

## **ENGINEERING EXHIBIT**

### **Application for FM Translator Construction Permit**

prepared for

**Premier Broadcasters, Inc.**

K263BS Centralia, WA

Facility ID 142916

Ch. 263 100.5 MHz 0.25 kW

*Premier Broadcasters, Inc. (“Premier”)* is the licensee of FM translator station K263BS, Channel 263, Facility ID 142916, Centralia, WA (BLFT-20170328AAR). K263BS is a fill-in translator for station KITI(AM) (1420 kHz, Fac ID 53398, Centralia-Chehalis WA). *Premier* is also the licensee of KITI. *Premier* herein seeks a Construction Permit to operate K263BS with increased power at the existing transmitter site.

K263BS is licensed to operate with 0.15 kW effective radiated power (“ERP”) and a nondirectional antenna centered 35 meters above ground level (“AGL”). *Premier* proposes herein to increase the ERP to 0.25 kW, nondirectional, and adjust the antenna’s center of radiation to 34 meters AGL. No change is proposed to the transmitting site location.

K263BS will continue to employ the licensed antenna system which is side-mounted on the tower structure associated with FCC Antenna Structure Registration number 1060077. No change to overall structure height will result from this proposal.

#### **Fill-In and Minor Change Compliance**

K263BS will continue to be a fill-in translator for station KITI(AM). The 60 dBμ contour of the proposed K263BS is encompassed by the greater of the KITI daytime 2 mV/m contour and a 25 mile radius from KITI’s transmitter site as depicted in Figure 1. This complies

with the modified §74.1201(g) which becomes effective on April 10, 2017, the date<sup>1</sup> on which this proposal is intended to be filed.

As a fill-in translator, the proposed 0.25 kW ERP complies with §74.1235(a). Final signal delivery of the audio programming material to the translator will be accomplished via microwave. Since there is no change to the transmitting site location or channel, the proposal is considered a minor change under §74.1233.

#### **§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 177.9 km from the border with Canada, within the 320 km international coordination zone. The proposed 34 dBμ interfering contour extends a maximum of 63.4 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).

The nearest FCC monitoring station is 256 km distant at Ferndale, WA. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 km of the site.

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

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. The proposed transmitting antenna

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<sup>1</sup>Media Bureau Announces Notice of Effective Date of Rule Change Adopted in Second Report and Order in Revitalization of the AM Radio Service Published in Federal Register; Effective Date of Modified Section 74.1201(g) of Commission's Rules Is April 10, 2017, Public Notice, DA 17-255, released March 16, 2017.

is a Jampro model JLLP-1 consisting of a single element. According to the FCC's "FMModel" software analysis,<sup>2</sup> the graph in Figure 2 depicts calculated power density levels attributable to the proposed facility at locations near the tower at a height of two meters above ground level. That analysis shows that the maximum calculated RF electromagnetic field attributable to the proposed K263BS is 5.1  $\mu\text{W}/\text{cm}^2$ , which is 2.6 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

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 continue to be posted and the tower will continue to be fenced. 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

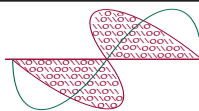
Figure 1	Coverage Contours – Primary and Translator Stations
Figure 2	RF Electromagnetic Field – FCC FMModel Results
Table 1	Channel Allocation Summary
Form 349	Saved Version of Engineering Sections from FCC Form at Time of Upload

#### **Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.                      April 5, 2017  
207 Old Dominion Road                      Yorktown, VA 23692                      703-650-9600

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<sup>2</sup>"Office of Engineering and Technology Announces Updates to FMModel Software," Public Notice, DA 16-340, March 31, 2016. FMModel is available at <https://www.fcc.gov/oet/software/fmmodel>.

