

Exhibit 1A
Engineering Statement in support of
FCC FORM 340
APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL
NONCOMMERCIAL EDUCATIONAL BROADCAST STATION
(For a minor modification of a construction permit)
KRVM-FM 220C2, Facility ID 59340
BPED - 20070122AAE

Introduction:

This is an application by Lane County School District No. 4J (the Applicant) for minor changes to construction permit BPED – 20070122AAE.

The applicant seeks to move the station to a new location approximately 80 meters southeast of the licensed facility.

The applicant proposes the following changes:

- Move the antenna to 44° 00' 07" North, 123° 06' 47" West (NAD-27). Section VII, Tech Box Item 3.
- Change the Antenna Structure Registration Number to 1205503. Section VII, Tech Box Item 5.
- Increase the height of the antenna radiation center to 470 meters AMSL (72 meters AGL, 271 meters HAAT). Section VII, Tech Box Items 6, 7, 8 and 9.
- Decrease ERP from 22.5kW to 15.5kW. Section VII, Tech Box Item 10.

A Notice of Proposed Construction or Alteration (7460-1, ASN 2007-ANM-2206-OE) has been filed with the FAA to correct the tower height and location. See Exhibit 1B. The tower is registered as FCC#1205503. This registration will be amended after receiving the FAA determination of no-hazard.

The proposed changes are minor since there is no change in frequency and the location change is de minimis.

This application was prepared using FCC 30-arc-second terrain data.

Joseph M. DiPietro, P.E.
RFEngineers, Inc.
July 11th 2007

Section VII Engineering Data:

Tech Box Data:

1. Channel 220
2. Class C2
3. 44° 00' 07" N
123° 06' 47" W
4. Not Applicable
5. 1205503 Notification Filed with FAA, See Exhibit 1B
6. 73 meters AGL
7. 470 meters (H) 470 meters (V) AMSL
8. 72meters (H) 72 meters (V) AGL
9. 271 meters (H) 271 meters (V) HAAT
10. 15.5 kW (H) 6.6 kW (V)
11. Not Applicable
12. Not Applicable (Nondirectional)
13. Yes. See Exhibit 13-14.
14. Yes. See Exhibit 13-14.
15. Yes.
 - a) Checked. See Exhibit 16-18. Contour Protection of KWSO
 - b) Not Checked. 73.207 short spaced to KSYD.
 - c) Not Checked.
 - d) Checked. See Exhibit 16-18. Contour Protection of KSYD.
 - e) Not Checked. Not within minimum range of any full-service TV-6 facility.
16. Not Applicable
17. Yes.
18. NEPA, Yes.
 - a) Operation of this facility will not have a significant environmental impact. To the best knowledge of the Applicant:
 1. The existing structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species.
 2. The proposed changes will not affect districts, sites, buildings, structures or objects significant in American history, architecture, engineering or culture that are listed in the National Register of Historic Places, or eligible for listing.
 3. The site is not located in a flood plain. Nothing is proposed that would require significant changes in surface features such as wetland fill, deforestation or water diversion.
 4. The structure is currently marked in accordance with FAA requirements.
 - b) The Applicant will cooperate with all site users, managers and owners with regard to the cessation of operation or the reduction of operating power, whenever it is necessary to comply with the FCC Regulations and Guidelines on Human Exposure to Non-Ionizing RF Radiation.
 - c) The modeled contribution to the RF environment, 2-meters above the ground, by the proposed facility is less than 3.64uW/cm², or 1.8%, of the maximum permitted value for general public exposure (0.36% of the occupational exposure level). This result was obtained using the FCC's FMModel program. Model settings were 15.5kW-vertical, 6.6kW-horizontal, 72-m high, Shively 6810, 0.5 wavelength spacing, 4-bays. An RFR study was conducted for this facility in December of 2005. See Exhibit 22. This study concluded that the facility did not exceed FCC guidelines. Referring to the site map on page 6 of the 2005 study, the existing radio station is moving from the tower marked "KRVM-FM Tower" to the tower marked "Colby Tower Empty." Currently there are no transmitters on the "Colby" tower. The move will result in a decrease in ERP and an increase in antenna height. Based on this information the proposed facility is in compliance with 47 C.R.R. Section 1.1306 with regards to radio-frequency electromagnetic exposure.
19. Not Applicable.

Notice of Proposed Construction or Alteration (7460-1)

Project Name: CALIF-000071563-07

Sponsor: California Oregon Broadcasting Co. Inc.

Details for Case : KRVM-FM

[Show Project Summary](#)

Case Status

ASN: 2007-ANM-2206-OE

Date Accepted: 07/10/2007

Status: Accepted

Date Determined:
Letters: None

Construction / Alteration Information

Notice Of: Alteration

Duration: Permanent

if Temporary : Months: Days:

Work Schedule - Start: 07/10/2007

Work Schedule - End: 07/11/2007

State Filing: Not filed with State

Structure Summary

Structure Type: Antenna Tower

Structure Name: KRVM-FM

FCC Number: 1205503

Prior ASN: 2007-ANM-2021-OE

Structure Details

Latitude: 44° 0' 6" N

Longitude: 123° 6' 51.6" W

Horizontal Datum: NAD83

Site Elevation (SE): 1307 (nearest foot)

Structure Height (AGL): 240 (nearest foot)

Marking/Lighting: Other

Other : No Light, marked IAW attachmen

Nearest City: Eugene

Nearest State: Oregon

Traverseway: Private Road

Description of Location: 4545 Blanton Rd, Eugene OR

Description of Proposal:

- 1- Remove the top 30-feed of the tower.
- 2- Correct the coordinates and site elevation based on more accurate data, see attachment.
- 3- Remove all old transmitters, add 1 new transmitter.
- 4- Request continuation of the previous marking and lighting agreement, see attachment.

