TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
STATION KMCQ
FACILITY ID 41861
COVINGTON, WASHINGTON
CH 283C3 25 KW 97 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a minor change application for construction permit to modify the facilities of FM station KMCQ (FCC Facility ID 41861). Station KMCQ currently operates on channel 283C at The Dalles, Oregon with a nondirectional effective radiated power (ERP) of 100 kW and an antenna height above average terrain (HAAT) of 609 meters (FCC File No. BLH-19990512KA). As a result of the Report and Order in MB Docket No. 02-136 (DA 04-2054), the Commission modified the license of KMCQ to specify operation on channel 283C3 at Covington, Washington. The instant application specifies operation on channel 283C3 at Covington as specified in the Report and Order. Furthermore, the instant application is considered a minor change in facilities pursuant to the Report and Order.

Specifically, it is proposed to relocate transmitter site and operate on channel 283C3 at Covington, Washington with a nondirectional antenna maximum ERP of 25 kW and an HAAT of 97 meters.

Response to Paragraph 5 – Antenna Registration

Based on the FCC's TOWAIR program, the tower does not require registration. Figure 1 is a portion of a USGS 7.5 minute series topographic map depicting the proposed transmitter site. Figure 2 is a tower sketch depicting pertinent elevation data.

Response to Paragraph 14 – Community Coverage

Figure 3 demonstrates that the proposed operation complies with the provisions of Sections 73.315.

Response to Paragraph 16 – Interference

Figure 4, attached, is an FM separation study from KMCQ's proposed antenna location for the channel 283C3 operation based on the Commission's CDBS database. As shown, the proposed antenna location complies with the minimum distance separation requirements of Section 73.207 for Class C3 operation on channel 283 towards all existing, authorized and proposed stations and allotments.

Response to Paragraph 17 - Environmental Protection Act

The proposed KMCQ facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation".

The proposed KMCQ antenna will be side-mounted at the 20 meter level on the tower structure. The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Figure 5 is vertical plane relative field pattern for the proposed ERI 4-bay, 0.5 wavelength bay spacing, nondirectional antenna. As shown on Figure 5, the maximum vertical relative field value towards the tower base (-60° to -90° elevation) is less than 0.13. Therefore, using a "worst-case" vertical relative field value of 0.13, the total ERP of 50 kW (H+V) and an antenna center of radiation height above ground level of 20 meters, the calculated power density at 2 meters above ground level at the base of the tower is 0.0871 milliwatt per square centimeter ($mW/cm^2$), or 43.6 percent of the Commission's recommended limit applicable to an "uncontrolled" exposure areas (0.2 $mW/cm^2$ for FM frequencies). Thus, as this is not a multi-user broadcast site, it is believed that the proposal will comply with the RF emission rules.

Access to the tower will be restricted and appropriately marked with warning signs. Furthermore, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such procedures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down.