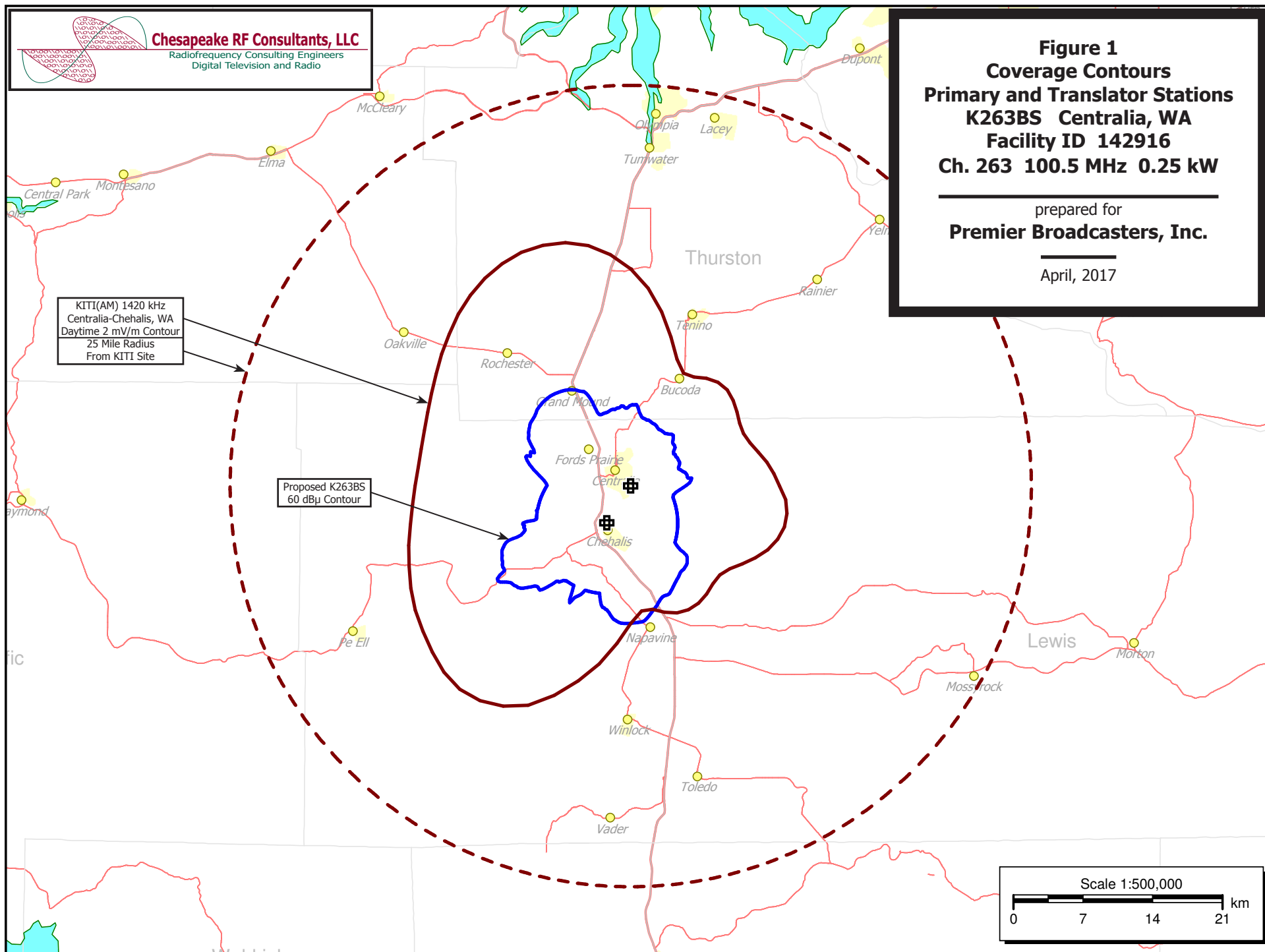


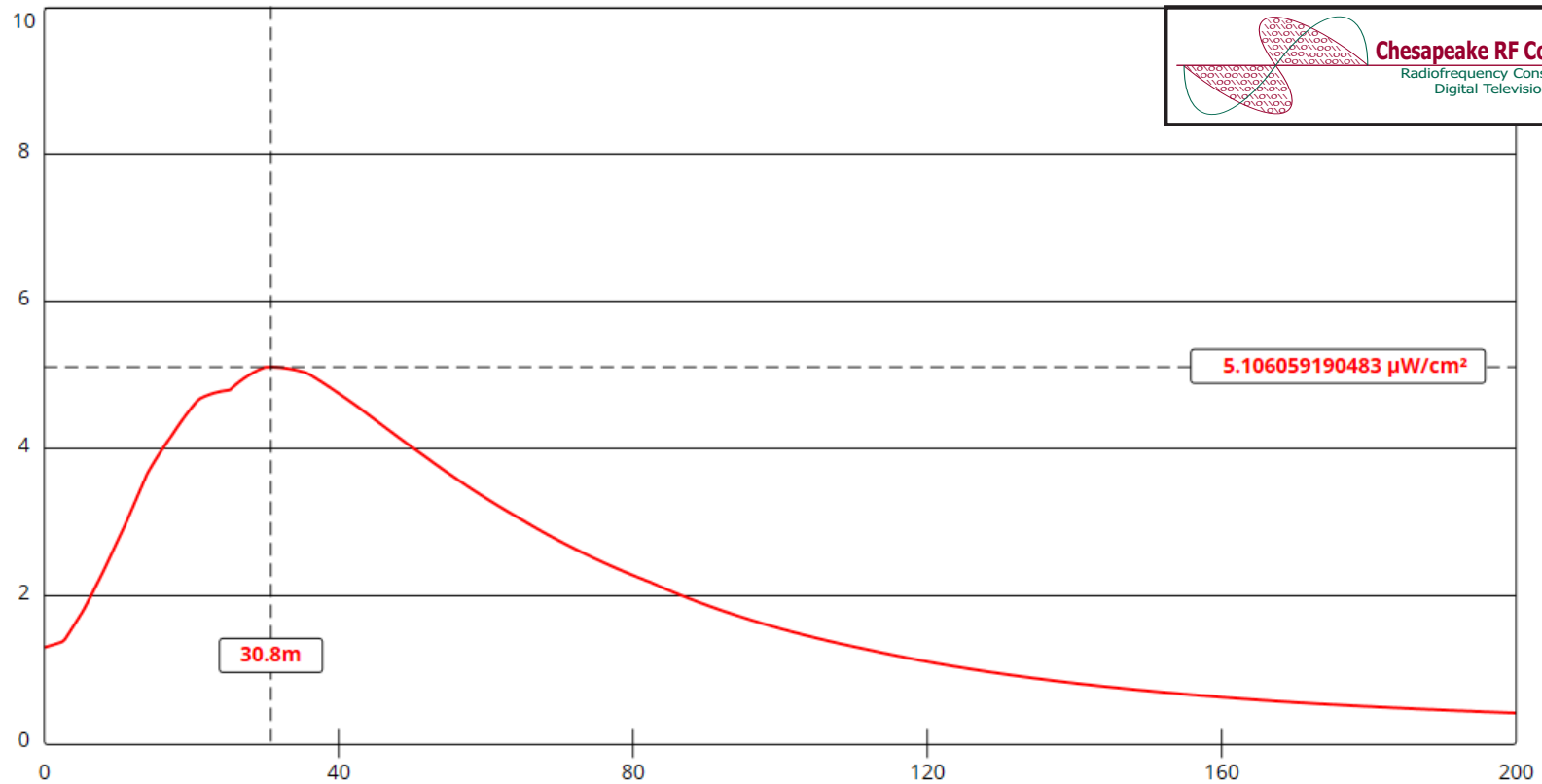
**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 1**  
**Coverage Contours**  
**Primary and Translator Stations**  
**K263BS Centralia, WA**  
**Facility ID 142916**  
**Ch. 263 100.5 MHz 0.25 kW**

prepared for  
**Premier Broadcasters, Inc.**

April, 2017





[View Tabular Results +](#)

Channel Selection	Channel 263 (100.5 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	32	Distance (m)	200
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500	<a href="#">Apply</a>	

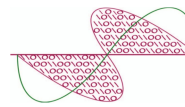
**Figure 2**  
**RF Electromagnetic Field**  
**FCC FMModel Results**  
**K263BS Centralia, WA**  
**Facility ID 142916**  
**Ch. 263 100.5 MHz 0.25 kW**

