64.37 BLFT20030912AAU	46 56 01.0 123 43 48.0	0.090 117	0.7 199	8.7 Pacific Lutheran Universit	54.6
210A Auburn	KGRG-FM	CP	DCX WA	41.9 222.5	83.00 BPED20160615AAS	47 15 23.0 122 13 07.0	0.230 116	8.7 213	8.7 9.5R	73.5M
210A Auburn	KGRG-FM	LIC	DCN WA	41.9 222.5	83.00 BLED19950127KB	47 15 23.0 122 13 07.0	0.250 112	8.7 207	8.7 9.5R	73.5M
265D Astoria	K265CP	LIC	?HN OR	236.0 55.3	86.73 BLFT19880908TC	46 15 46.0 123 53 19.0	0.110 210	0.7 251	11.5 Gospel Echo, Inc.	74.1
262L1 Kent	KUCP-LP	LIC	WA	39.6 220.2	92.39 BLL20160218AAQ	47 20 28.0 122 10 19.3	0.041 47	160	Ukrainian Church Of Evange	74.6

Terrain database is USGS 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference Zone= West 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)  
 Incoming contour overlap is ignored.  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 << = Station meets FCC minimum distance spacing for its class.  
 < = Contour Overlap  
 Reference station has protected zone issue: AM tower

**SECTION III - PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 7/27/2016	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 207 OLD DOMINION ROAD			
City YORKTOWN		State or Country (if foreign address) VA	Zip Code 23692 -
Telephone Number (include area code) 7036509600		E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

**Section III-A - Engineering**

**TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

**TECH BOX**

1. Channel: 263

2. Primary Station:

Facility ID Number	Call Sign	City	State
53398	KITI	CENTRALIA-CHEHALIS	WA

3. Delivery Method (Select One):  
 Off-air  Microwave  Satellite  Via  Other

4. Antenna Location Coordinates: (NAD 27)

Latitude:  
 Degrees 46 Minutes 42 Seconds 12  North  South

Longitude:  
 Degrees 122 Minutes 57 Seconds 13  West  East

5. Antenna Structure Registration Number: 1059371  
 Not Applicable  Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 55 meters

7. Overall Tower Height Above Ground Level: 22 meters

8. Height of Radiation Center Above Ground Level: 18 meters(H) 18 meters(V)

9. Effective Radiated Power: 0.25 kW(H) 0.25 kW(V)

10. Transmitting Antenna:  
 Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under [CDBS Public Access](http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm) (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs\_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.  
 Nondirectional  Directional Off-the Shelf  Directional composite  
 Manufacturer ERI Model 100A-1M  
 Rotation:degrees  No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

[Relative Field Polar Plot](#)

11. For FM Boosters and Fill-in translators only.

a. FM Fill-in translators. Applicant certifies that the FM translator's (a) coverage contour does not extend beyond the protected contour of the commercial FM primary station to be rebroadcast, or (b) entire 60 dBu contour is contained within the lesser of: (i) the 2 mV/m  Yes  No  N/A

	<p>daytime contour of the AM primary station to be rebroadcast, or (ii) a 25-mile radius centered at the AM primary station's transmitter site.</p> <p>b. <b>FM Boosters.</b> Applicant certifies that the FM Booster station's service contour is entirely within the primary station's protected coverage contour.</p>	<p>See Explanation in [Exhibit 10]</p> <p><input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A</p> <p>See Explanation in [Exhibit 11]</p>
12.	<p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. Check all that apply:</p> <p><b>Overlap Requirements.</b> <input checked="" type="checkbox"/> a) 47 C.F.R. Section 74.1204 <b>Exhibit Required.</b></p> <p><b>Television Channel 6 Protection.</b> <input type="checkbox"/> b) 47 C.F.R. Section 74.1205 with respect to station(s) <b>Exhibit Required.</b></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 12]</p> <p>[Exhibit 13]</p> <p>[Exhibit 14]</p>
13.	<p><b>Unattended operation.</b> Applicant certifies that unattended operation is not proposed, or if this application proposes unattended operation, the applicant certifies that it will comply with the requirements of 47 C.F.R. Section 74.1234.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 15]</p>
14.	<p><b>Multiple Translators.</b> Applicant certifies that it does not have any interest in an application or an authorization for an FM translator station that serves substantially the same area and rebroadcasts the same signal as the proposed FM translator station.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 16]</p>
15.	<p><b>Environmental Protection Act.</b> Applicant certifies that the proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b></p> <p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 17]</p>
<p><b>PREPARER'S CERTIFICATION ON PAGE 4 MUST BE COMPLETED AND SIGNED.</b></p>		