

BACKGROUND

KXRY (formerly KRRC) is a Class D non-commercial, educational FM facility that has served the Portland, Ore. community since 1958. On 03/28/2008 the FCC granted commercial licensee Cumulus Licensing LLC permission to move commercial full power FM station KNRQ-FM from Eugene, Ore or Tualatin, Ore., and subsequently approved BMPH20100805AK0, a community of license move to Aloha, Ore. The change in community of license effectively moves KNRQ-FM 171.4 km to the north to serve the Portland, Ore. metropolitan area on Channel 250. At the time, KXRY was located on Channel 250. By nature of Class D licensee, KXRY was required to vacate Channel 250 at the time of KNRQ-FM's construction permit completion. In cases of encroachment, the FCC affords Class D facilities channel relocation to possible vacant channels.

At the time, because of the roughly twelve translators currently serving the vicinity, and eighteen translators pending in the metropolitan area, no single secondary service frequency presented itself as an exceptional relocation solution. Licensee requested to move to Channel 216 as the only known relocation channel within the vicinity. Channel 216 is not an optimal choice, however, because of incoming interference from KTJC and KZME on the co-channels.

PROPOSED

Recently KQRZ-LP (Fac. ID No. 134266) Hillsboro, Ore. was granted a channel move from Channel 268 (see BSTA-20111026AAW, granted 02/14/2012 and renewed via BESTA- 20120806AAU 08/07/2012) to Channel 264 (see BPL-20130212ACM granted 05/20/2013). KQRZ-LP filed License to Cover, Accepted for Filing 07/12/2013 (see BLL-20130711ACH). Upon Grant, the channel move frees up an interference-free channel within KXRY's immediate vicinity.

Licensee initially filed for Channel 216 because of KNRQ-FM's imminent licensing, while Channel 216 was the only channel available at the time. A proposed move to Channel 268 for KXRY would provide an interference-free channel to finally serve all the population within its proposed 60 dBu contour without interference complaints from its listenership. A move to Channel 268 additionally ensures adequate protection to all licensed full power facilities:

1. Proposed location continues to serve Portland, Ore.; the proposed location has overlapping 1 mv/m contour with previous location.
2. Per revision to Class D facility rules, Class D facilities are limited in broadcast coverage via the 1 mv/m contour as limited to 5 kilometers.¹ Using the "FCC Curves" calculator, a 1 mv/m contour of 4.999 kilometers (less than the prescribed 5 kilometers) was selected at the proposed HAAT at the transmitter location (28.7 meters) to derive the maximum allow wattage allowed by a Class D facility according to the revised rules. A wattage of 0.063 kW was derived, thus complying with revised Commission rules (see below).

¹ See Para. 44, 1998 Biennial Regulatory Review — Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules, MM Docket No. 98-93 (November 1, 2000).

Results -- FM and TV Propagation Curves Calculations

Entered HAAT is less than 30 meters -- Set to 30 m

Results of Calculation

Effective Radiated Power (ERP) = 0.063 kW

Unrounded ERP = 0.063 kilowatts

[Back to Numeric Entries](#)

[Back to Initial Selections](#)

For input data from Pages 1 and 2:

HAAT entered = 28.70 meters
Distance entered = 4.999 kilometers
Field Strength entered = 60.000 dBu
Find the ERP, given a Distance to the Contour and a Field Strength
F(50,50) curves for service contours
FM and NTSC analog TV Channels 2 through 6

3. Consent approval has been concurrently furnished to the Commission with this application regarding relocating second-adjacent to two full power facilities.
4. Using U/D methodology, the proposed relocation will provide zero-population interference overlap areas with both second-adjacent channels:

KXL-FM
KINK (FM)

Note: KXL-FM and KINK (FM) are co-located and both 100 kW, resulting in identical contour plots.

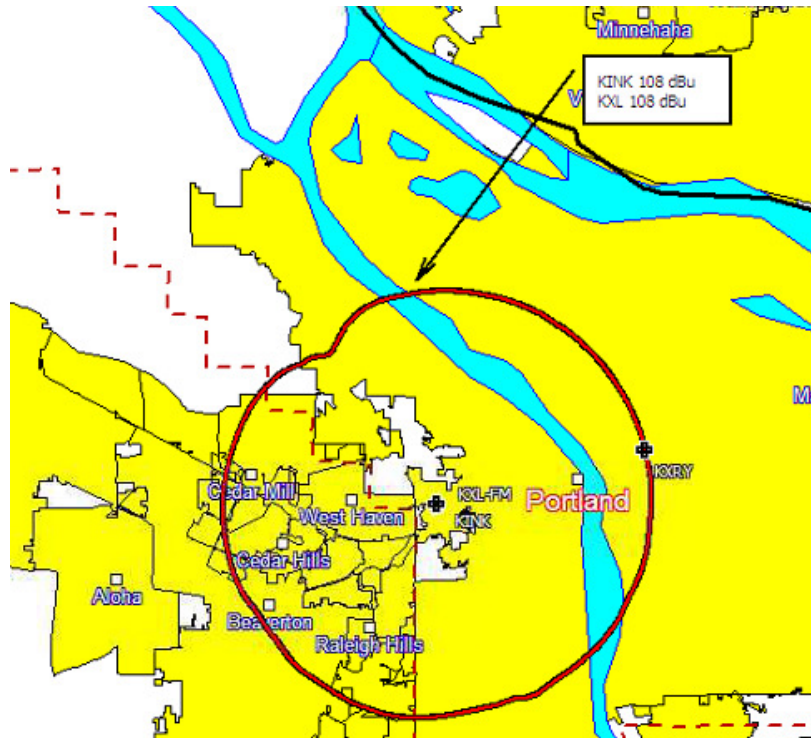
At the proposed KXRY transmitter location KXL/KINK have signal strengths of 108 dBu (see Map, next page). Interference will occur when the interfering signal exceeds the desired signal by 40 dbu. So the area of predicted interference would then be bounded by the 148 dBu contour. The distance to this contour, using free space method, is:

$D = (7.01 \cdot P^{1/2}) / E$, where P is power (watts), E is field strength (v/m), and D is distance to contour (meters):

$P = 63 \text{ w}$, $E = 148 \text{ dBu} = 25118 \text{ mV/m} = 25.2 \text{ v/m}$

$D = 2.2 \text{ meters}$.

