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ENGINEERING REPORT:

APPLICATION FOR MODIFICATION OF FM TRANSLATOR STATION
CHANNEL 296 107.1 MHz
GRANTS PASS, OR

FOR KCMX-FM
ASHLAND, OR

Mapleton Communications, LLC

August, 2002

TABLE OF CONTENTS

1. Purpose of Application
2. Allocation Considerations
3. Facilities proposed
 - a. NIER Report
 - b. Blanketing Contour
4. Exhibits per FCC Form 349
 - a. Exhibit 10 Relative Field Pattern Plot
 - b. Exhibit 11 KCMX and Translator 60 dBu Contours
 - c. Exhibit 12 FM Allocation Study
5. FCC Form 349
6. Statement of Engineer

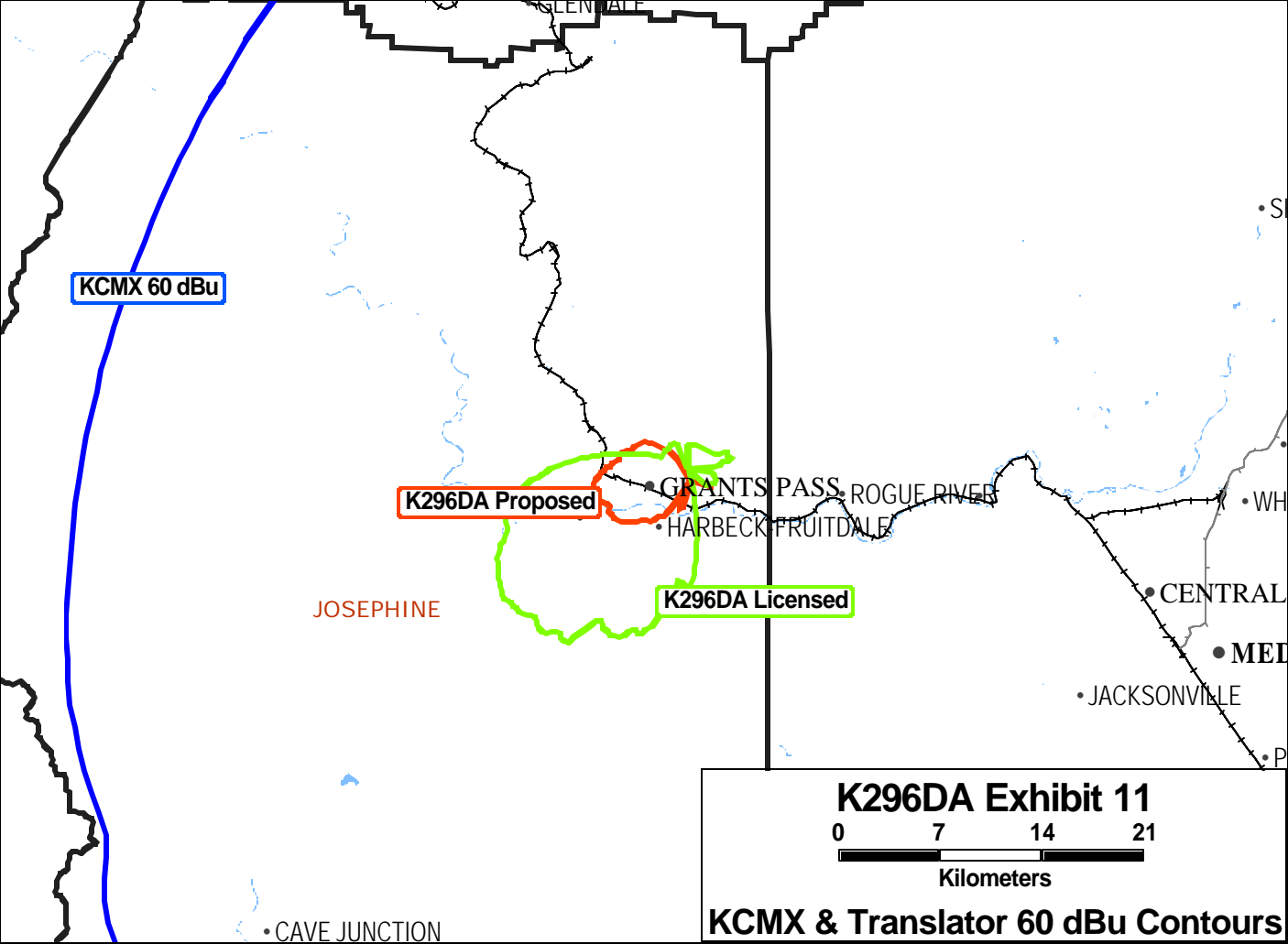
1. Purpose of Application

This Engineering Report is part of an application by Mapleton Communications LLC to modify FM translator station K296DA in Grants Pass, OR. Mapleton proposes continued operation on FM Channel 296 (107.1 MHz) at a new site, with a new directional antenna, and a decreased maximum lobe ERP of 14 Watts horizontal and vertical.

