



Kessler and Gehman Associates
Consultants • Broadcast • Wireless

MINOR MODIFICATION TO A PENDING DIGITAL LPTV APPLICATION

CALL SIGN: K1700-D
FCC File No.: 000201121
FACILITY ID: 182499
LOCATION: Sioux Falls, SD

Prepared For:

Roseland Broadcasting, Inc.
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Prepared By:

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TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 2

2.0 MINOR MODIFICATION CLASSIFICATION 2

3.0 STATION TRANSMITTER LOCATION AND REQUEST FOR WAIVER..... 3

4.0 ALLOCATION ANALYSIS 4

5.0 RADIO FREQUENCY RADIATION (RFR) COMPLIANCE..... 4

6.0 CERTIFICATION..... 5

APPENDIX A – TVStudy V2.2.5 Allocation Analysis 6

APPENDIX B – 51dB μ F(50,90) Permitted and Proposed Contour..... 8

APPENDIX C – Far Field Exposure to RF Emissions 9

1.0 EXECUTIVE SUMMARY

Roseland Broadcasting, Inc. is the licensee of a digital low power television broadcast station having call sign K1700-D. K1700-D has a construction permit¹ and a pending application². It is proposed to amend the pending application to:

- replace the CL-1469B directional antenna with a Kathrein 78010325
- change the relative field pattern values,
- change the antenna rotation from 150 to 355
- increase the ERP from 0.05kW to 4.7kW,
- change the polarization from horizontal to elliptical,

No other changes are proposed.

2.0 MINOR MODIFICATION CLASSIFICATION

Pursuant to § 74.787(b) the proposed changes in Section 1.0 are considered “minor” since there is there is

- no change in frequency output proposed,
- no change in location where the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facility of the existing station,
- or no change in transmitting antenna location greater than 30 miles (48 kilometers) from the reference coordinates of the existing station's antenna location.

¹ FCC File No.: BNPDTL-20090825AWE

² FCC File No.: 0000201121

3.0 STATION TRANSMITTER LOCATION AND REQUEST FOR WAIVER

During the 2009-2010 rural translator filing window³ the FCC accepted an application⁴ for an original construction permit for a facility located at NAD83 coordinates 43° 27' 28.0" North Latitude and 96° 40' 15.0" West Longitude and was later amended and granted a construction permit at NAD83 site coordinates 42° 42' 15.0" North Latitude and 089° 59' 42.0" West Longitude. The amended application was filed as a “minor” modification; however, it proposed a 340.7 mile (548.2 km) site change and was erroneously granted a construction permit by the Commission in clear violation of § 74.787(b) which allows a site change up to 48km. The granted permit is also 64.4km from the reference coordinates of Madison, WI which is a violation of the 121km distance restriction as specified in Appendix A of the rural translator public notice.

The instant applicant assumed transfer of control of K1700-D after the construction permit was granted. The applicant was not aware that the facility was subject to the rural filing window site restrictions since the facility is well within 121km of Madison, WI with a long-standing construction permit; furthermore, there seems to be no official record of stations subject to the rural translator filing window restrictions to reference. The applicant assumed control of K1700-D with the intent of filing a minor modification compliant with § 74.787(b) specifically to provide programming to Hispanic populations in Madison, WI. The construction permit and herein proposed modification application serves 1,333 and 17,770 Hispanic populations respectively according to 2010 census data. Since the Commission granted a construction permit in significant violation of § 74.787(b) and in violation of the 2009-2010 rural translator filing window rural guidelines and the instant application is requesting a minor modification with a *de minimis* site change to provide a significant Hispanic population coverage gain, it is respectfully requested to waive the 2009-2010

³ [DA 09-1487 Released June 29, 2009](#)

⁴ FCC File No.: BNPDTL-20090825AWE

rural translator filing window rural site location guideline and grant the instant application.

4.0 ALLOCATION ANALYSIS

Appendix A are the summarized results from TVStudy V2.2.5 which illustrate that there are no interference failures to other facilities.

5.0 RADIO FREQUENCY RADIATION (RFR) COMPLIANCE.

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001-mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001-mile increment, the value is then converted into a percentage of the maximum allowable general

population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix C demonstrates that the peak exposure is 94.7% of the most restrictive permissible exposure threshold and there are no other sources of RF to consider. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

6.0 CERTIFICATION

The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed March 7, 2023.

Kessler and Gehman Associates, Inc.



