

ENGINEERING EXHIBIT

“Maximization” Application to Modify Post-Transition Digital Television Station Construction Permit

prepared for

Mountain Licenses, L.P.

KAYU-DT Spokane, WA

Facility ID 58684

Ch. 28 445 kW 601 m

Mountain Licenses, L.P. (“*MLLP*”) is the licensee of television station KAYU-TV, analog Channel 28 and digital Channel 30, Spokane, WA. A Construction Permit (“CP”, BPCDT-20080402AAX) authorizes construction of the KAYU-DT post-transition digital facility on Channel 28, as established in Appendix B of the Seventh Report and Order in MB Docket 87-278. *MLLP* herein seeks to modify the CP to expand the KAYU-DT post-transition Channel 28 digital facility. The instant application is intended to be filed by June 20, 2008 in response to the FCC’s lifting of the August 3, 2004 “freeze” concerning expansion in service area.¹

The current CP authorizes operation with an effective radiated power (“ERP”) of 91.4 kW at 601 meters antenna height above average terrain (“HAAT”), with a nondirectional antenna. An increase in ERP to 445 kW is proposed herein. No other changes are proposed.

The proposed digital Channel 28 operation will employ the existing non-directional antenna system licensed for KAYU-TV’s analog Channel 28. The antenna is a horizontally polarized Andrew model ATW25H3-HTO-28. The antenna is top-mounted on the existing KAYU-TV antenna supporting structure, having FCC Antenna Structure Registration (“ASR”) number 1033566. No change to the overall structure height and no tower work are required to carry out this proposal.

A map is supplied as **Figure 1**, which depicts the standard predicted coverage contours. This map includes the location of Spokane, KAYU-DT’s principal community. As demonstrated thereon,

¹Public Notice “*Commission Lifts the Freeze On the Filing of Maximization Applications and Petitions for Digital Channel Substitutions, Effective Immediately*” DA 08-1213, released May 30, 2008.

the proposed facility complies with §73.625(a)(1), as the entire principal community will be encompassed by the 48 dBμ contour.

The proposed KAYU-DT facility’s predicted service population provides a 112.4 percent match of the Appendix B facility, as detailed in the table below.

Post-Transition Population Summary		
Population Summary (2000 Census) OET Bulletin 69 method	Appendix B	Proposed
Within Noise Limited Contour	681,105	712,169
Not affected by terrain losses	586,667	659,409
Lost to all interference	0	0
Net DTV Service	586,667	659,409
Match of Appendix B	---	112.40%

A detailed interference study per OET Bulletin 69² shows that the proposal complies with the 0.5 percent limit of new interference caused to the Appendix B facilities and current post-transition authorizations of pertinent nearby stations. The interference study output report is provided as **Table 1**. Protection requirements towards authorized Class A stations are also satisfied.

The proposed 445 kW ERP exceeds the maximum allowed for the proposed antenna HAAT of 601 meters currently permitted by §73.622(f)(7)(iii). Section 73.622(f)(5) permits the maximum ERP to be exceeded in order to provide the same geographic coverage area as the largest station within the same market. The total area within the proposed KAYU-DT 41 dBμ contour is 40,705 square kilometers, which does not exceed the 53,408 square kilometers within the authorized post-transition 36 dBμ contour area associated with station KHQ-DT (BPCDT-20080314ABV, Ch. 7, Spokane, WA). A coverage contour comparison map is provided as **Figure 2**. Thus, the ERP specified herein is in compliance with §73.622(f)(5) of the Commission’s Rules.

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission’s implementation of OET-69 show excellent correlation.

The nearest FCC monitoring station is 419 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 AM stations within 3.2 kilometers of the site, based on information contained within the Commission’s database. The site location is within the Canadian coordination zone (158 km to the Canada border), thus further international coordination may be necessary for expanded operation.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposal will involve use of an existing transmitting antenna. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No tower construction or change in structure height is proposed. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission’s rules.

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 considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 15 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $2.6 \mu\text{W}/\text{cm}^2$, which is 0.7 percent of the general population/uncontrolled maximum permitted exposure limit. This is well 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. 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.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

Joseph M. Davis, P.E.
June 14, 2008

Chesapeake RF Consultants, LLC
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Manassas, VA 20112
703-650-9600

List of Attachments

Figure 1	Proposed Coverage Contours
Figure 2	Largest Station in Market
Table 1	OET Bulletin 69 Interference Study
Form 301	Saved Version of Engineering Sections from FCC Form at Time of Upload

This material was entered June 14, 2008 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

Figure 1
Proposed Coverage Contours
KAYU-DT Spokane, WA
Facility ID 58684
Ch. 28 445 kW 601 m
 prepared for
Mountain Licenses, L.P.
 June, 2008