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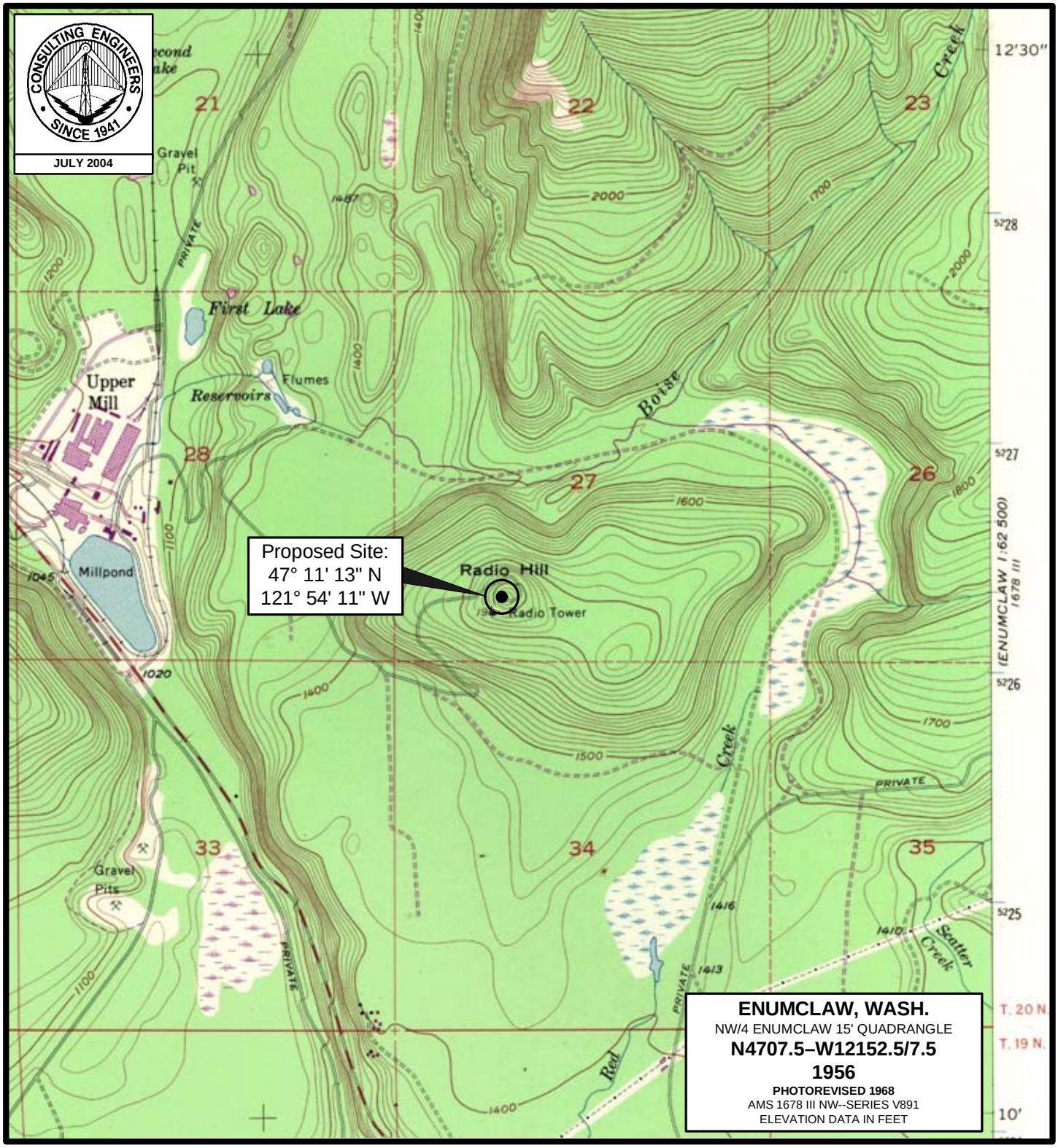
July 27, 2004

