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DIGITAL LPTV FACILITY
MINOR CHANGE APPLICATION
K36QD-LD
FCC FACILITY ID: 68018
OMAHA, NEBRASKA

FEBRUARY 2023

ENGINEERING NARRATIVE

Minor Change Application:
K36QD-LD seeks to modify its existing LICENSE permit (LMS: 0000160449) to specific a new transmission site and antenna system parameters. The proposed antenna is a SCA, "PR-TV CUS" horizontally polarized directional UHF parabolic antenna system. A full-service filter mask is to be employed. The facility requested is not contingent upon a grant or channel move of any other known facility at the time of filing.

Maximum Effective Radiated Power (ERP) is 3-kilowatts, horizontal polarization only.

Modification Compliance:
Pursuant to 47 CFR §74.787(b) the instant application is considered a "minor" change because;

- There is no change in transmitting antenna location such that the protected service contour resulting from the change does not overlap some portion of the protected service contour of the authorized facility of the station license as illustrated in Figure 1, Present & Proposed Service Contours.

- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station construction permit antenna location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSE AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING	41-23-27.00 N	096-54-25.00 W	41.11	25.54
PROPOSED LIC MOD	41-22-45.80 N	096-24-56.70 W		

FCC Tower Registration (ASR) 1255550 - FAA Notification:
The proposed antenna mounting structure is 78.6 meter in overall height above ground level (AGL) and has been issued a Antenna Structure Registration (ASR) number 1255550 by the Commission's Wireless Bureau. This is an existing communication tower that does not require further FAA notification as no changes in the supporting structure is required. The antenna is to be side-mounted on the structure at the 48.7 meter AGL level.

Antenna Elevations:
The ground elevation at the site is 1784.0 meters above mean sea level (AMSL). The center of radiation of the proposed antenna is 48.0 meters above ground level (AGL). Thus, the center of radiation is 1832.0 meters above mean sea level (AMSL), as tabulated below:

ALL ELEVATIONS IN METERS

GROUND ELEVATION	355.7
SUPPORTING STRUCTURE OVERALL HEIGHT AGL	78.6
ANTENNA HEIGHT AGL	48.7
ANTENNA RCAMSL	404.4

FCC TVStudy Results:
The results of a interference study of the proposal using the FCC TVStudy program (Version 2.2.5), shows that no prohibitive interference will occur from the proposal. A copy of the summary report has been included in this application. The applicant accepts any incoming interference that is predicted to exist to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted.

Environmental Evaluation Statement:
The environmental evaluation statement concerning this proposal has been included in this application and can be found as a separate file upload within the application. A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in the environmental evaluation statement.