Conclusion: The area of interference resides 2.2 meters around the antenna; no population affected.



CHANNEL PARAMETERS

COORDINATES	45 31 55.1 N, 122 38 50.2 W NAD 27
COL	PORTLAND, ORE
CHANNEL	268
CLASS	D
FAC ID NO	66303
F(50,50) 60 DBU	4.999 km
ERP	0.063 kW
GROUND	48 m
STRUCTURE	61 m
MAST	5.5 m
TOTAL AGL	66.5 m
COR AMSL	114.5 m
HAAT	28.7 m

KXRY proposes locating on top of multi-story building. Building was confirmed to be 61 meters from building superintendent. A mast of 5.5 m will be mounted on top of building penthouse. This proposal is valid under 47 CFR Section 90.119 (b) which authorizes masts mounted on structures as long as the fixture does not exceed 6.1 meters above the roof of the structure, thus passes FCC TOWAIR query.

Channel study is included on next page.

CHANNEL REPORT

Common Frequency, Inc.

REFERENCE	CH# 268D - 101.5 MHz, Pwr= 0.063 kW, HAAT= 28.7 M, COR= 114.5 M	DISPLAY DATES
45 31 55.1 N.	Average Protected F(50-50)= 5.0 km	DATA 07-16-13
122 38 50.2 W.	Omni-directional	SEARCH 08-02-13

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
270C Portland	KINK	LIC	NCX OR	255.3 75.3	6.90 BMLH20100429ABZ	45 30 58.4 122 43 58.8	100.000 502	12.8 594	88.2 Alpha Licensee, Llc	-10.9*	-82.9* #
266C Portland	KXL-FM	LIC	C OR	255.2 75.2	6.91 BLH20100503ACD	45 30 58.0 122 43 59.0	100.000 502	12.8 594	88.2 Alpha Licensee, Llc	-10.9*	-82.9* #
268C0 Corvallis	KFLY	LIC	C OR	207.3 26.6	154.77 BLH20021007AAP	44 17 28.0 123 32 18.0	28.000 707	170.8 1038	79.1 Bicoastal Media Licenses V	-21.0*	59.5 +
268C3 The Dalles	KDOA	CP	ZCX OR	90.7 271.6	98.28 BNPED20100226AJW	45 30 49.6 121 23 08.7	9.000 168	78.0 908	17.6 Cascade Community Radio	14.7	62.1
268D Eufaula/longview	K268BN	LIC	DC WA	347.3 167.1	72.07 BLFT20091006ADQ	46 09 51.0 122 51 12.0	0.250 267	30.9 447	9.3 Washington Interstate Broa	33.7	37.7
268C0 Seattle	KPLZ-FM	LIC	C WA	10.3 190.6	227.51 BLH20121220AAY	47 32 40.0 122 06 28.0	100.000 372	177.8 496	75.9 Fisher Broadcasting - Seat	42.8	128.2

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference Zone= - Zone 2, Co to 3rd adjacent.
 All separation margins (if shown) include rounding
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside protected contour.

Reference station has protected zone issue:

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X) "*"affixed to 'IN' or 'OUT' values = site inside protected contour.

Notes:

See U/D showing (see previous page)

+ Proposed facility introduces no outgoing interference into full power facility protected contours.

EXHIBIT 22: NON-IONIZING ELECTROMAGNETIC RADIATION (NEIR) ANALYSIS

The Effective Radiated Power for proposed will be 63 wattts, mounted on guyed mast on top of a building penthouse. The OET program *FM Model* for Windows, Version 2.10 Beta was used to determine the maximum predicted RF exposure. The settings used were:

Antenna: Phelps-Dodge "Ring Stub"
Vertical ERP (W): 63
Antenna Height (m): 63
Number of Elements: 1

Phelps-Dodge "Ring Stub" antenna was selected as a "worst case" emitter. The maximum of $206.7 \mu\text{W}/\text{cm}^2$ at 0.92 meters is 103.4% of Maximum Permissible Exposure (MPE) for uncontrolled environments and 20.7% of the MPE for controlled environments. The antenna is to be mounted of top of an unoccupied (inside) 8.1 m high elevator penthouse. No other radiation is being emitted in the roof vicinity. Access will be controlled via a ladder to the penthouse roof, as roof access is controlled. See photo below.



At normal roof level, 8.1 m lower than the penthouse roof, a maximum level of $18.9 \mu\text{W}/\text{cm}^2$ at 3.22 m was calculated, equating to 9.4% of the uncontrolled MPE.

Note: The actual antenna being used is a Telecom TFC2K one-bay antenna which is identical in design to a "Double V" Jampro Penetrator. The "Double V" pattern yields $8.6 \mu\text{W}/\text{cm}^2$ at 11.96 m in *FM Model*, or 4.3% of the MPE for uncontrolled environments. 47

CFR 1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

Access to the penthouse roof will be limited due to the height inaccessibility of the maintenance ladder. Normal roof access is additionally limited. The site will be furnished with necessary postings of RF exposure hazards. When maintenance is required on the penthouse roof, transmitter power will be reduced or operation will cease, as necessary.