2. Allocation Considerations

Exhibit 11 shows the relationship between the proposed translator 60 dBu F(50,50) contour, the licensed K296DA 60 dBu F(50,50) contour and the KCMX 60 dBu F(50,50) contour. The facilities requested prevent extension of the proposed translator's 60 dBu contour outside the KCMX 60 dBu contour.

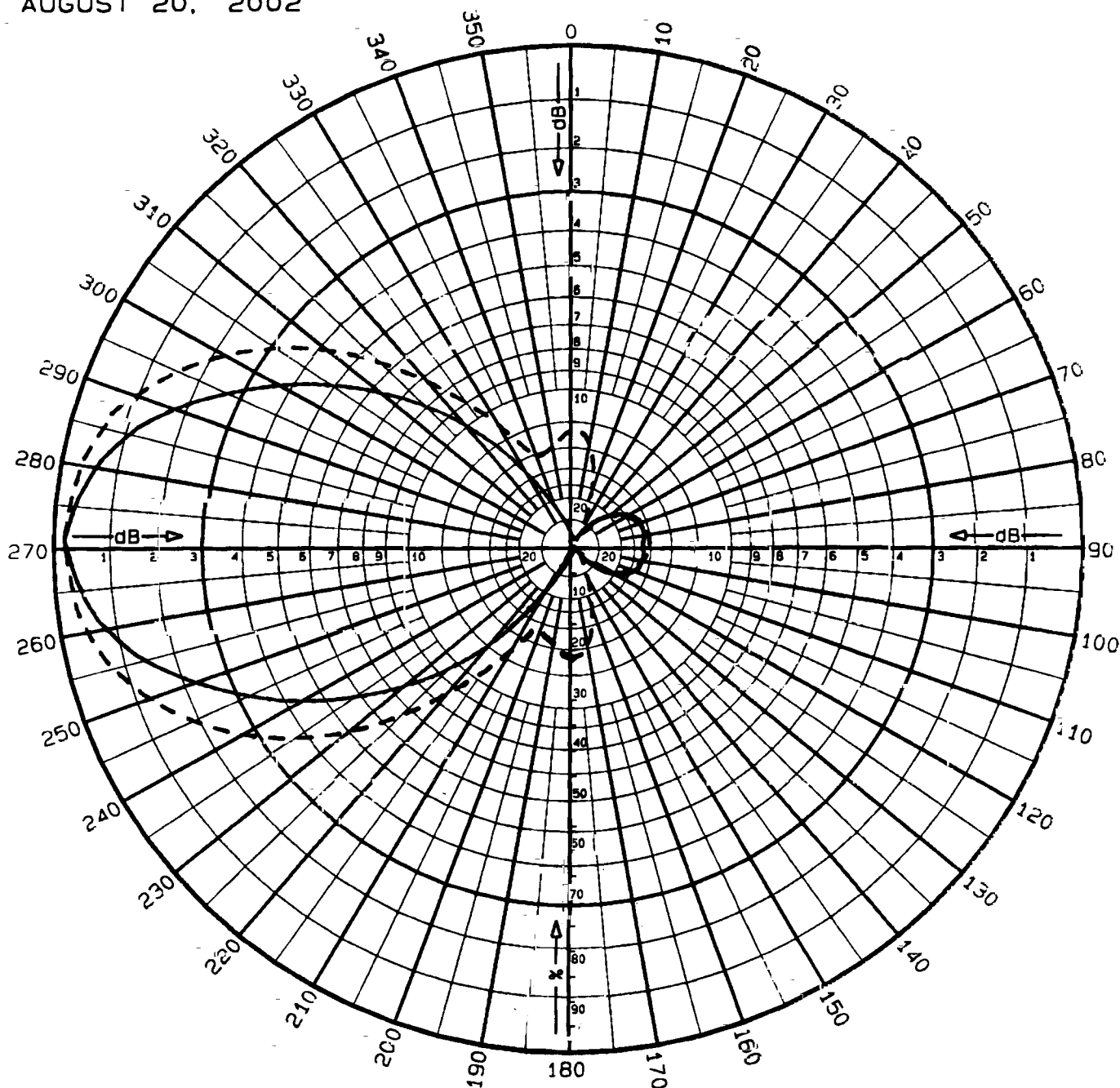
With the exception of KIFS Chan 298C2, Ashland, OR, there is no overlap with the 60 dBu contour of any station and the appropriate contour of the proposed translator, as specified in §74.1204. Both the proposed and licensed translator sites are within the protected 60 dBu contour of second-adjacent channel station KIFS. As demonstrated by Exhibit 12, the entire area within the 100 dBu interfering contour of the proposed translator is unpopulated. There are no nearby facilities or allocations which are 53 or 54 channels removed from the proposed translator operation.