February 24, 2023

Timothy Z. Sawyer, Consulting Engineer

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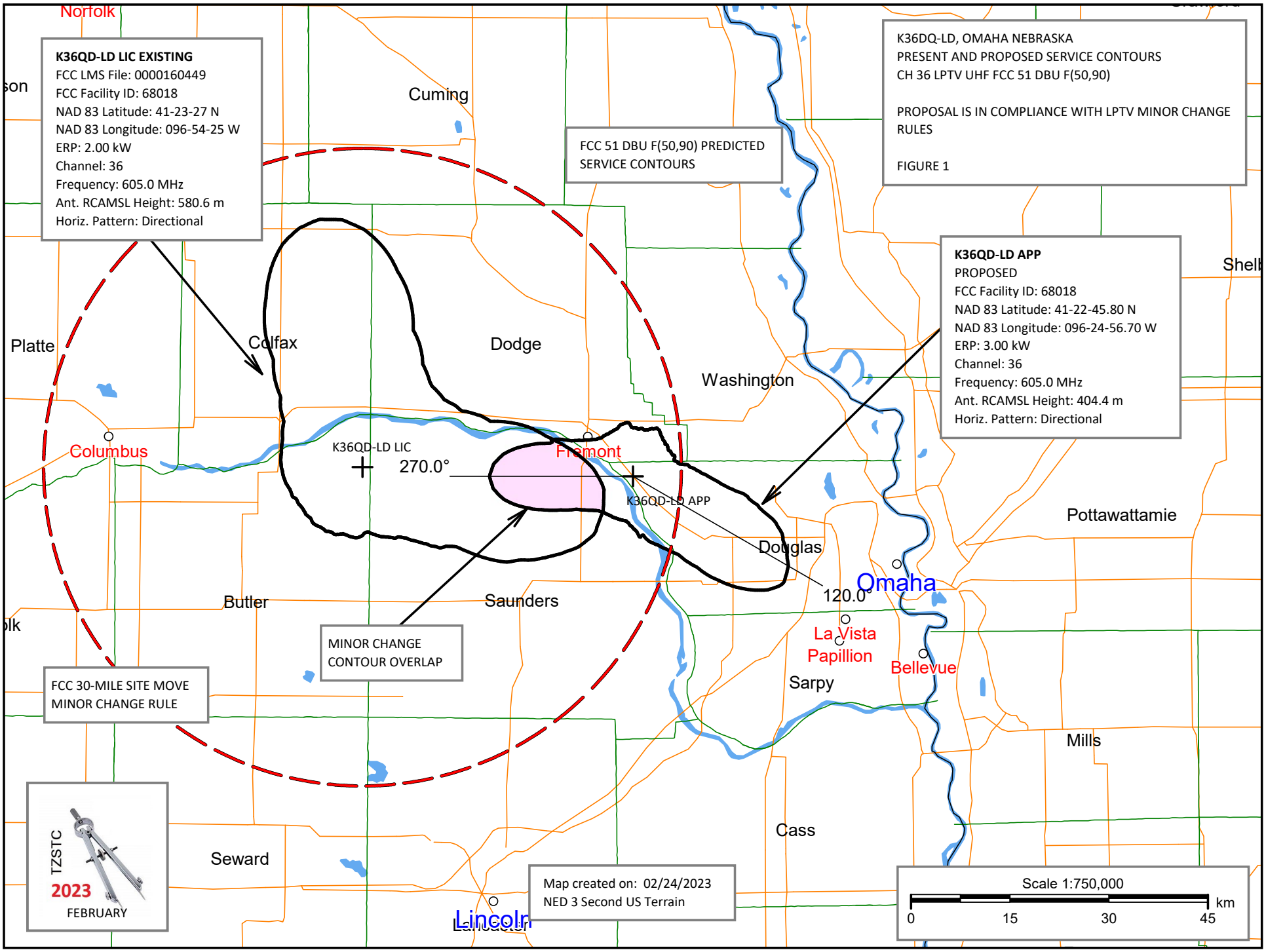
K36QD-LD LIC EXISTING
FCC LMS File: 0000160449
FCC Facility ID: 68018
NAD 83 Latitude: 41-23-27 N
NAD 83 Longitude: 096-54-25 W
ERP: 2.00 kW
Channel: 36
Frequency: 605.0 MHz
Ant. RCAMSL Height: 580.6 m
Horiz. Pattern: Directional
FCC 51 DBU F(50,90) PREDICTED SERVICE CONTOURS
K36DQ-LD, OMAHA NEBRASKA
PRESENT AND PROPOSED SERVICE CONTOURS
CH 36 LPTV UHF FCC 51 DBU F(50,90)
PROPOSAL IS IN COMPLIANCE WITH LPTV MINOR CHANGE RULES
FIGURE 1
K36QD-LD APP
PROPOSED
FCC Facility ID: 68018
NAD 83 Latitude: 41-22-45.80 N
NAD 83 Longitude: 096-24-56.70 W
ERP: 3.00 kW
Channel: 36
Frequency: 605.0 MHz
Ant. RCAMSL Height: 404.4 m
Horiz. Pattern: Directional
Norfolk
Cuming
Platte
Colfax
Dodge
Washington
Columbus
K36QD-LD LIC
270.0°
Fremont
K36QD-LD APP
120.0°
Douglas
Omaha
Pottawattamie
Butler
Saunders
La Vista
Papillion
Bellevue
Sarpy
Mills
Cass
Seward
Lincoln
MINOR CHANGE CONTOUR OVERLAP
FCC 30-MILE SITE MOVE MINOR CHANGE RULE
TZSTC
2023
FEBRUARY
Map created on: 02/24/2023
NED 3 Second US Terrain
Scale 1:750,000
0
15
30
45
km