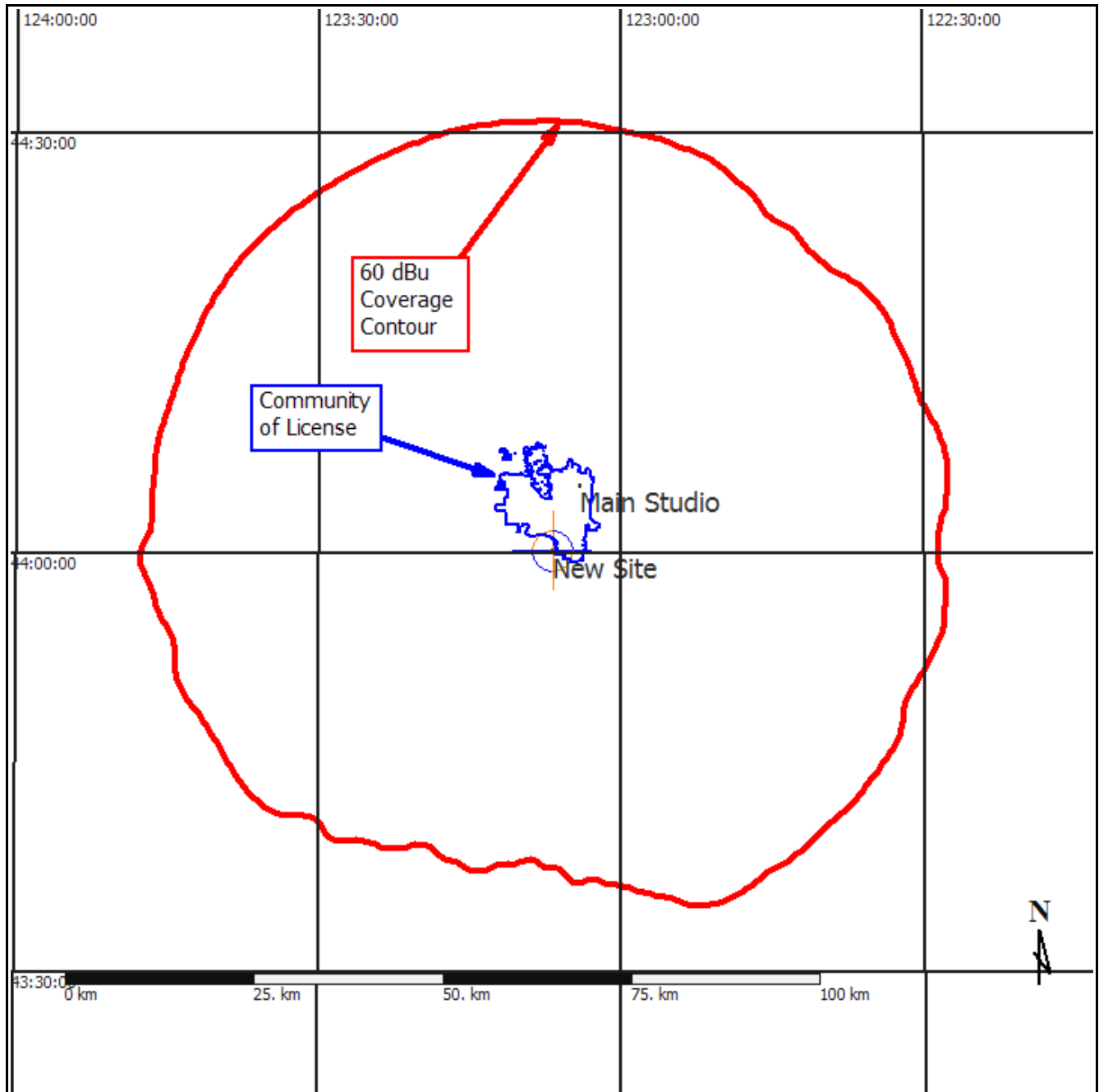
Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit
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Specific Frequencies