AUGUST 20, 2002

PATTERN NUMBER 6078

AUGUST 20, 2002



(A) ONE HDCA-5 YAGI ANTENNA
ORIENTED AT 270 DEG w/ 50% POWER
GAIN: 4.5 dBd. POWER GAIN: 2.8
HORIZONTAL POLARIZATION

A H.POL

B - - V.POL

(B) ONE HDCA-5 YAGI ANTENNA
ORIENTED AT 270 DEG w/ 50% POWER
GAIN: 4.5 dBd. POWER GAIN: 2.8
VERTICAL POLARIZATION

KATHREIN
SCALA DIVISION

FREQUENCY: 107.1 Mhz. (CH-296)
HORIZONTAL PLANE PATTERN
ONE INPUT

Composite Tabulation

AUGUST 20, 2002

Pattern number: 6078

Field values adjusted relative to maximum gain of: 4.5 dBd

Azimuth	Horiz. Field	Vert. Field	Max. Field
0	0.010	0.230	0.230
10	0.010	0.190	0.190
20	0.010	0.085	0.085
30	0.030	0.025	0.030
40	0.055	0.035	0.055
50	0.090	0.088	0.090
60	0.120	0.115	0.120
70	0.138	0.132	0.138
80	0.140	0.144	0.144
90	0.135	0.150	0.150
100	0.140	0.144	0.144
110	0.138	0.132	0.138
120	0.120	0.115	0.120
130	0.090	0.088	0.090
140	0.055	0.035	0.055
150	0.030	0.025	0.030
160	0.010	0.085	0.085
170	0.010	0.190	0.190
180	0.010	0.230	0.230
190	0.010	0.207	0.207
200	0.035	0.190	0.190
210	0.110	0.250	0.250
220	0.280	0.405	0.405
230	0.460	0.600	0.600
240	0.641	0.770	0.770
250	0.813	0.900	0.900
260	0.944	0.977	0.977
270	1.000	1.000	1.000
280	0.944	0.977	0.977
290	0.813	0.900	0.900
300	0.641	0.770	0.770
310	0.460	0.600	0.600
320	0.280	0.405	0.405
330	0.110	0.250	0.250
340	0.035	0.190	0.190
350	0.010	0.207	0.207

Exhibit 12

FM Channel Study

FMSTUDY.EXE Copyright 2001, Hatfield & Dawson, LLC Version 1.50

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SEARCH PARAMETERS	FM Database Date: 020817
Channel: 296A 107.1 MHz	Page 1
Latitude: 42 26 38	
Longitude: 123 17 43	
Safety Zone: 100 km	
Job Title: K296DA	