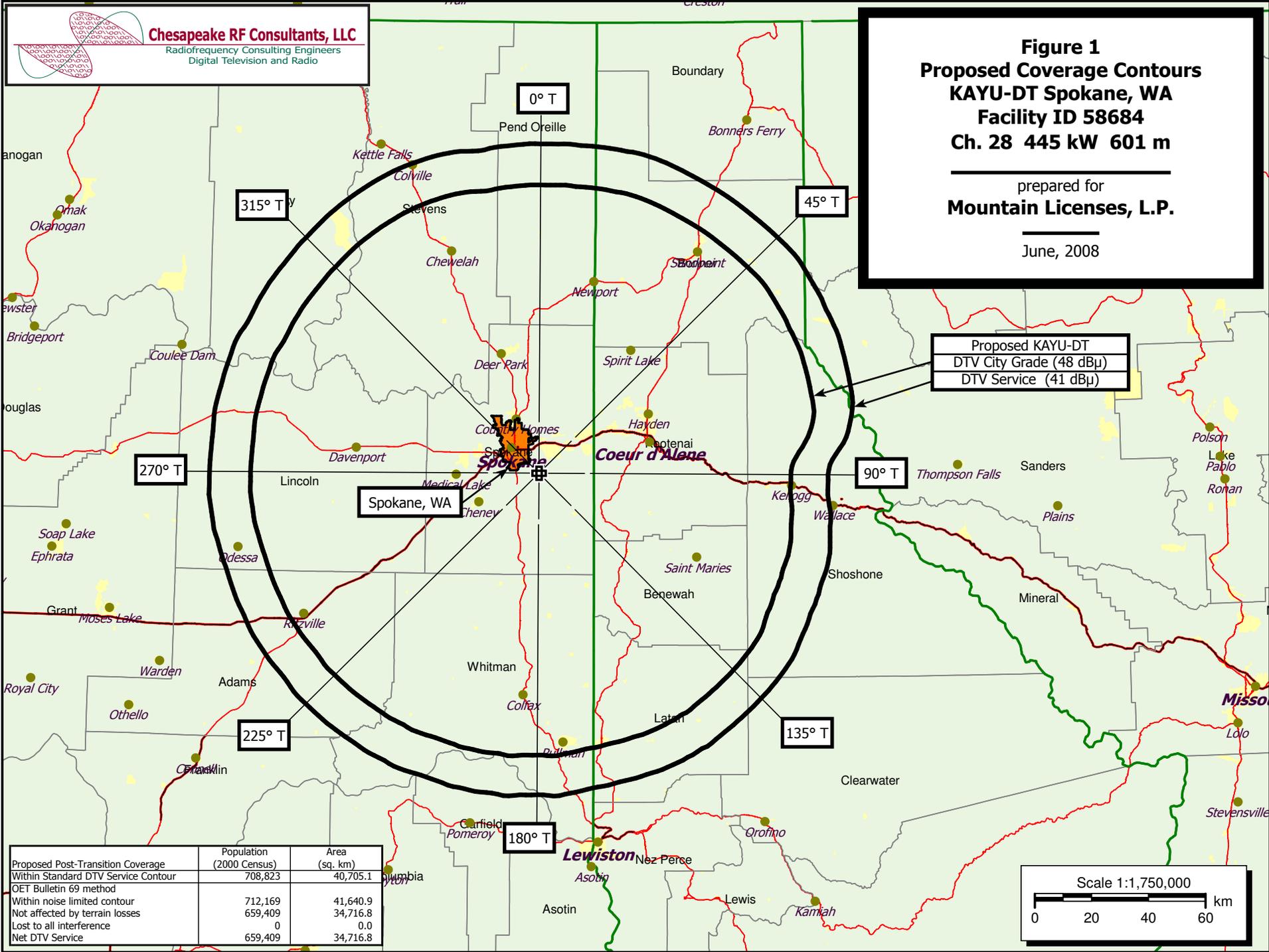