**Figure 1**

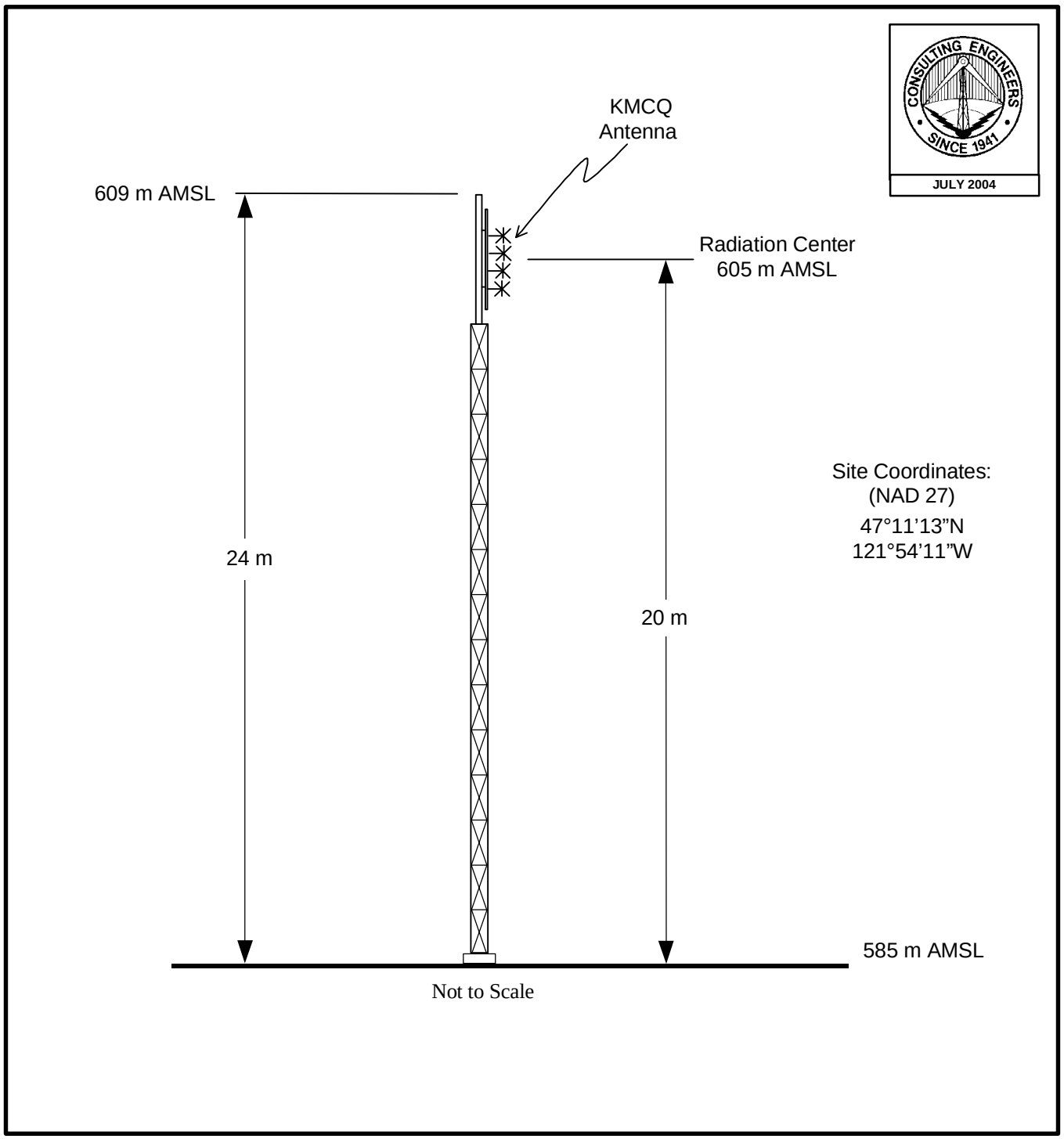



# PROPOSED TRANSMITTER SITE

STATION KMCQ
COVINGTON, WASHINGTON
CH 283C3 25 KW 97 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

**Figure 2**




# PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION KMCQ
COVINGTON, WASHINGTON
CH 283C3 25 KW 97 M

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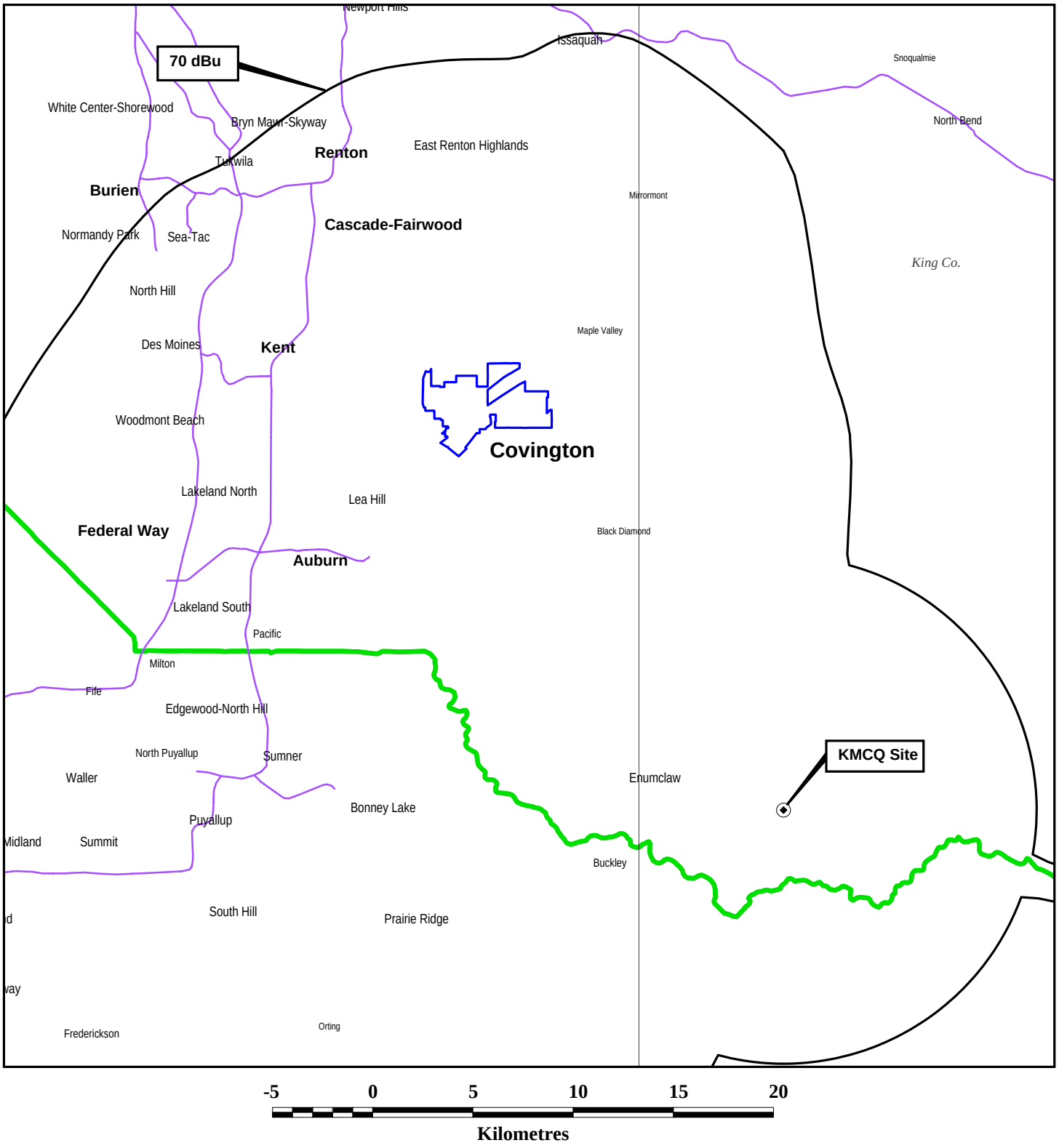