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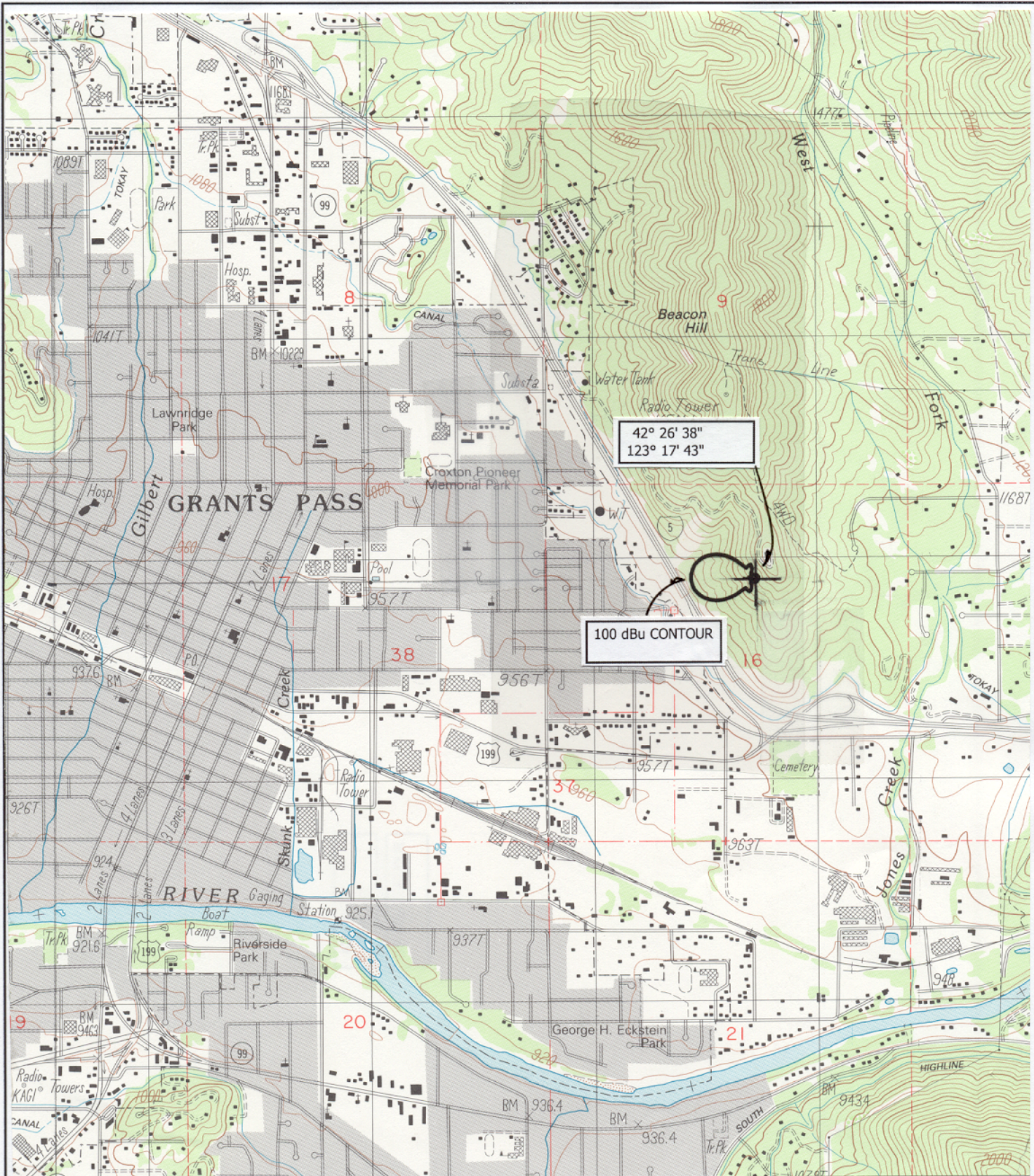
Call Status	City St FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KBDN LIC	BANDON OR BLH-961025KE	243C3 96.5	1.500 395.0	42-57-27 124-16-13	306.0	98.17 86.17	12 CLEAR
K243AF LIC	JACKSONVILLE OR BLFT-960429TI	243D 96.5	0.220 DA 704.0	42-21-13 122-47-05	103.3	43.22 0.00	0 TRANS
K293AB LIC	CAVE JUNCTION OR BLFT-921230TB	293D 106.5	0.010 DA 795.0	42-15-31 123-39-43	235.8	36.56 0.00	0 TRANS
K294AS LIC	ASHLAND OR BLFT-980305TD	294D 106.7	0.130 224.0	42-12-05 122-43-31	119.7	54.16 0.00	0 TRANS
NEW APP	ROSEBURG OR BNPL-010615ARC	294L1 106.7	0.010 116.3	43-12-24 123-21-47	356.3	84.92 55.92	29 CLEAR
NEW APP	CANYONVILLE OR BNPL-010615AOW	295L1 106.9	0.000 308.4	42-55-51 123-17-16	0.6	54.10 -1.90	56 SHORT
KKRB LIC	KLAMATH FALLS OR BLH-000619AEM	295C1 106.9	51.000 197.0	42-13-24 121-49-02	100.9	124.26 -8.74	133 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 111 KM							
KKRB CP	KLAMATH FALLS OR BPH-000619AFA	295C1 106.9	51.000 197.0	42-13-24 121-49-02	100.9	124.26 -8.74	133 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 111 KM							
K296CE LIC	CENTRAL VALLEY, ETC. CA BLFT-900813TH	296D 107.1	0.090 DA 771.0	40-39-14 122-31-12	161.8	209.06 0.00	0 TRANS
KESR LIC	SHASTA LAKE CITY CA BLH-980713KD	296C3 107.1	1.400 415.0	40-39-06 122-31-32	161.9	209.15 67.15	142 CLEAR
K296BF LIC	WEAVERVILLE, ETC. CA BLFT-781026IB	296D 107.1	0.060 DA 656.0	40-43-09 122-58-48	172.1	193.35 0.00	0 TRANS
KLVU-FM EUGENE CP	OR BPFTB-940715TI	296D 107.1	0.250 DA 262.0	44-00-08 123-06-50	4.8	173.75 0.00	0 BOOST
K296DA LIC	GRANTS PASS OR BLFT-850104TA	296D 107.1	0.050 DA 346.0	42-27-06 123-17-47	354.0	0.87 0.00	0 TRANS
K296BS LIC	MEDFORD, ETC. OR BLFT-840723MW	296D 107.1	0.180 DA 280.0	42-25-50 123-00-10	93.4	24.11 0.00	0 TRANS