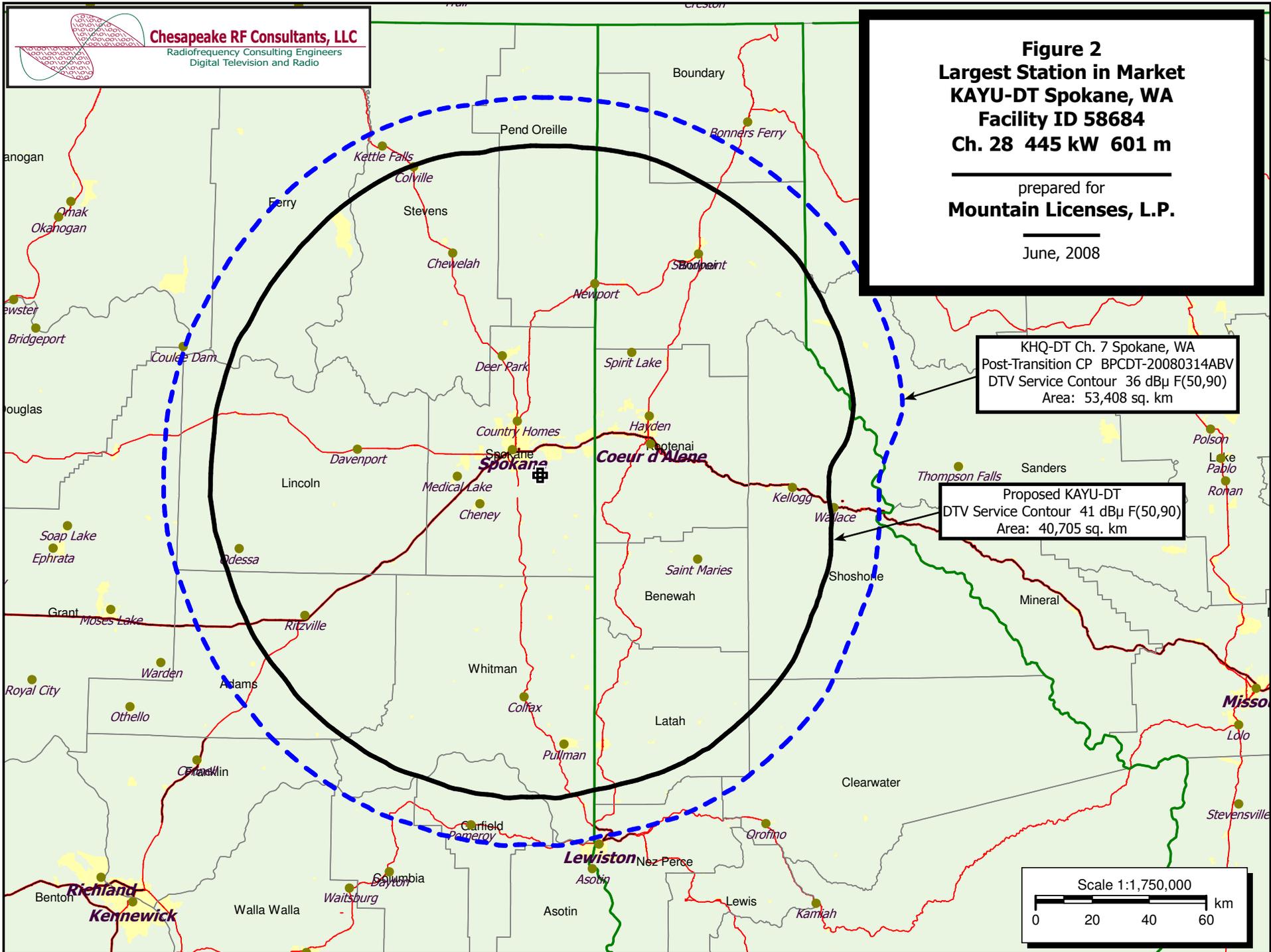