# COMPLIANCE WITH SECTION 73.315

STATION KMCQ
COVINGTON, WASHINGTON
CH 283C3 25 KW 97 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

CDBS FM SEPARATION STUDY

Job Title: Proposed KMCQ, Ch. 283C3, Covington, WA  Separation Buffer: 50 km
Channel: 283 C3  Coordinates: 47-11-13 121-54-11

| Call Id | City St Status | File Num | Channel Freq | ERP HAAT | DA Id | Latitude Longitude | 73 215 | Bear | Dist. (km) | Req. (km) 215 | 207 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CHEHALIS | | 282 A | 0.000 | | 46-38-57 | | 233.9 | 100.66 | 72.0 | 89.0 |
| | WA VAC C | | 104.3 | | | 122-57-58 | | | 11.66 | Close | |
| KAFE | BELLINGHAM | BLH | 282 C | 60.000 | N | 48-40-48 | N | 337.5 | 180.17 | 165.0 | 176.0 |
| 58886 | WA LIC C 4978 | | 104.3 | 704 | | 122-50-24 | | | 4.17 | Close | |
| | COVINGTON | RM | 283 C3 | 0.000 | | 47-12-02 | | 280.9 | 8.06 | | |
| | WA RSV C 10458 | | 104.5 | | | 122-00-27 | | | | | |
| KMCQ | THE DALLES | BLH | 283 C | 100.000 | | 45-42-44 | N | 159.5 | 174.78 | | |
| 41861 | OR LIC C 19990512KA | | 104.5 | 609 | | 121-06-50 | | | | | |
| | MORO | RM | 283 C2 | 0.000 | | 45-29-03 | | 154.1 | 209.72 | 166.0 | 177.0 |
| | OR VAC C 10458 | | 104.5 | | | 120-43-48 | | | 32.72 | Clear[1] | |
| KKRV | WENATCHEE | BLH | 284 C2 | 6.500 | N | 47-28-44 | N | 75.1 | 131.76 | 106.0 | 117.0 |
| 28635 | WA LIC C 20020205AAA | | 104.7 | 403 | | 120-12-49 | | | 14.76 | Close | |
| | ABERDEEN | RM | 284 C2 | 0.000 | | 46-56-00 | | 259.2 | 141.65 | 106.0 | 117.0 |
| | WA DEL C 10667 | | 104.7 | | | 123-43-49 | | | 24.65 | Clear | |
| KDUX-F | ABERDEEN | BMLH | 284 C2 | 31.000 | | 46-56-00 | | 259.2 | 141.65 | 106.0 | 117.0 |
| 52676 | WA LIC C 19990125KC | | 104.7 | 110 | | 123-43-49 | | | 24.65 | Clear | |
| | HOQUIAM | RM | 284 C2 | 0.000 | | 46-56-33 | | 260.1 | 148.43 | 106.0 | 117.0 |
| | WA ADD C 10667 | | 104.7 | | | 123-49-26 | | | 31.43 | Clear | |
| | EATONVILLE | RM | 285 C3 | 0.000 | N | 46-50-19 | N | 210.1 | 44.75 | 37.0 | 43.0 |
| | WA RSV C 9269 | | 104.9 | | | 122-11-53 | | | 1.75 | Close | |
| KFNK | EATONVILLE | BLH | 285 C3 | 17.000 | Y | 46-50-24 | Y | 215.0 | 47.05 | 37.0 | 43.0 |
| 3915 | WA LIC C 20020117AAM | | 104.9 | 124 | 38056 | 122-15-27 | | | 4.05 | Close | |