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SEARCH PARAMETERS FM Database Date: 020817

Channel: 296A 107.1 MHz Page 2
 Latitude: 42 26 38
 Longitude: 123 17 43
 Safety Zone: 100 km
 Job Title: K296DA

Call Status	City St FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K296AW LIC	SUTHERLIN-OAKLAND OR BLFT-850208TA	296D 107.1	0.050 959.0	43-21-47 123-03-20	10.7	103.97 0.00	0 TRANS
KLVU LIC	SWEET HOME OR BLED-980403KB	296C1 107.1	9.700 741.0	44-28-59 122-34-55	14.0	233.79 33.79	200 CLEAR
VAC	ALTURAS CA -	297C 107.3	0.000 0.0	41-29-34 120-31-37	113.9	252.63 87.63	165 CLEAR
NEW CP	SMITH RIVER CA BNPL-000605ANE	297L1 107.3	0.100 -94.6	41-52-58 124-08-08	228.3	93.31 37.31	56 CLEAR
KACW LIC	NORTH BEND OR BLH-901026KB	297C1 107.3	51.000 211.0	43-12-18 124-18-07	316.2	118.01 -14.99	133 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 111 KM							
KIFS LIC	ASHLAND OR BLH-970108KA	298C2 107.5	5.300 433.0	42-17-54 122-44-53	109.6 SS	47.89 -7.11	55 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 49 KM							
NEW APP	ALTAMONT OR BNPL-010615ADG	299L1 107.7	0.000 0.0	42-13-39 121-46-47	100.4	127.20 98.20	29 CLEAR
ADD	DIAMOND LAKE OR RM-10348	299A 107.7	0.000 0.0	43-10-44 122-08-16	48.7	125.02 94.02	31 CLEAR
NEW APP	KLAMATH FALLS OR BNPL-010615ARJ	299L1 107.7	0.000 0.0	42-15-44 121-45-38	98.6	128.05 99.05	29 CLEAR
K299AA LIC	NORTH BEND COOS BAY OR BLFT-000714ABR	299D 107.7	0.120 DA 65.0	43-22-11 124-12-54	324.3	127.36 0.00	0 TRANS