Figure 2
Largest Station in Market
KAYU-DT Spokane, WA
Facility ID 58684
Ch. 28 445 kW 601 m

prepared for
Mountain Licenses, L.P.

June, 2008



KHQ-DT Ch. 7 Spokane, WA
 Post-Transition CP BPCDT-20080314ABV
 DTV Service Contour 36 dBμ F(50,90)
 Area: 53,408 sq. km

Proposed KAYU-DT
 DTV Service Contour 41 dBμ F(50,90)
 Area: 40,705 sq. km

Scale 1:1,750,000
 0 20 40 60 km

Table 1 KAYU-DT OET Bulletin 69 Interference Study
(worst-case scenarios shown page 1 of 3)

TW Census data selected 2000
Post Transition Data Base Selected /space/software/cdbs/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-12-2008 Time: 15:53:21

Record Selected for Analysis

KAYU-DT USERRECORD-01 SPOKANE WA US
Channel 28 ERP 445. kW HAAT 611. m RCAMSL 01332 m
Latitude 047-34-44 Longitude 0117-17-46
Status APP Zone 2 Border
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility does not meet maximum height/power limits
Channel 28 ERP = 445.00 HAAT = 611.

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	445.000	649.9	115.3
45.0	445.000	697.3	117.5
90.0	445.000	434.1	101.2
135.0	445.000	560.0	110.9
180.0	445.000	591.6	112.6
225.0	445.000	638.8	114.8
270.0	445.000	652.8	115.4
315.0	445.000	662.7	115.9

Evaluation toward Class A Stations

Contour overlap to Class A station
K28FT 28 WALLA WALLA WA BLTTL 19991018AAC

Class A Evaluation Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 158.0km

Proposed facility is beyond the Mexican coordination distance

Table 1 KAYU-DT OET Bulletin 69 Interference Study
(worst-case scenarios shown page 2 of 3)

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Call	City/State	ARN
28	KAYU-DT	SPOKANE WA	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
28	K28FT	WALLA WALLA WA	187.8	LIC	BLTTL -19991018AAC

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
28	K28FT	WALLA WALLA WA	BLTTL -19991018AAC

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
26	KNDU	RICHLAND WA	57.7	CP	BPCDT -19991027ACK
26	KNDU	RICHLAND WA	57.7	PLN	DTVPLN -DTVPO983
28	KBCI-TV	BOISE ID	313.2	LIC	BLCDT -20020417AAZ
28	KBCI-TV	BOISE ID	313.3	PLN	DTVPLN -DTVPI035
28	K28JC	ENTERPRISE OR	106.8	LIC	BLTT -20060428ACN
28	K28GD	HEPPNER, ETC. OR	118.0	LIC	BLTT -20020419ABE
28	KAYU-TV	SPOKANE WA	187.8	PLN	DTVPLN -DTVPI061
28	KAYU-TV	SPOKANE WA	187.8	CP	BPCDT -20080402AAX
28	KAYU-TV	SPOKANE WA	187.8	LIC	BLCT -19941220KF
28	KBTC-TV	TACOMA WA	342.6	LIC	BLET -20061208ABI
29	KUNP	LA GRANDE OR	97.7	PLN	DTVPLN -DTVPI090
29	K29EG	MILTON, ETC. OR	25.8	LIC	BLTT -20030107ABA
32	KLEW-TV	LEWISTON ID	108.1	CP	BPCDT -19991021ACJ
32	KLEW-TV	LEWISTON ID	108.1	PLN	DTVPLN -DTVPI179
42	KVEW	KENNEWICK WA	57.8	LIC	BLCT -19771207KJ
28	KAYU-DT	SPOKANE WA	187.8	APP	USERRECORD-01

Proposal causes no interference

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
28	KAYU-DT	SPOKANE WA	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
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Total scenarios = 1

Table 1 KAYU-DT OET Bulletin 69 Interference Study

(worst-case scenarios shown page 3 of 3)

Result key: 1
Scenario 1 Affected station 2
Before Analysis

Results for: 28A WA SPOKANE USERRECORD01 APP
HAAT 611.0 m, ATV ERP 445.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	712169	41640.9
not affected by terrain losses	659409	34716.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

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FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

SECTION III-D - DTV Engineering	
Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.	
<p>Pre-Transition Certification Checklist: An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to change pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.</p> <p>Post-Transition Expedited Processing: An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.</p>	
1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:	
(a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input type="radio"/> No
(c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input type="radio"/> No
(d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B").	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
(e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must submit the Exhibit called for in Item 13.	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community.	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable.	<input checked="" type="radio"/> Yes <input type="radio"/> No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	<input checked="" type="radio"/> Yes <input type="radio"/> No

SECTION III-D - DTV 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 Number:	DTV 28 Analog TV, if any 28
2. Zone:	<input type="radio"/> I <input checked="" type="radio"/> II <input type="radio"/> III
3. Antenna Location Coordinates: (NAD 27)	Latitude: Degrees 47 Minutes 34 Seconds 44 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 117 Minutes 17 Seconds 46 <input checked="" type="radio"/> West <input type="radio"/> East
4. Antenna Structure Registration Number: 1033566	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level:	1090 meters
6. Overall Tower Height Above Ground Level:	250.9 meters
7. Height of Radiation Center Above Ground Level:	242.4 meters
8. Height of Radiation Center Above Average Terrain :	601 meters
9. Maximum Effective Radiated Power (average power):	445 kW
10. Antenna Specifications:	

a. Manufacturer AND Model ATW25H3-HTO-28	
b. Electrical Beam Tilt: 0.75 degrees <input type="checkbox"/> Not Applicable	
c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 42]	
d. Polarization: <input checked="" type="radio"/> Horizontal <input type="radio"/> Circular <input type="radio"/> Elliptical	
e. Directional Antenna Relative Field Values: <input checked="" type="checkbox"/> Not applicable (Nondirectional)	
[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.] [Relative Field Values]	
If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. Exhibit required. [Exhibit 43]	
11.	Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if Certification Checklist Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616? <input checked="" type="radio"/> Yes <input type="radio"/> No If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers. [Exhibit 44]
12.	If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if Certification Checklist item 3 is answered "No.") [Exhibit 45]
13.	Environmental Protection Act. Submit in an Exhibit the following: [Exhibit 46] If Certification Checklist Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site. By checking "Yes" to Certification Checklist Item 2, 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. If Certification Checklist Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.
PREPARERS CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.	

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 6/14/2008	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
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).