FIGURE 2 - K36QD-LD SCA PR-TV CUS ANTENNA PATTERN

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	0.821
20.0	0.456
30.0	0.205
40.0	0.132
50.0	0.101
60.0	0.096
70.0	0.095
80.0	0.095
90.0	0.096
100.0	0.101
110.0	0.132
120.0	0.205
130.0	0.456
140.0	0.821
150.0	1.0
160.0	0.812
170.0	0.443
180.0	0.184
190.0	0.113
200.0	0.084
210.0	0.08
220.0	0.084
230.0	0.086
240.0	0.09
250.0	0.088
260.0	0.088
270.0	0.09
280.0	0.086
290.0	0.084
300.0	0.08
310.0	0.084
320.0	0.113
330.0	0.184
340.0	0.443
350.0	0.812

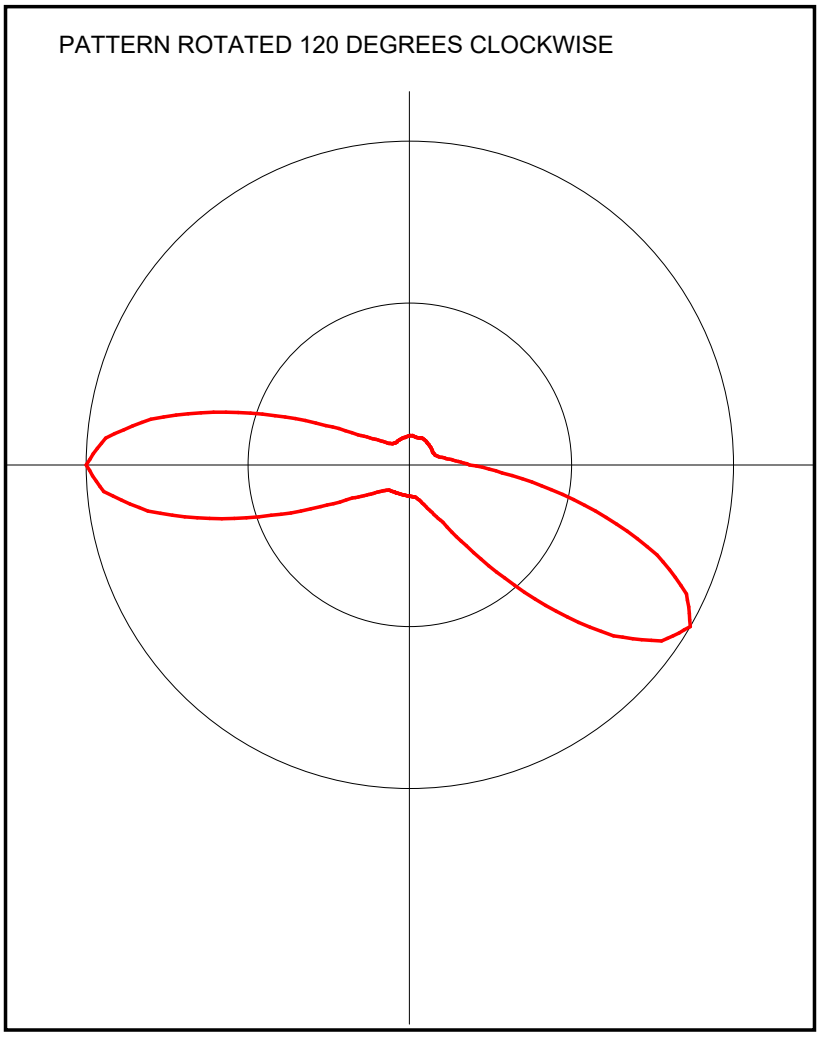

FIGURE 3 - K36QD-LD MINOR CHANGE APPLICATION
FCC TVSTUDY SUMMARY REPORT

CELL SIZE 1.0 KM
PROFILE 1.0 SPACING

Study build station data: LMS TV 2023-02-22

```
    Proposal: K36QD-D D36 LD APP Omaha, NE
 File number: K36DQ APP
 Facility ID: 68018
Station data: User record
   Record ID: 689
     Country: U.S.
```