OREGON

GRANTS PASS
7.5 minute orthophoto quad

SCALE 1:24 000

0 MILES

1

2

0 KILOMETERS

1

2

HATFIELD & DAWSON
CONSULTING ENGINEERS

EXHIBIT 12
PROPOSED 100 dBu CONTOUR

K296DA TRANSLATOR FOR KCMX(FM)

GRANTS PASS, OR

8/2002

3. Facilities Proposed

The proposed operation is on Channel 296 (107.1 MHz) with a maximum lobe effective radiated power of 14 Watts. Operation is proposed with an array of two HDCA-5 antennas, one horizontally polarized, one vertically polarized. The main lobe of this array will be oriented at 270/True.

The height of the proposed antenna support structure does not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

a. NIER Calculations

Section 1.1307(b)(1) of the Commission's Rules exempts FM translators and boosters operating with an effective radiated power of 100 Watts or less from the requirement to submit an Environmental Assessment to determine compliance with FCC specified guidelines for human exposure to radiofrequency radiation. The applicant proposes operation with a maximum lobe effective radiated power of 14 Watts and therefore no calculations have been submitted. Nonetheless, public access to the site is restricted and all station personnel and contractors are required to follow appropriate safety procedures, including off the transmitter if necessary, prior to commencing work on the antenna tower.

b. Blanketing Contour

The 115 dBu contour for the proposed facility extends 46 meters, based on the calculation methodology shown in §73.318 of the Commission's Rules. The area within the blanketing contour is populated. The height of the proposed antenna above ground and its vertical radiation characteristics should mitigate any adverse effects to nearby residents or other communications facilities. If such adverse effects occur, the applicant will be responsible for their amelioration as prescribed in §73.318, including receiver-induced intermodulation to facilities in existence or authorized or to receivers in use prior to the grant of this application.

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: _____

2. Primary Station:

Call Sign	City	State	Channel
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3. Delivery Method:

☐ Off-air ☐ Microwave ☐ Satellite ☐ Via _____ ☐ Other

4. Antenna Location Coordinates: (NAD 27)

_____ ° _____ ' _____ " ☐ N ☐ S Latitude
_____ ° _____ ' _____ " ☐ E ☐ W Longitude

5. Antenna Structure Registration Number: _____

☐ Not applicable ☐ FAA Notification Filed with FAA

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

7. Overall Tower Height Above Ground Level: _____ meters

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

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

10. Transmitting Antenna:

☐ Nondirectional ☐ Directional "Off-the-shelf" ☐ Directional composite

Manufacturer	Model
--------------	-------

Rotation: _____ ° ☐ No rotation

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

11. **For FM Boosters and Fill-in translators only.** Applicant certifies that the proposal is for a fill-in translator or booster station entirely within the primary station's protected contour. ☐ Yes ☐ No ☐ N/A See Explanation in Exhibit No.
12. **Interference.** The proposed facility complies with all of the following applicable rule sections. Check all that apply. ☐ Yes ☐ No See Explanation in Exhibit No.

Overlap Requirements.

- a. ☐ 47 C.F.R. Section 74.1204.
Exhibit Required.

Exhibit No.

Television Channel 6 Protection.

- b. ☐ 47 C.F.R. Section 74.1205 with respect to station(s): _____
Exhibit Required.

Exhibit No.

13. **Unattended operation.** 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. ☐ Yes ☐ No See Explanation in Exhibit No.
14. **Multiple Translators.** 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. ☐ Yes ☐ No See Explanation in Exhibit No.
15. **Environmental Protection Act.** 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 **Exhibit is required.** ☐ Yes ☐ No See Explanation in Exhibit No.