Low Freq	High Freq	Freq Unit	ERP	ERP Unit
91.9	91.9	MHz	15.5	KW

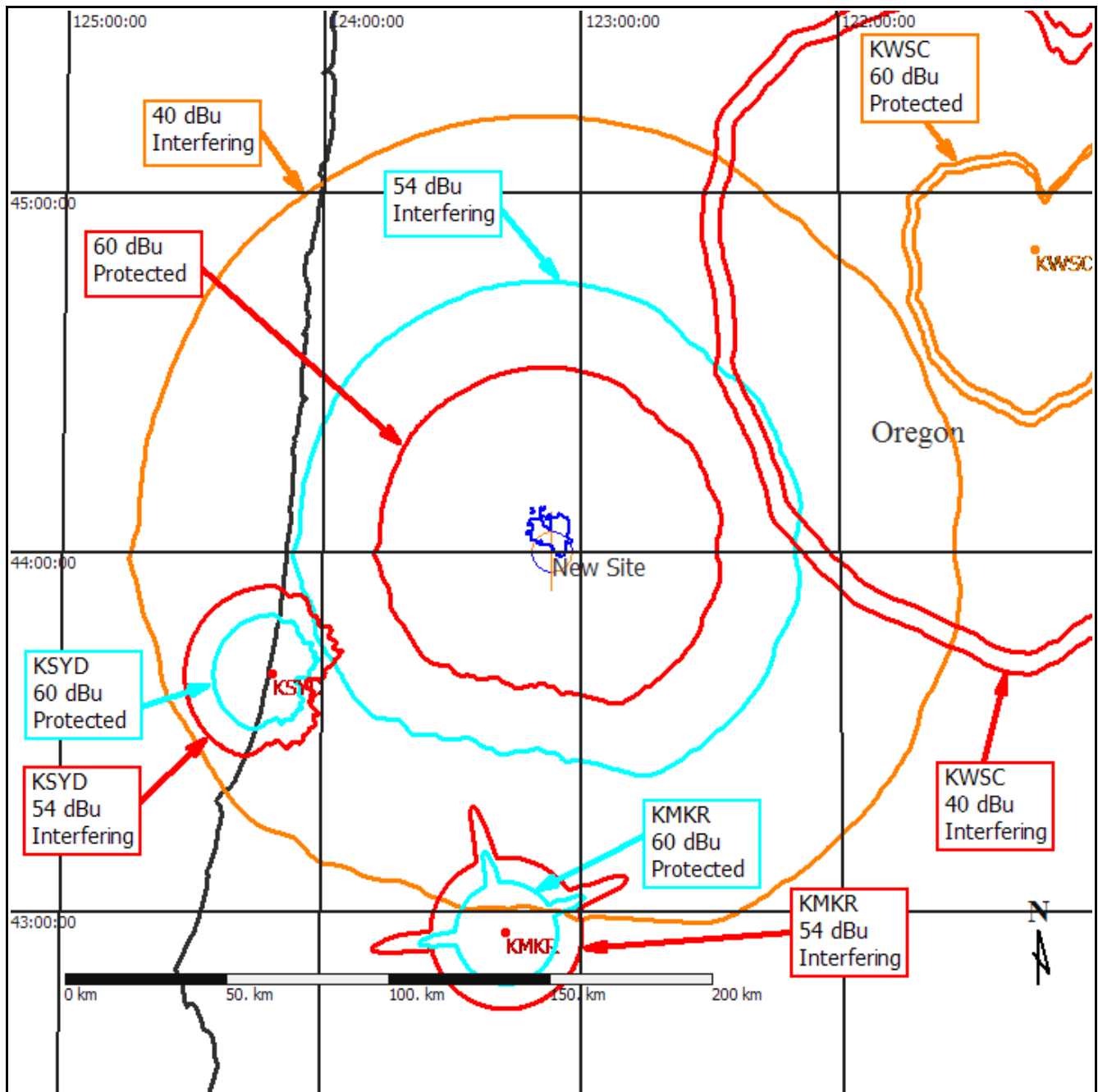
Exhibit 13-14



Contour coverage of the Community of License: Eugene, Oregon.

Main Studio complies with 73.1125.

Exhibit 16-18



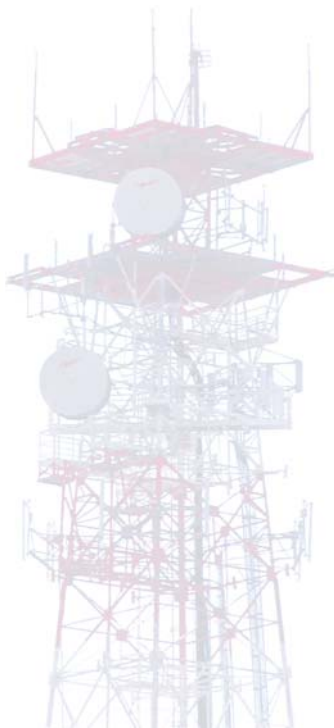
73.509 Contour protection of KWSO, both licensed and application.

73.215 Contour protection of KSYD and KMKR.

This map is color coded so that prohibited overlap is indicated by LIKE color contours overlapping.



Evaluation of Human Exposure to Radio Frequency Emissions



Prepared for:
Lane County School District 4J
Radio Station KRVM-FM
200 North Monroe Street
Eugene, Oregon 97402

December 1st 2005

1213 NW 16th Avenue
Gainesville, FL 32601
Phone: 352-367-1725

Limited Warranty

rfEngineers, Inc. (RFE) warrants that this analysis was performed substantially using the methods that are referenced and described in this report, using the information provided to RFE. RFE disclaims all other warranties, expressed, or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. This limited warranty gives you specific legal rights. You may have others, which vary from state to state.

RFE's entire liability and your exclusive remedy shall be return of the price paid to RFE for the analysis.

In no event will RFE be liable to you for damages, including any loss of profits, lost savings, or other incidental or consequential damages arising out of your use or inability to use the analysis. Because some states do not allow the exclusion or limitation of liability for consequential or incidental damages the above limitation may not apply to you.