Ryan Wilhour
Consulting Engineer

K1700-D – Construction Permit Minor Modification

Sioux Falls, SD

APPENDIX A – TVStudy V2.2.5 Allocation Analysis

Study created: 2023.03.06 07:47:51

Study build station data: LMS TV 2023-03-05

Proposal: NEW D17 LD APP SIOUX FALLS, SD
File number: BLANK0000201121
Facility ID: 182499
Station data: User record
Record ID: 1238
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

| IX | Call | Chan | Svc | Status | City, State | File Number | Distance |
|----|----------|------|-----|--------|------------------|--------------------|----------|
| No | WTVO | D16 | DT | LIC | ROCKFORD, IL | BLCDT20021024AAS | 92.3 km |
| No | W16DU-D | D16 | LD | LIC | BLOOMINGTON, WI | BLANK0000062263 | 99.7 |
| No | WYTU-LD | D16 | LD | LIC | MILWAUKEE, WI | BLANK0000084618 | 146.5 |
| No | K17MH-D | D17 | LD | LIC | CEDAR FALLS, IA | BLANK0000177243 | 253.0 |
| No | KWQC-TV | D17 | DT | LIC | DAVENPORT, IA | BLANK0000097891 | 173.8 |
| No | KDIT-CD | D17- | DC | LIC | Des Moines, IA | BLANK0000199021 | 344.7 |
| No | KDIT-LD | D17 | LD | LIC | FORT DODGE, IA | BLANK0000176977 | 363.4 |
| No | WLFC-LD | D17 | LD | LIC | DECATUR, IL | BLANK0000121247 | 347.4 |
| No | W17EH-D | D17 | LD | LIC | QUINCY, IL | BLANK0000169061 | 365.8 |
| No | W17EH-D | D17 | LD | CP | QUINCY, IL | BLANK0000185140 | 362.9 |
| No | WYIN | D17 | DT | CP | GARY, IN | BLANK0000210997 | 266.2 |
| No | WYIN | D17 | DT | LIC | GARY, IN | BLEDT20040206AAA | 266.2 |
| No | WPBI-LD | D17 | LD | LIC | LAFAYETTE, IN | BLANK0000088160 | 375.5 |
| No | WOTV | D17 | DT | LIC | BATTLE CREEK, MI | BLANK0000141782 | 350.8 |
| No | WMNN-LD | D17 | LD | LIC | LAKE CITY, MI | BLANK0000118076 | 380.4 |
| No | K17MX-D | D17 | LD | LIC | FROST, MN | BLANK0000062750 | 345.7 |
| No | KMWE-LD | D17 | LD | APP | SAINT CLOUD, MN | BLANK0000203353 | 344.4 |
| No | KMWE-LD | D17 | LD | LIC | SAINT CLOUD, MN | BLANK0000163947 | 390.5 |
| No | WEAU | D17 | DT | LIC | EAU CLAIRE, WI | BLANK0000120880 | 208.7 |
| No | WGBD-LD | D17 | LD | LIC | GREEN BAY, WI | BLANK0000068358 | 209.0 |
| No | WBME-CD | D17 | DC | LIC | MILWAUKEE, WI | BLANK0000086894 | 146.5 |
| No | W17DZ-D | D17 | LD | LIC | SISTER BAY, WI | BLANK0000086983 | 325.0 |
| No | KYIN | D18 | DT | LIC | MASON CITY, IA | BLEDT20090612AHJ | 246.7 |
| No | KRIN | D18 | LD | APP | WATERLOO, IA | BDRTEDT20120604AFO | 90.8 |
| No | WMEU-CD | D18 | DC | LIC | CHICAGO, IL | BLANK0000086889 | 212.7 |
| No | WMEU-CD | D18 | DC | CP | CHICAGO, IL | BLANK0000196962 | 212.3 |
| No | DWMKB-LP | D18z | LD | APP | Rochelle, IL | BLANK0000054707 | 120.6 |
| No | WLUK-TV | D18 | DT | LIC | GREEN BAY, WI | BLANK0000199689 | 209.0 |
| No | WMSN-TV | D18 | DT | LIC | MADISON, WI | BLANK0000113879 | 16.6 |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D17
Mask: Full Service
Latitude: 43 0 33.90 N (NAD83)
Longitude: 89 43 45.30 W
Height AMSL: 381.0 m (Adjusted based on actual ground elevation calculation)
HAAT: 65.1 m
Peak ERP: 4.70 kW
Antenna: Kathrein 75010325 355.0 deg
Elev Pattnr: Generic

49.0 dBu contour:

K1700-D – Construction Permit Minor Modification

Sioux Falls, SD

| Azimuth | ERP | HAAT | Distance |
|---------|----------|--------|----------|
| 0.0 deg | 0.022 kW | 82.2 m | 11.9 km |
| 45.0 | 1.12 | 61.5 | 26.8 |
| 90.0 | 4.52 | 69.7 | 34.9 |
| 135.0 | 0.596 | 78.2 | 26.0 |
| 180.0 | 0.010 | 50.6 | 7.7 |
| 225.0 | 0.000 | 69.3 | 4.2 |
| 270.0 | 0.000 | 14.7 | 1.7 |
| 315.0 | 0.001 | 95.2 | 6.5 |

