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ENGINEERING REPORT

APPLICATION for CONSTRUCTION PERMIT
for Frequency Change and Power Increase

KBNH-AM
1210 kHz 12 kW Day 0.6 kW Night DA-1
Burns, OR
Facility ID 62265

Harney County Radio, LLC

February 2011

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Statement of Engineer

1. Purpose of Application

This Engineering Report is part of an application by Harney County Radio, LLC. for a Construction Permit to increase the daytime power of KBNH-AM, Burns, OR to 12 kW, decrease the nighttime power to 600 Watts, and change the frequency of KBNH from 1230 to 1210 kHz.

2. Allocation Considerations

Daytime

The proposed directional daytime operation of KBNH will not cause prohibited contour overlap with any licensed or proposed facility, as demonstrated by Exhibit 16. This allocation study is based on data from the February 14, 2011 edition of the Commission's AM database. M3 ground conductivity data was used for all stations studied. Exhibit 16 contains no 3rd-adjacent channel study map, as there are no 3rd-adjacent channel facilities within 100 km of Burns.

Nighttime

The proposed nighttime directional operation of KBNH will not contribute to the 25% RSS of any domestic facility, or to the 50% RSS of any co-channel Canadian facility, as demonstrated by Exhibit 17A, which shows calculations for all facilities to which KBNH will exceed the 10% RSS threshold. Exhibit 17B contains contour maps showing the lack of prohibited overlap between the skywave contours of KBNH and the protected contours of Class A stations WPHT and WOAI.

Critical Hours

The closest point on the daytime 0.1 mV/m contour of co-channel Class A station WPHT, Philadelphia is 2145 miles from Burns at a bearing of 81°. Per the methodology in §73.187, the maximum permissible critical hours radiation toward WPHT is 6772 mV/m/km. As the maximum radiation in any direction from the proposed daytime operation of KBNH is 1500 mV/m/km, the critical hours operation of KBNH will be the same as the daytime operation.

Critical Hours Radiation Report

Call: KBNH
Freq: 1210 kHz
Burns, OR, US
Hours: D
Lat: 43-33-53 N
Lng: 119-03-37 W
Power: 12.0 kW
Theo RMS: 1071.44 mV/m @ 1km @ 12.0 kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	79.7	0	0	0.0	0.0	0.0	0.0
2	0.670	105.0	190.0	265.0	79.7	0	0	0.0	0.0	0.0	0.0

Interpolation factors for 1210 kHz:

K(500) = 0.000
K(1000) = 0.650
K(1600) = 0.350

Call: WPHT
 Freq: 1210 kHz
 PHILADELPHIA, PA, US
 Hours: U
 Lat: 39-58-46 N
 Lng: 074-59-13 W
 Power: 50.0 kW
 Theo RMS: 387.85 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	186.0	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
64.78	76.00	3949.2 / 2454.0	0.0	1143.56	8416.1	7272.5
62.38	77.00	3860.1 / 2398.5	0.0	1139.54	8038.2	6898.7
349.91	78.00	3547.5 / 2204.3	0.0	1135.98	6771.6	5635.6
324.54	79.00	3487.9 / 2167.3	0.0	1132.88	6512.6	5379.7
305.37	80.00	3465.1 / 2153.1	0.0	1130.24	6397.1	5266.8
287.45	81.00	3452.3 / 2145.2	0.0	1128.08	6341.7	5213.6
270.19	82.00	3461.2 / 2150.7	0.0	1126.39	6363.8	5237.4
248.87	83.00	3503.4 / 2176.9	0.0	1125.19	6501.1	5375.9
236.54	84.00	3514.0 / 2183.5	0.0	1124.46	6526.2	5401.7

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
64.78	76.00	3949.2 / 2454.0	10755.85	4070.73	8416.1
62.38	77.00	3860.1 / 2398.5	10269.82	3893.74	8038.2
349.91	78.00	3547.5 / 2204.3	8660.18	3264.15	6771.6
324.54	79.00	3487.9 / 2167.3	8334.44	3129.04	6512.6
305.37	80.00	3465.1 / 2153.1	8189.79	3067.70	6397.1
287.45	81.00	3452.3 / 2145.2	8120.79	3037.70	6341.7
270.19	82.00	3461.2 / 2150.7	8148.06	3050.17	6363.8
248.87	83.00	3503.4 / 2176.9	8319.30	3124.51	6501.1
236.54	84.00	3514.0 / 2183.5	8350.81	3137.51	6526.2

3. Facilities Proposed

Harney County Radio, LLC proposes to change the operating frequency of KBNH from 1230 kHz to 1210 kHz, increase the daytime operating power to 12 kW, and decrease the nighttime power to 600 Watts. The station class will change from C to B. The height of the existing KBNH tower will be increased to 180 feet, and the existing top-loading will be removed. A new tower, also 180 feet in height, will be constructed to the west of the existing KBNH tower on the same property. The same directional antenna pattern is proposed for day and night operation. As both towers will be less than 200 feet in height, and there are no known airports within 5 miles, Antenna Structure Registration is not required. This proposal is considered a minor change under the Commission's rules, as the frequency change is less than 30 kHz, with no change in location or community of license.

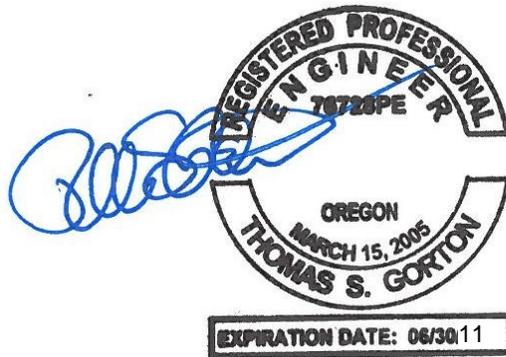
The population within the proposed daytime blanketing contour is 68 persons, thus meeting the requirements of §73.24(g). This figure is based on 2000 census block centroid data.

Antenna tower access will be restricted by fences with locked gates that will be at least 3 meters from the tower bases, as required by OET Bulletin 65. The antenna tower will be posted with warning signs, and all station personnel and contractors will be required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

Statement of Engineer

This Engineering Report, relative to an application for a power increase and frequency change for KBNH-AM, Burns, Oregon has been prepared by the undersigned. 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 an engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Oregon.

Signed this 15th day of February 2011



Thomas S. Gorton, P.E.