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Executive Summary:

This report summarizes an analysis performed by Joseph M. DiPietro, P.E. for the Lane County School District 4J, Eugene Oregon. The analysis modeled the radio frequency energy emitted from a proposed new configuration of radio station KRVM-FM. No other RF sources were modeled in this study. The purpose of this analysis is to determine if this facility will remain in compliance with the FCC's RF exposure requirements upon completion of a proposed upgrade.

The results of the analysis predict that the levels of RF radiation in areas within 315 meter of the site are increased by **less than 13% of the maximum guideline for general population/uncontrolled exposure**.

CAUTION: Even though this facility appears consistent with FCC guidelines, be aware that each site user must also meet requirements with respect to “on-tower” or other exposure by workers at the site (including RF exposure on one tower caused by sources on another tower or towers). These requirements include, but are not limited to the reduction or cessation of transmitter power when persons have access to the site, tower, or antenna. Such procedures must be coordinated among all tower users.

See OET Bulletin 65 for further details. OET Bulletin 65 is available from:
<http://www.fcc.gov/oet/info/documents/bulletins/#65>

Introduction:

RF Exposure Requirements

In 1996, the FCC adopted guidelines and procedures for evaluating environmental effects of RF emissions. All applications subject to environmental processing filed on or after October 15, 1997 must demonstrate compliance with these requirements. These guidelines incorporate two tiers of exposure limits:

- **General population/uncontrolled** exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public are always considered under this category when exposure is not employment-related.
- **Occupational/controlled** exposure limits apply to human exposure to RF fields when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. These limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above the general populations/uncontrolled limits as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or some other appropriate means.

Method

A description of the facility was obtained from FCC records, through interviews with involved parties and from other public sources.

Based on the available information, calculations were performed, in accordance with OET Bulletin 65. It was assumed that the facility radiated maximum ERP omni-directionally. A vertical pattern of the proposed antenna was obtained from the antenna manufacturer and applied to the model.

Calculations were performed for a point two meters above the ground from the base of the tower out 315-meters. Additionally, calculations were performed for a 5.5-meter high rooftop located between 57 and 77-meters from the base of the tower.

Discussion:

Site Details

The site consists of a 34-meter tower with a 4-bay $1-\lambda$ spaced antenna mounted 30-meters AGL. The proposal is to replace the existing antenna with a new 6-bay $1/2\lambda$ spaced antenna mounted 28-meters AGL. See Appendix B. There are multiple towers located within 315 meters of the site. The ground surrounding the site does not rise significantly.

Figure 1 is a site plan of the facility. Attention was focused on the following areas.

- The public access parking lot 22-meters west of the proposed site.
- The two-story building 57-meters WNW of the site.

