

***TECHNICAL EXHIBIT
APPLICATION FOR
MODIFICATION OF CONSTRUCTION PERMIT***

FM BROADCAST STATION
KXWI(FM)
WILLISTON, NORTH DAKOTA
FILE NO: BNPH-20120529AHU / FACILITY ID: 190377

GLENDIVE BROADCASTING CORP.

APRIL, 2013

APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Glendive Broadcasting Corp.** ("Glendive"); permittee of new FM broadcast station KXWI at Williston, North Dakota, and are in support of their application for modification of construction permit.¹ This application seeks to modify the current construction permit for the facility. That construction permit is under FCC File No. BNPH-20120529AHU.

KXWI(FM) is to be co-located with FM station KDSR(FM) also at Williston, North Dakota.² Originally the KXWI antenna was to be located below the KDSR antenna, which is pole mounted at the top of the structure. Following a structural inspection of the tower, it was determined that the addition of the KXWI antenna would result in excess loading of the tower. As a result, Glendive seeks to modify the existing construction permit to utilize a combined antenna system that would replace the existing KDSR antenna.³

As a result of this proposed vertical relocation, the center of radiation for KXWI would increase. The proposed facility would continue to operate with an effective radiated power of 100 kW. The proposed center of radiation is 875.8 meters AMSL, which corresponds to a center of radiation above average terrain of 243.0 meters.⁴ A non-directional antenna would be utilized.

¹ The Facility ID for KXWI(FM) at Williston, North Dakota is 190377.

² The Facility ID for KDSR(FM) at Williston, North Dakota is 56970.

³ A separate application for KDSR will be filed to correct the geographic coordinates and height data associated with that facility, which have been determined to be erroneous.

⁴ Average terrain determined through 360 radial sample of NED 3-second linearly interpolated terrain database.

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This center of radiation, and effective radiated power, continue to result in a class C1 facility. In addition, no change in the channel of operation, currently 253C1, is proposed. Thus, the facility would be in compliance with the provisions of Section 73.203 of the Commission's Rules.

The proposed facility would continue to be in compliance with the community coverage requirements under Section 73.315 of the Commission's Rules. Exhibit E-1 illustrates the predicted 70 and 60 dBu service contours for the facility, and demonstrates that the entire community of Williston, North Dakota would lie within the 70 dBu FCC service contour of KXWI. The terrain profile below illustrates the 67 degree true radial from the transmitter site through the community of license. As this image demonstrates, there are no significant terrain obstructions along the path from the transmitter to the community of license.



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The main studio for the facility would comply with the provisions of Section 73.1125 of the Commission's Rules. The main studio is to be co-located with those for KDSR(FM) at Williston. The main studio for that facility is located within the corporate boundaries of Williston, which is also within the principal community coverage contour of KXWI as illustrated in Exhibit E-1.

The proposed facility would continue to comply with the provisions of Section 73.207 of the Commission's Rules. Sections 73.213(a)-(c) and 73.215 are not applicable in this case. The facility is fully spaced to all other proposed and existing facilities in the region on the relevant channels. Although not included in this exhibit, the spacing study for the proposed facility indicates that there are no other facilities on channels 250 through 256 within the region. Due to the channel of operation, the proposed facility would not affect any authorizations on channels separated by the intermediate frequency split.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. An existing tower that is registered with the Commission will serve as the supporting structure for the antenna. The previously mentioned change in the antenna system at this tower will not require any excavation, nor will it increase the existing environmental impact already present from the facility.