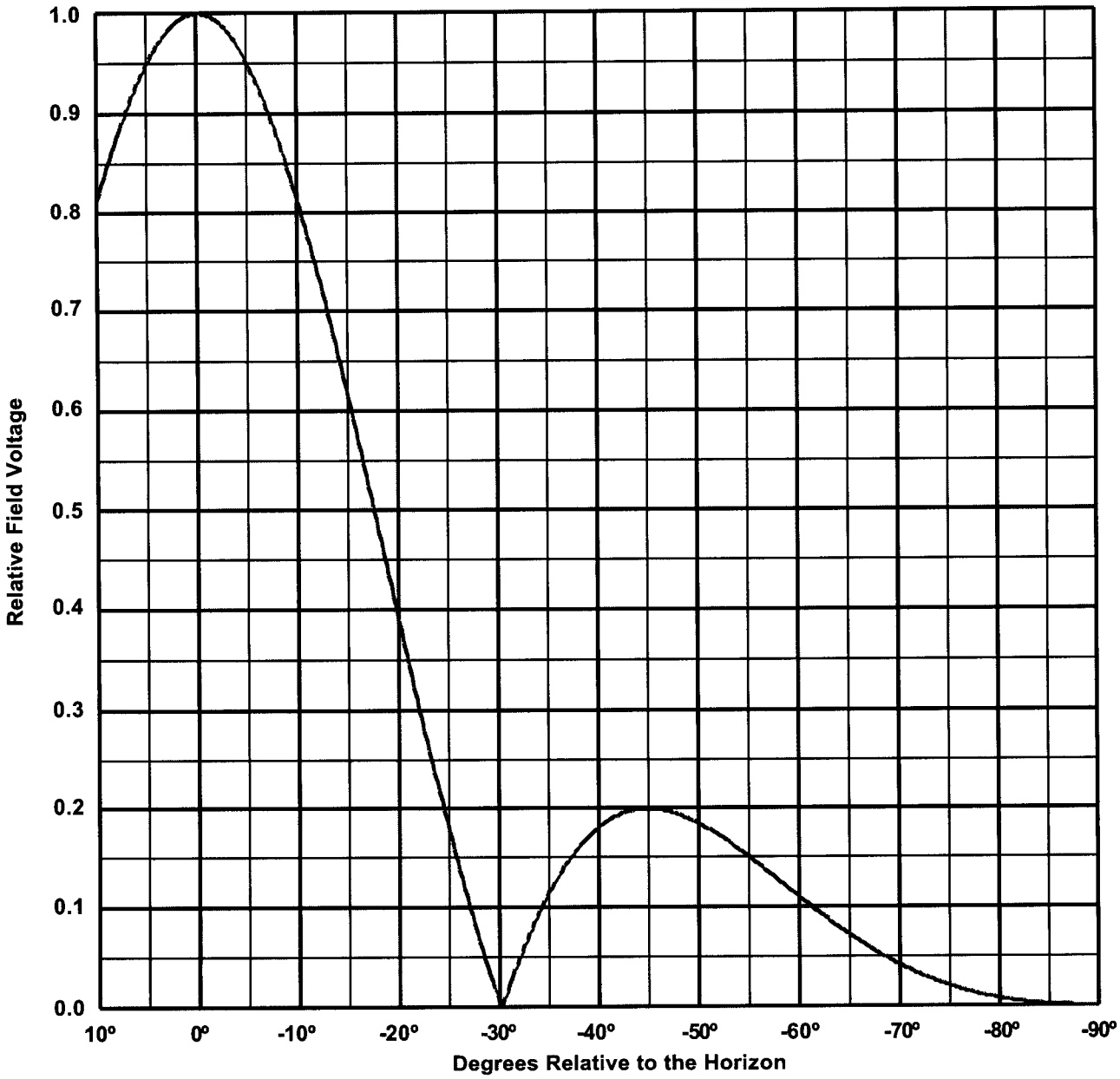
[1] It is noted that the CDBS incorrectly indicates that channel 283C1 was allotted to Moro, OR. However, the Report and Order in MB Docket No. 02-136 allotted channel 283C2 to Moro. The FCC has been notified of this error.

# ERI® Vertical Plane Relative Field Pattern

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

***A 4 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: | Horizontal Polarization Gain: |
|---|---|
| Maximum: 1.307 (1.163 dB)<br>Horizontal Plane: 1.307 (1.163 dB) | Maximum: 1.307 (1.163 dB)<br>Horizontal Plane: 1.307 (1.163 dB) |

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