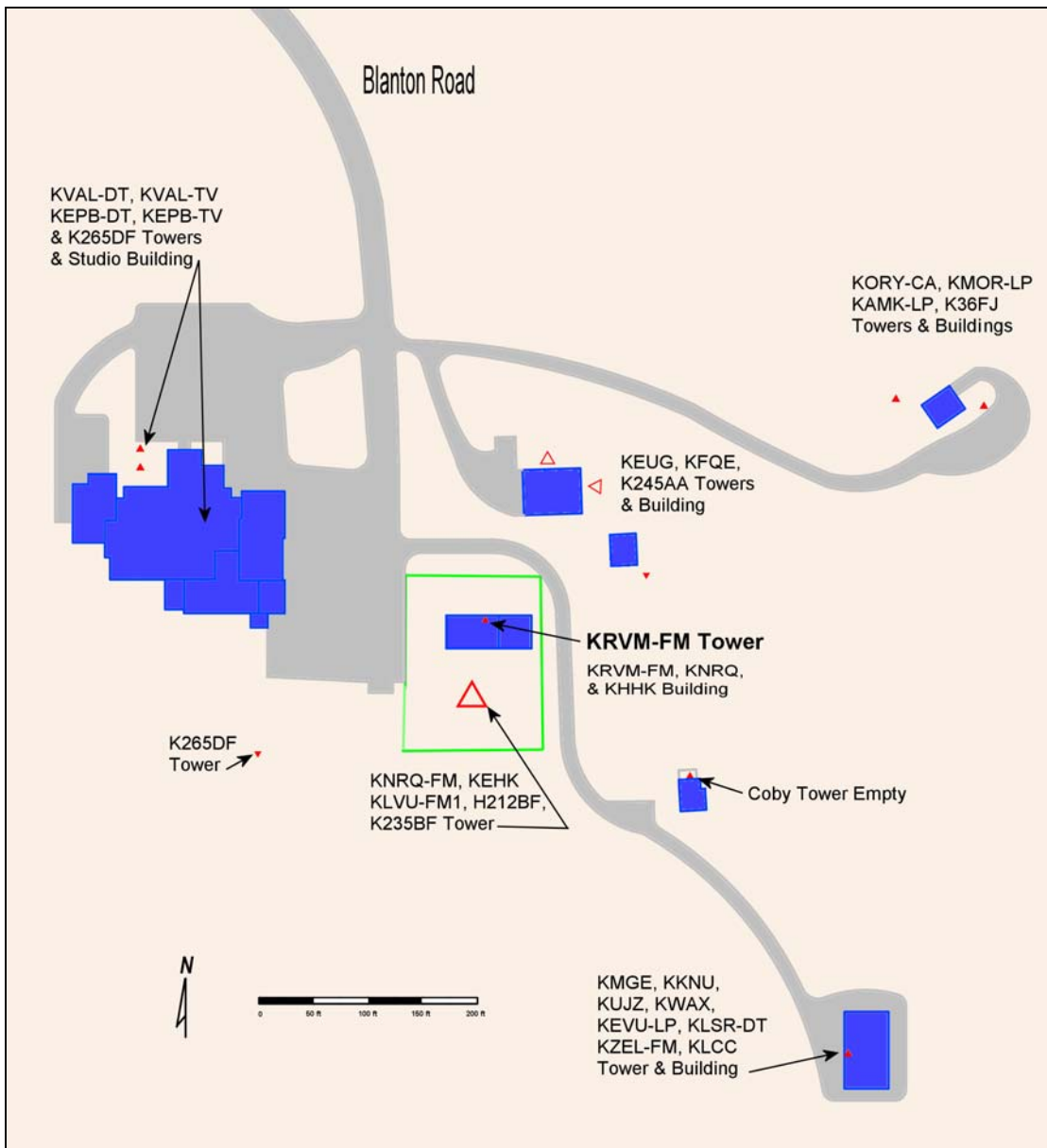


Figure 1. Site Plan.

RF Sources

One RF source was modeled in this analysis. The facility was modeled as an omni-directional source with a maximum ERP (Vertical + Horizontal) of 44,000 Watts operating on 91.9 MHz.

Appendix A contains the antenna vertical plane radiation pattern information. Appendix B contains details of the proposed antenna

Other rf sources located within 315 meters of the tower were not modeled. However, field measurements were recently taken in the area by the consulting firm of Hatfield & Dawson. Appendix C contains a copy of their report. The highest measurements reported in this survey were along a fence-line located between 22 and 28 meters from the proposed facility. The peak value was 63% of the maximum guideline for general population/uncontrolled exposure. It is assumed then that if the contribution by the proposed facility does not exceed 37% of the maximum allowed level then the site will remain in compliance with FCC guidelines.

It should be noted that contributions by the old, full-wave spaced, antenna were not deducted from the measured values.

Limits of Exposure

The limits of exposure for this rf Source are as follows:

- **General population/uncontrolled** 200 $\mu\text{W}/\text{cm}^2$.
- **Occupational/controlled** 1000 $\mu\text{W}/\text{cm}^2$.

General Population/Uncontrolled Exposure

Ground level and roof-top power density calculations were performed for a plane perpendicular to, and two meters above, the test surface. A power factor of 2 was used to account for ground reflections.

The peak rf density is predicted to occur at a distance of 155.4 meters from the proposed site. The predicted maximum value is 27.14 $\mu\text{W}/\text{cm}^2$. This value is approximately 13.6% of the maximum permissible exposure. Predictions using the FCC's "FMmodel" program produced slightly lower predictions. See Figure 2.

The peak rf density along the western border fence-line is predicted to be 11.9 $\mu\text{W}/\text{cm}^2$. This is approximately 6% of the maximum permissible exposure.

There is a two-story building located approximately 60-meters west of the proposed facility. The peak rf density on this roof-top is predicted to be 17.9 $\mu\text{W}/\text{cm}^2$. This is approximately 8.9% of the maximum permissible exposure.