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April, 2017

Table 1

# **Channel Allocation Study Summary** **Premier Broadcasters, Inc.** **K263BS Centralia, WA**



Chesapeake RF Consultants, LLC

Radiofrequency Consulting Engineers  
Digital Television and Radio

REFERENCE		CH# 263D - 100.5 MHz, Pwr= 0.25 kw, HAAT= 52.5 M, COR= 170 M						DISPLAY DATES			
46 40 08.0 N.		Average Protected F(50-50)= 9.5 km						DATA 04-05-17			
122 57 50.0 W.		Omni-directional						SEARCH 04-05-17			
CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kw)	INT(km)	PRO(km)	*OUT*	
CITY		STATE		<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
264C	KKWF	LIC	DC	38.5	119.26	47 30 14.0	68.000	139.1	94.7	9.8	
Seattle			WA	219.3	BLH20081120AFT	121 58 29.0	707	940	Entercom License, Llc		
262L1	KOLP-LP	LIC		2.4	37.45	47 00 19.7	0.006			15.4	
Olympia			WA	182.4	BLL20170206AAB	122 56 35.5	96	187	Olympia All Ages Project		
266D	K266BM	LIC	C	338.9	36.30	46 58 24.0	0.010	0.2	14.9	20.2	
Olympia			WA	158.7	BLFT20130402ACL	123 08 11.0	656	858	Northwest Rock N Roll Pres		
260C	KISW	LIC	ZC	38.5	119.26	47 30 14.0	68.000	13.5	94.7	23.4	
Seattle			WA	219.3	BLH20080730AKM	121 58 29.0	707	940	Entercom License, Llc		
262C	KKRZ	LIC	C	172.4	128.55	45 31 21.0	100.000	128.5	86.1	28.4	
Portland			OR	352.6	BLH20011214AAE	122 44 45.0	470	561	Citicasters Licenses, Inc.		
263D	K263BE	LIC	C	297.0	65.46	46 56 00.0	0.250	40.8	11.9	29.8	
Aberdeen			WA	116.4	BLFT20130531AAF	123 43 57.0		201	Jodesha Broadcasting, Inc.		
266D	K266BM	CP	DV	338.9	36.30	46 58 24.0	0.070	0.0	0.6	34.6	
Olympia			WA	158.7	BPFT20160729AKW	123 08 11.0		843	Northwest Rock N Roll Pres		
209A	KWFJ	LIC	DEN	43.5	45.72	46 57 59.0	1.000	0.0	0.0	10.0R	35.7M
Roy			WA	223.8	BLED19950725KA	122 32 56.0	30	154	Bible Broadcasting Network		
266C	KXL-FM	LIC	C	172.0	129.39	45 30 58.0	100.000	12.7	87.6	40.7	
Portland			OR	352.2	BLH20100503ACD	122 43 59.0	502	594	Alpha Media Licensee Llc		
262D	K262CI	LIC	V	48.7	67.77	47 04 08.0	0.010	4.6	3.2	51.2	
Tacoma			WA	229.2	BLFT20161129AHB	122 17 28.0		181	Edgewater Broadcasting, In		
266D	K266BL	LIC	DV	271.9	58.59	46 41 00.0	0.040	0.3	3.9	53.5	
Raymond			WA	91.3	BLFT20100506ADI	123 43 54.0	-89	17	Jodesha Broadcasting, Inc.		
265D	K265DP	LIC	C	297.1	65.31	46 56 01.0	0.090	0.7	9.0	55.2	
Aberdeen			WA	116.5	BLFT20030912AAU	123 43 48.0	117	199	Pacific Public Media		
210A	KGHP	LIC	DEX	12.9	65.25	47 14 27.0	1.350	0.0	0.0	10.0R	55.3M
Gig Harbor			WA	193.0	BLED20061204AHL	122 46 16.0	61	86	Peninsula School District		
265D	K265CP	LIC	?HN	237.8	83.98	46 15 46.0	0.110	0.7	12.2	70.7	
Astoria			OR	57.1	BLFT19880908TC	123 53 19.0	210	251	Gospel Echo, Inc.		
209C3	KOAC-FM	CP	DCX	237.8	83.78	46 15 47.0	1.900	0.0	0.0	12.0R	71.8M
Astoria			OR	57.1	BPED20140902ADU	123 53 09.0	323	368	Oregon Public Broadcasting		
262L1	KUCP-LP	LIC		38.5	95.86	47 20 28.0	0.041			73.5	
Kent			WA	219.1	BLL20160218AAQ	122 10 19.3	47	160	Ukrainian Church Of Evange		
209A	KOAC-FM	LIC	CX	237.7	83.80	46 15 46.0	0.180	0.0	0.0	10.0R	73.8M
Astoria			OR	57.1	BLED20100927ABF	123 53 09.0	321	367	Oregon Public Broadcasting		

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.  
 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

**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 04/05/2017	
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): <input type="radio"/> Off-air <input checked="" type="radio"/> Microwave <input type="radio"/> Satellite <input type="radio"/> Via <input type="radio"/> Other											
4.	Antenna Location Coordinates: (NAD 27)											
	Latitude:											
	Degrees 46 Minutes 40 Seconds 8 <input checked="" type="radio"/> North <input type="radio"/> South											
	Longitude:											
	Degrees 122 Minutes 57 Seconds 50 <input checked="" type="radio"/> West <input type="radio"/> East											
5.	Antenna Structure Registration Number: 1060077 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA											
6.	Antenna Location Site Elevation Above Mean Sea Level:								136 meters			
7.	Overall Tower Height Above Ground Level:								59 meters			
8.	Height of Radiation Center Above Ground Level:								34 meters(H) 34 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 <a href="http://licensing.fcc.gov/prod/cdbforms/pubacc/prod/cdb_pa.htm">CDBS Public Access</a> (http://licensing.fcc.gov/prod/cdbforms/pubacc/prod/cdb_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.											
	<input checked="" type="radio"/> Nondirectional <input type="radio"/> Directional Off-the Shelf <input type="radio"/> Directional composite											
	Manufacturer JAM Model JLLP-1											
	Rotation:degrees <input type="checkbox"/> 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.	<b>For FM Boosters and Fill-in translators only.</b>		
a.	<b>FM Fill-in translators.</b> 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	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> 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</p> <p><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></p> <p><input type="checkbox"/> a) 47 C.F.R. Section 74.1204</p> <p><b>Exhibit Required.</b></p> <p><b>Television Channel 6 Protection.</b></p> <p><input type="checkbox"/> b) 47 C.F.R. Section 74.1205 with respect to station(s)</p> <p><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>		