KXWI, combined with KDSR, will not constitute an RF exposure hazard to the general public at the site. Currently Glendive is in the process of acquiring bids for the new combined antenna system. As a result, the actual model of antenna that would be utilized at the facility is not definitively known. The Commission's *FM Model* utility indicates that for the combined effective

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radiated power of the two facilities (100 kW each yielding 200 kW), a Phelps-Dodge ring-stub type antenna would exceed the 200 $\mu\text{W}/\text{cm}^2$ uncontrolled environment limitation.⁵

Glendive is not considering this design of antenna, and such an antenna will not be utilized at the facility. All other styles of antennae specified in *FM Model* yield much lower calculated power density values at ground level. Of the remaining antenna types represented in *FM Model*, the design with the greatest predicted power density at ground level is the RCA BFC model antenna, which similarly is not being considered. Nevertheless, until a final antenna model is determined, the predicted BFC power density at ground level of 84.3 $\mu\text{W}/\text{cm}^2$ will serve as the upper bound for the predicted human exposure levels. This value is less than the maximum permitted under the uncontrolled environment condition, thus it can be said with certainty at this point, that the proposed facility will not cause a human exposure danger.

Glendive will coordinate with all other present and future users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power, or cessation of operation.

The proposed facility would continue to comply with the multiple ownership provisions of Section 73.3555 of the Commission's Rules. The proposed facility is licensed to Glendive Broadcasting Corp. The owner of Glendive also owns several other entities with broadcast facilities in the region. The table on the next page lists all related facilities in the region.

⁵ Calculated power density also is based on use of 10-bay full-wavelength spaced antenna.

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Callsign	City of License	Facility ID	Licensee
KXWI(FM)	Williston, ND	190377	Glendive Broadcasting Corp.
KDSR(FM)	Williston, ND	56970	Williston Community Broadcasting Corporation
KGCX(FM)	Sidney, MT	84342	Sidney Community Broadcasting Corporation
KXDI(FM)	Belfield, MT	189497	Williston Community Broadcasting Corporation
KIKC-FM	Forsyth, MT	48300	Miles City Forsyth Broadcasting Corporation
KYUS-FM	Miles City, MT	42380	Custer County Community Broadcasting Corporation
KDZN(FM)	Glendive, MT	24285	Magic Air Communications
KIKC	Forsyth, MT	48301	Miles City Forsyth Broadcasting Corporation
KMTA	Miles City, MT	42379	Custer County Community Broadcasting Corporation
KXGN	Glendive, MT	24285	Glendive Broadcasting Corp.

Exhibit E-2 illustrates the principal community coverage contours of these facilities. It should be noted that the blue contour is utilized for both KXWI and KDSR, as following the submission of this application, and the related correction application for KDSR, both facilities will have identical centers of radiation and effective radiated power values yielding identical contours. In addition to the contour overlap that would exist between these two facilities, the 70 dBu service contour of KGCX(FM) at Sidney, Montana, would also overlap these two facilities. As a result, a contour market consisting of three FM stations would be created.

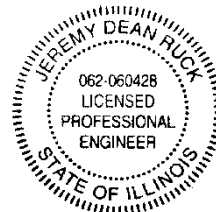
Under the Commission's Rules, it is therefore necessary and sufficient to demonstrate that Glendive, and its associated entities, would not control greater than fifty percent of the facilities serving the above described contour market. Exhibit E-3 analyzes this market and illustrates additional facilities in the region. As this map demonstrates, there are at least five additional FM facilities that have contour overlap with the facilities comprising the market. As a result, the proposed facility remains in compliance with Section 73.3555 of the Commission's Rules.

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The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2013

Jeremy D. Ruck, PE
April 17, 2013

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4.17.2013

BNPH20120529AHU
Latitude: 48-03-31 N
Longitude: 104-00-05 W
ERP: 100.00 kW
Channel: 253
Frequency: 98.5 MHz
AMSL Height: 875.8 m
Elevation: 736.508 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Proposed 70 dBu
Service ContourProposed 60 dBu
Service Contour

Exhibit E-1
Predicted FCC Service Contours
KXWI(FM) - Williston, North Dakota
Glendive Broadcasting Corp.
April, 2013

Community of License
Williston, North Dakota

Scale 1:1,000,000