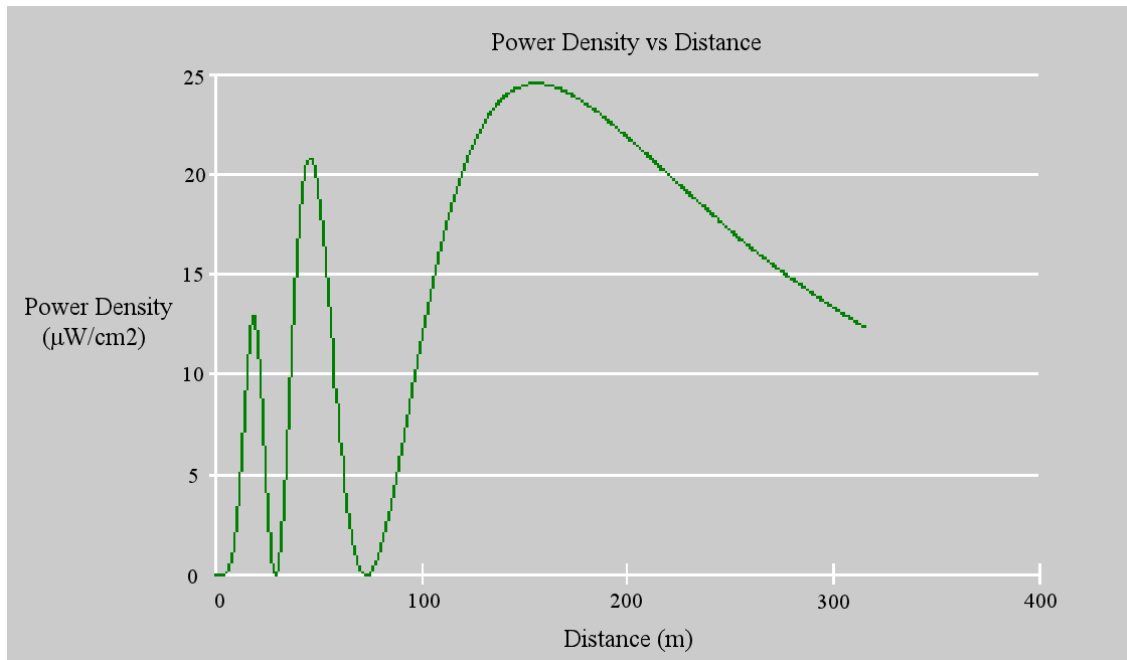


Figure 2. Predicted RF Power Density

On-Tower Occupational Exposure

Calculations indicate that the maximum exposure on the roof-top of the KRVM-FM building is less than $20.0 \mu\text{W}/\text{cm}^2$. This represents less than 2% of the occupational exposure limit. Calculations for exposure on the tower above the 8-meter roof-top level were not performed.

Conclusions:

An analysis was performed modeling the RF energy from a proposed facility for KRVM-FM. This analysis was based on data provided by Carl Sundberg of the Lane County School District 4J, a report by Hatfield & Dawson and the FCC.

In performing this analysis it was assumed that all equipment, including but not limited to, antennas, loads, matching and tuning devices and feedlines were properly designed, installed and operated.

The analysis was conducted with careful consideration to OET Bulletin 65, its associated supplements, and good engineering practices.

The results of the analysis are that after the proposed change the existing facility **will not exceed** the general population/uncontrolled maximum permissible exposure limits in any area accessible by the general public. Further, the facility **will not exceed** the occupational/controlled exposure limits on, and in the immediate vicinity of, the tower to a height of 8-meters AGL.

Certification:

I personally performed all of the engineering used to prepare this report. The information contained herein is true and accurate to the best of my knowledge. The recommendations and conclusions are mine based on the information provided to me.

I am licensed as a Professional Engineer under Chapter 471, Florida Statutes.

Joseph M. DiPietro, P.E.

01 December 2005

Registration Number: 53242

References:

OET Bulletin 65, Edition 97-01, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*. Washington, D.C.: Federal Communications Commission Office of Engineering & Technology, 1997. OET Bulletin 65 is available from:
<http://www.fcc.gov/oet/info/documents/bulletins/#65>