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

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	KHIN	D35	DT	LIC	RED OAK, IA	BLANK0000030114	96.8 km
No	KLKN	D35	LD	CP	LINCOLN, NE	BLANK0000120472	70.9
No	KNEN-LD	D35	LD	LIC	NORFOLK, NE	BLANK0000004598	105.3
No	KFPX-TV	D36	DT	LIC	NEWTON, IA	BLANK0000063434	237.1
No	K36IO-D	D36	LD	LIC	MANHATTAN, KS	BLDTL20090908ADI	239.9
No	KWKD-LD	D36	LD	CP	WICHITA, KS	BLANK0000200077	409.0
No	KAAL	D36	DT	LIC	AUSTIN, MN	BLCDT20091110AAF	405.9
No	K36KW-D	D36	LD	LIC	REDWOOD FALLS, MN	BLDTT20120604AAT	371.5
No	KSHB-TV	D36	DT	LIC	KANSAS CITY, MO	BLANK0000153577	311.1
No	K36MO-D	D36	LD	LIC	LINCOLN, NE	BLANK0000198096	113.7
No	K36MO-D	D36	LD	CP	LINCOLN, NE	BLANK0000193301	113.7
No	KWSD	D36	DT	LIC	SIOUX FALLS, SD	BLCDT20100201AFD	236.6
No	KWSD	D36	DT	CP	SIOUX FALLS, SD	BLANK0000035767	236.6

No non-directional AM stations found within 0.8 km
No directional AM stations found within 3.2 km

Record parameters as studied:

```
    Channel: D36
       Mask: Full Service
   Latitude:  41 22 45.80 N (NAD83)
  Longitude:  96 24 56.70 W
Height AMSL: 404.4 m
       HAAT: 0.0 m
   Peak ERP: 3.00 kW
    Antenna: SCA PR-TV CUS 120.0 deg
Elev Pattrn: Generic
```

50.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.024 kW	37.7 m	7.4 km
45.0	0.022	34.7	7.0
90.0	0.102	44.0	11.5
135.0	1.23	57.2	24.5
180.0	0.028	38.5	7.8
225.0	0.038	18.3	7.5
270.0	3.00	12.1	22.1
315.0	0.027	41.2	7.9

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 35 m

Distance to Canadian border: 819.5 km
Distance to Mexican border: 1365.8 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 253.9 degrees Distance: 176.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 262.5 degrees Distance: 753.7 km

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%

Proposal causes 0.05% interference to BLANK0000030114 LIC scenario 1
Proposal causes no interference to K36DQ APP APP

No IX check failures found.

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K36QD-LD
LPTV CHANNEL 36 OPERATION
FACILITY ID: 68018
OMAHA, NEBRASKA
FEBRUARY 2023

ENVIRONMENTAL EVALUATION STATEMENT

A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in this environmental evaluation statement. Any changes in equipment, or construction, if necessary will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA).

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H ONLY)

CR AGL 48.7 M ERP MAX 3.0 KW	MPE ($\mu W/CM^2$)	CALCULATED VALUE ($\mu W/CM^2$)	% OF MPE	PASS/FAIL
CONTROLLED AREA	2016.7	11.4861	0.57%	PASS
PUBLIC AREA	403.3		2.85%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

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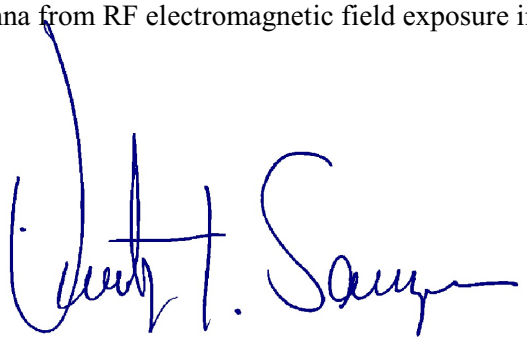

Timothy Z. Sawyer, Consulting Engineer