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.

PREPARER'S CERTIFICATION ON PAGE 4 MUST BE COMPLETED AND SIGNED.

Section IV -- Noncommercial Educational Point System Factors -- New and Major Change Applications on Reserved Channels Only (used to select among mutually exclusive applications for new stations and major modifications) **NOTE:** Applicants will not receive any additional points for amendments made after the close of the application filing window.

Preliminary Matter: Does this application provide fill-in service only?

☐ Yes ☐ No

1. **Established Local Applicant:** Applicant certifies that for at least the 24 months immediately prior to application, and continuing through the present, it qualifies as a local applicant pursuant to 47 C.F.R. Section 73.7000, that its governing documents require that such localism be maintained, and that it has placed documentation of its qualifications as an established local applicant in a local public inspection file and has submitted to the Commission copies of the documentation. ☐ Yes (3 points) ☐ No (0 points)
2. **Diversity of Ownership:** Applicant certifies that the principal community (city grade) contour of the proposed station does not overlap the principal community contour of any other authorized radio station (including AM, FM, and non-fill-in FM translator stations, commercial or noncommercial) in which any party to the application has an attributable interest as defined in 47 C.F.R. Section 73.3555, that its governing documents require that such diversity be maintained, and that it has placed documentation of its diversity qualifications in a local public inspection file and has submitted to the Commission copies of the documentation. ☐ Yes (2 points) ☐ No (0 points)
3. **State-wide Network:** Applicant certifies that (a) it has NOT claimed a credit for diversity of ownership above; (b) it is one of the three specific types of organizations described in 47 C.F.R. Section 73.7003(b)(3); and (c) it has placed documentation of its qualifications in a local public inspection file and has submitted to the Commission copies of the documentation. ☐ Yes (2 points) ☐ No (0 points)
4. **Technical Parameters:** Applicant certifies that the numbers in the boxes below accurately reflect the new (increased) area and population that its proposal would serve with a 60 dBu signal measured in accordance with the standard predicted contours in 47 C.F.R. Section 73.313(c) and that it has documented the basis for its calculations in the local public inspection file and has submitted copies to the Commission. Major modification applicants should include the area of proposed increase only (exclude the station's existing service area). (Points, if any, will be determined by FCC) ☐ Yes ☐ No

New (increased) area served in square kilometers (excluding areas of water):

Population served based on the most recent census block data from the United States Bureau of Census using the centroid method:

This box is for FCC use only:

☐ 0 points.

Technical Points:

☐ 1 point. Applicant's proposal covers the largest area and population, and both area and population are 10% greater than next best proposal; or

☐ 2 points. Applicant's proposal covers the largest area and population and both area and population are 25% greater than next best proposal.

POINTS CLAIMED BY APPLICANT (from Questions 1-3)

TECHNICAL POINTS? (from Question 4)

TOTAL POINTS

Tie Breakers

5. **Existing Authorizations.** a. By placing a number in the box, the applicant certifies that it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date of filing, existing authorizations for the following number of relevant broadcast stations. FM translator applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial and FM translator stations other than fill-in stations.

(number of attributable commercial and noncommercial licenses and construction permits)

b. (Fill-in Applicants Only.) By placing a number in the box, the applicant certifies that, in addition to the station identified in 5(a), it and any persons and organization s with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date of filing, existing authorizations for the following number of FM translators.

6. **Pending Applications.** a. By placing a number in the box, the applicant certifies that it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date of filing, pending applications for new or major changes to the following number of relevant broadcast stations. FM translator applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial and FM translator stations other than fill-in stations.

(number of pending commercial and noncommercial applications)

b. (Fill-in Applicants Only.) By placing a number in the box, the applicant certifies that, in addition to the station identified in 5(a), it and any persons and organization s with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date of filing, existing authorizations for the following number of FM translators.

Section VI -- Certification

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

6. Statement of Engineer

This Engineering Report, relative to a change for K296DA at Grants Pass, Oregon has been prepared under my direct supervision. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a staff engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the State of Washington.

Signed this 26th day of August, 2002



Thomas S. Gorton, P.E.