rfProfiler v0.8.10, rfSoftware, Inc. 2000-2004

MPE Calculator v0.1.3, rfEngineers, Inc. 2004

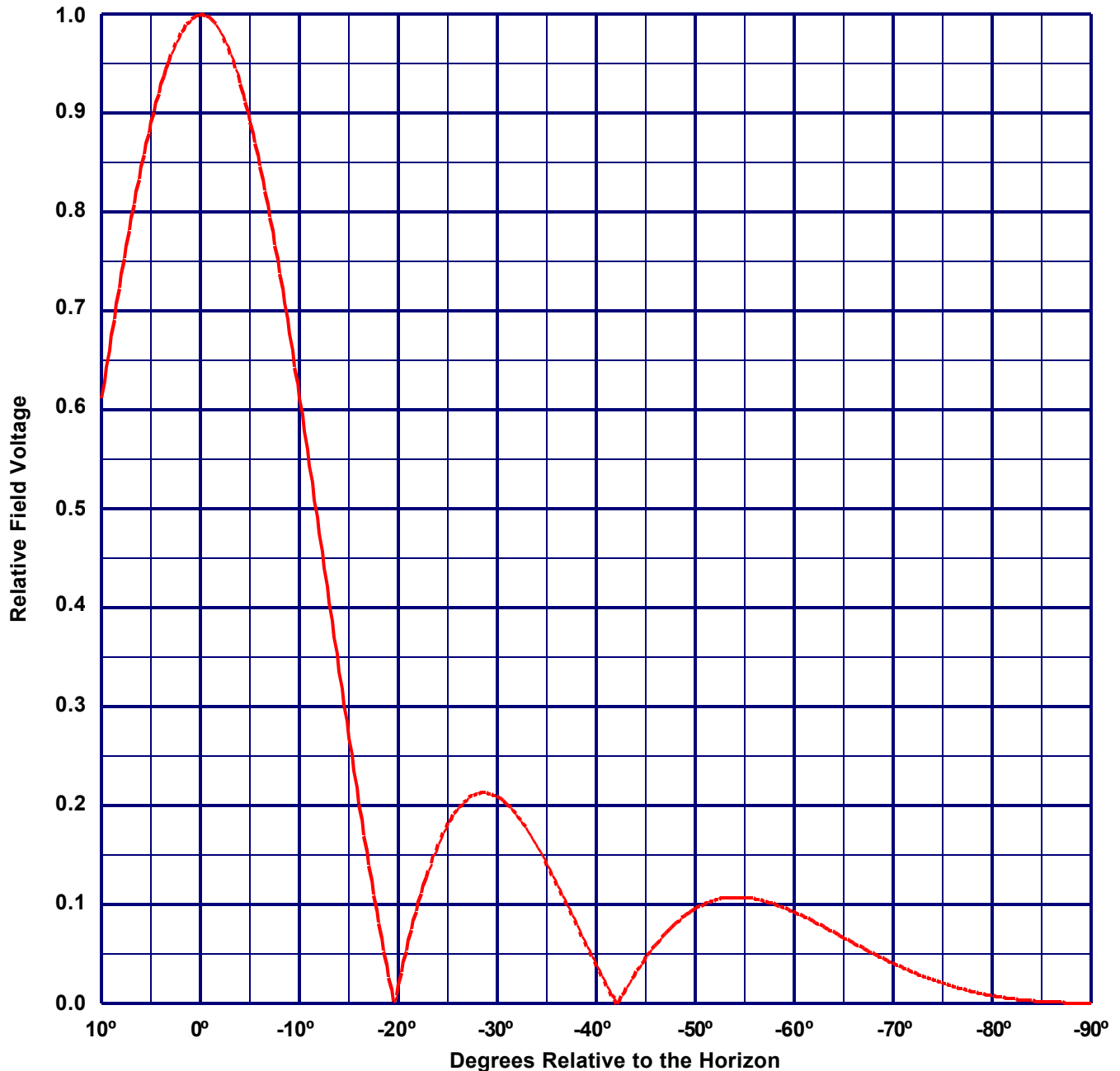
Appendix A



Vertical Plane Relative Field Pattern

ERI TYPE SHP, SHPX, MP, MPX, LP OR LPX ELEMENTS

*A 6 level, .5 wave-length spaced non directional antenna
with 0° beam tilt, 0% null fill and a H/V maximum power ratio of 1.000*



Vertical Polarization Gain:

Maximum: 1.913 (2.817 dB)

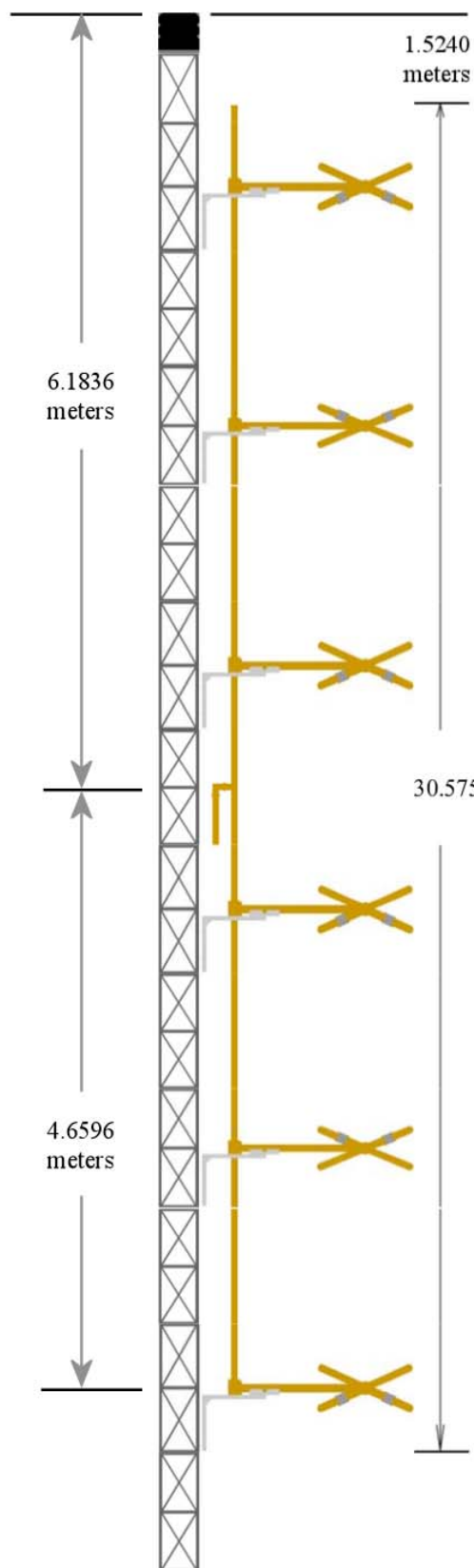
Horizontal Plane: 1.913 (2.817 dB)

Horizontal Polarization Gain:

Maximum: 1.913 (2.817 dB)

Horizontal Plane: 1.913 (2.817 dB)

Appendix B



Antenna Type: SHPX-6AC-HW
Frequency: 91.9 MHz
Bay Spacing: 63.9825 in.
System Length: 30.575 ft. (9.319 meters)
Vertical tower space: 41.659 ft.
System Gain: 1.913 (2.817 dBdc)
ERP: 22 kW (13.424 dBk)
Input power: 11.5 kW (10.607 dBk)
System Weight: 632 lbs.
System CaAa: 24.351 ft².

System CaAa is based on TIA/EIA-222-F Standards

Vertical tower space is based on the top bay mounted 5 feet (1.5240 meters) from the top of the tower. Add 5 feet if the antenna is to be mounted somewhere other than near the top of the tower.

Weight and wind figures do not include radomes or radial ice.