Distance to Canadian border: 546.5 km

Distance to Mexican border: 1800.5 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 97.0 degrees Distance: 310.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 261.4 degrees Distance: 1324.8 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

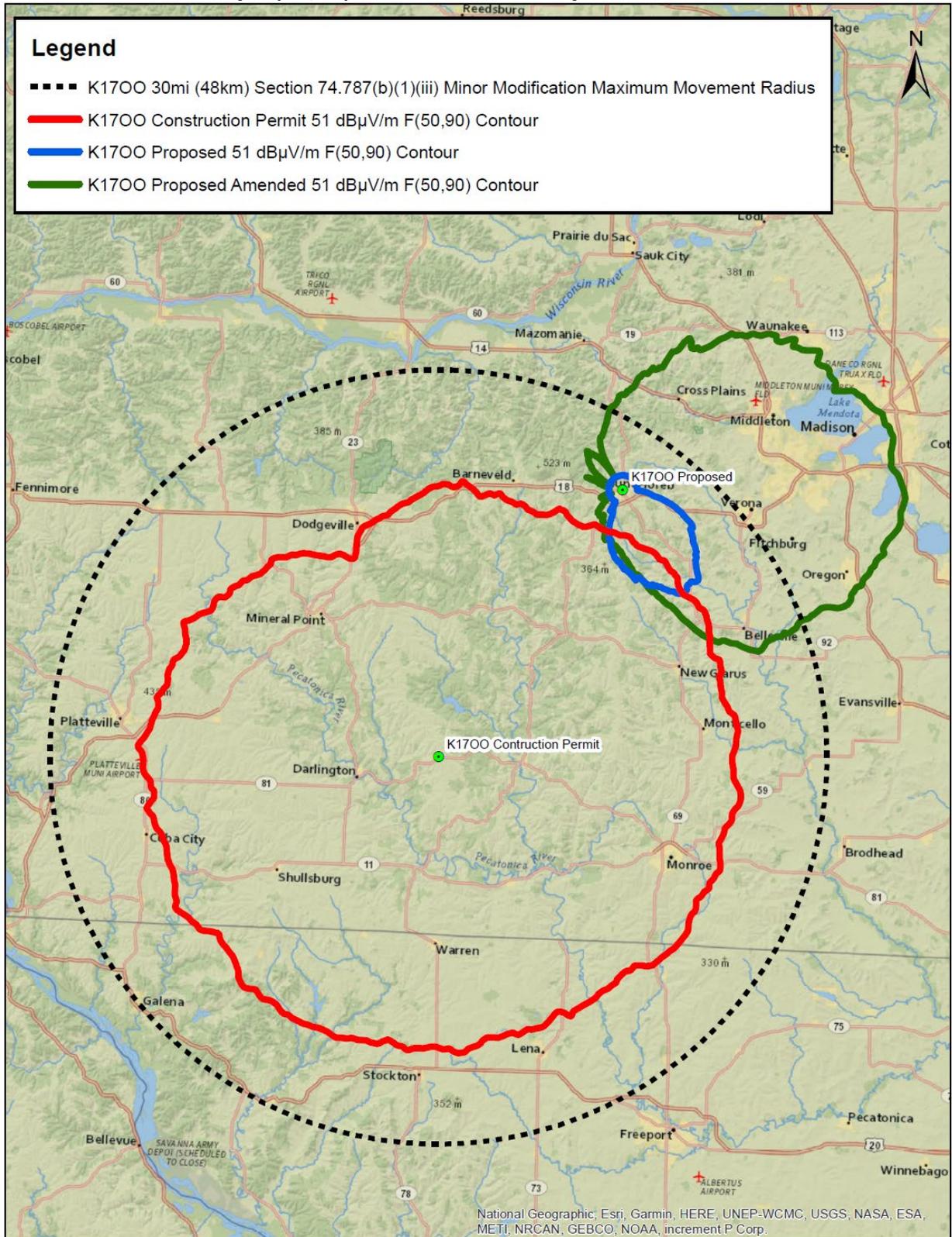
---- Below is IX received by proposal BLANK0000201121 ----

Proposal receives 67.50% interference from scenario 1
Proposal receives 67.50% interference from scenario 2
No IX check failures found.

K1700-D – Construction Permit Minor Modification

Sioux Falls, SD

APPENDIX B – 51dB μ V/m F(50,90) Permitted and Proposed Contour



APPENDIX C – Far Field Exposure to RF Emissions