30.575' (9.319 meters) Center of Radiation
28 meters AGL

Appendix C

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
THOMAS M. ECKELS, PE
STEPHEN S. LOCKWOOD, PE
DAVID J. PINION, PE

PAUL W. LEONARD, PE
ERIK C. SWANSON, EIT
THOMAS S. GORTON, PE

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HUMAN RF EXPOSURE MEASUREMENTS

BLANTON HEIGHTS, EUGENE, OR

KMGE(FM), KKNV(FM), KZEL(FM), KLCC(FM)

KWAX(FM), KUJZ(FM), KLSR-DT, KEVU-LPTV

KEPB-TV & DT, KVAL-TV & DT

KEHK(FM), KNRQ(FM), KRVM(FM)

KMOR-LPTV, K245AA, K212BF, K265AK

KEUG(FM), KQFE(FM)

AUGUST 16, 2005

INTRODUCTION

On August 16, 2005, starting at 9:30 AM, ground level radio frequency exposure measurements were made at Blanton Heights near Eugene, OR. Stations upon which measurements were made included KMGE(FM), KKNV(FM), KZEL(FM), KLCC(FM), KWAX(FM), KUJZ(FM), KLSR-DT, KEVU-LPTV, KEPB-TV & DT, KVAL-TV & DT, KEHK(FM), KNRQ(FM), KEUG(FM), KQFE(FM), KRVM(FM), KMOR-LPTV, K245AA, K212BF, K265AK . KEPB was operating at 50% of authorized power on channel 28 NTSC and 4% of authorized power on channel 29 DT, while the other facilities were operating at authorized power when the measurements were made.

METHODS AND EQUIPMENT USED

A NARDA Model 8718B Electromagnetic Radiation Survey Meter (sn0001) with a NARDA Model B8742D Isotropic Shaped Electric Field Probe (sn05003) was used to make the measurements. The NARDA B8742D probe provides an output proportional to the FCC general public (Uncontrolled Environment) maximum permissible exposure (MPE) over a frequency range from 300 kHz to 3.0 GHz. The isotropic response of the probe is +/-0.75dB. The B8742B probe was calibrated June 1, 2005.

The areas to be measured were scanned with the probe and spatially averaged measurements were made at the locations where peak fields were found. Spatially averaged readings were taken from ground level to two meters above the ground.

MEASURED FIELDS 4585 BLANTON ROAD: KMGE(FM), KKNV(FM), KZEL(FM), KLCC(FM), KWAX(FM), KUJZ(FM), KLSR-DT, KEVU-LPTV

The highest spatially averaged measured plane wave equivalent power density within the area of the fence surrounding this site was less than 20% of the FCC general public MPE limit. The highest measured spatially averaged power density near any guy wire on this site was 28% of the FCC general public MPE limit.

MEASURED FIELDS 4555 BLANTON ROAD: KEHK(FM), KNRQ(FM), KRVM(FM), KMOR-LPTV, K245AA, K212BF, K265AK

The highest spatially averaged measured plane wave equivalent power density was found near the fence at the east edge of the parking lot where 63% of the FCC general public MPE limit was observed.

MEASURED FIELDS 4575 BLANTON ROAD: KEPB-TV & DT, KVAL-TV & DT

The highest spatially averaged measured plane wave equivalent power density found in accessible areas in the vicinity of the KEPB-TV & DT and KVAL-TV & DT facilities was less than 10% of the FCC general public MPE limit.

MEASURED FIELDS 4535 BLANTON ROAD: KEUG(FM), KQFE(FM)

The highest spatially averaged measured plane wave equivalent power density found in accessible areas in the vicinity of the KEUG(FM), KQFE(FM) facilities was less than 5% of the FCC general public MPE limit.

CONCLUSION

The measurements demonstrate that the transmitting facilities of KMGE(FM), KKNV(FM), KZEL(FM), KLCC(FM), KWAX(FM), KUJZ(FM), KLSR-DT, KEVU-LPTV, KEPB-TV & DT, KVAL-TV & DT, KEHK(FM), KNRQ(FM), KEUG(FM), KQFE(FM), KRVM-FM, KMOR-LPTV, K245AA, K212BF, K265AK on Blanton Heights, (with KEPB-DT & KEPB-TV at reduced power), comply with FCC public exposure guidelines at the locations where the measurements were made. At no location where measurements were made were the FCC occupational MPE limits exceeded.

The conclusions of this report are based upon the Commission's environmental requirements in 47 CFR §1.1307. The KMGE(FM), KKNV(FM), KZEL(FM), KLCC(FM), KWAX(FM), KUJZ(FM), KLSR-

DT, KEVU-LPTV, KEPB-TV & DT, KVAL-TV & DT, KEHK(FM), KNRQ(FM), KEUG(FM), KQFE(FM), KRVM-FM, KMOR-LPTV, K245AA, K212BF, K265AK transmitting facilities on Blanton Heights, (with KEPB-DT & KEPB-TV at reduced power), will not have a significant environmental impact as defined by §1.1307, which includes consideration of the exposure of workers or the general public to levels of Radio Frequency radiation exceeding guidelines issued by the American National Standards Institute, the Federal Communications Commission, and the National Council on Radiation Protection and Measurements.

ENGINEERING STATEMENT

The measurements and this report were made and written, respectively, by James B. Hatfield, P.E. who states that the information contained herein is true and accurate to the best of his knowledge.

August 23, 2005



The image shows a handwritten signature of James B. Hatfield in black ink. Overlaid on the signature is a circular professional engineer seal for the State of Oregon. The seal contains the text: "REGISTERED PROFESSIONAL ENGINEER", "8307PE", "OREGON", "FEB. 14, 1978", and "JAMES B. HATFIELD". Below the seal, there is a rectangular stamp that reads "EXPIRATION DATE: 12-19-08".

James B. Hatfield, P.E.