

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Modification of Digital Television Station Construction Permit

prepared for

Sarkes Tarzian, Inc.
KTVN(DT) Reno, NV
Facility ID 59139
Ch. 11 20.6 kW 891 m

Sarkes Tarzian, Inc. (“STI”) is the licensee of digital television station KTVN(DT), Channel 13, Facility ID 59139, Reno, NV. Reassignment of KTVN from Channel 13 to Channel 11 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice* (“CCRPN”, DA 17-317, released April 13, 2017). STI herein proposes modification of the KTVN Channel 11 Construction Permit (“CP”, file# 0000025333). This application is intended to be filed during the second filing window.¹ The CP authorizes operation with an effective radiated power (“ERP”) of 15.9 kW at 891 meters antenna height above average terrain (“HAAT”). STI herein proposes herein to increase the ERP to 20.6 kW.

As with the current authorization, the proposed Channel 11 operation will employ the existing broadband shared antenna system utilized by the licensed KTVN facility. The tower structure is not presently registered with the FCC, as it is an existing structure of less than 61 meters overall height above ground and there are no known landing areas within 8 km according to the FCC’s “TOWAIR” slope test program. No change to the structure’s overall height is proposed. FAA notification and commensurate FCC registration are not necessary.

Figure 1 supplies a map that demonstrates compliance with §73.625(a)(1) regarding coverage of the entire principal community. The proposed facility’s predicted population exceeds 95 percent of the CCRPN baseline facility’s population.

¹Public Notice “*Incentive Auction Task Force and Media Bureau Announce the Opening of the Second Filing Window for Eligible Full Power and Class A Television Station—October 3 Through November 2, 2017*” DA 17-911, released September 20, 2017.

Interference study per FCC OET Bulletin 69² shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby post-auction full service and Class A television stations and reassignments as required by §73.616. The interference study output report is provided as Table 1.

The proposed 20.6 kW ERP exceeds the maximum allowed for the proposed antenna HAAT of 891 meters permitted by §73.622(f)(7). Section 73.622(f)(5) permits the maximum ERP to be exceeded in order to provide the same geographic coverage area as the largest station within the same market. The total area within the proposed KTVN NLSC is 49,168 square kilometers, which does not exceed the contour area of KREN-TV (49,197 sq. km, Ch. 26, Reno, NV, BLCDDT-20090227AAM). Thus, the 20.6 kW ERP specified herein is in compliance with §73.622(f)(5) of the FCC's Rules.

The nearest FCC monitoring station is 240 km distant at Livermore, CA. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 kilometers of the site. The site location is beyond the border areas requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The transmitting location is on Slide Mountain overlooking Reno. There are numerous other transmitting facilities at this site area situated on various antenna supporting structures. *STI* participates in a radiofrequency ("RF") electromagnetic field exposure safety program, along with other broadcasters and FCC licensees that utilize the Slide Mountain site area. Following construction of the proposed facility, *STI* will conduct RF exposure measurements (and/or detailed calculations) to evaluate the level of RF exposure resulting from the proposed KTVN

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 2 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

facility. As necessary, based on these results and considering all emitters, appropriate exposure abatement procedures will be established and followed, in order to comply with the FCC's exposure limits. Such abatement procedures may involve the restriction of access to certain areas and/or facility modifications to reduce RF levels.

Considering the post-construction measurement and an appropriate abatement program, the general public and workers will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, authorized personnel will be trained and/or supervised as necessary for access to any "controlled" areas. *STI* will coordinate exposure procedures with all pertinent stations 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.

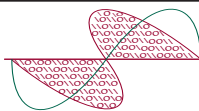
This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No tower work is required to carry out this proposal.

List of Attachments

| | |
|-----------|---|
| Figure 1 | Proposed Coverage Contours |
| Figure 2 | Maximum ERP per §73.622(f) |
| Table 1 | OET Bulletin 69 Interference Study |
| Form 2100 | Saved Version of Engineering Sections from FCC Form at Time of Upload |

Chesapeake RF Consultants, LLC

| | | |
|-----------------------|--------------------|--------------|
| Joseph M. Davis, P.E. | October 9, 2017 | |
| 207 Old Dominion Road | Yorktown, VA 23692 | 703-650-9600 |



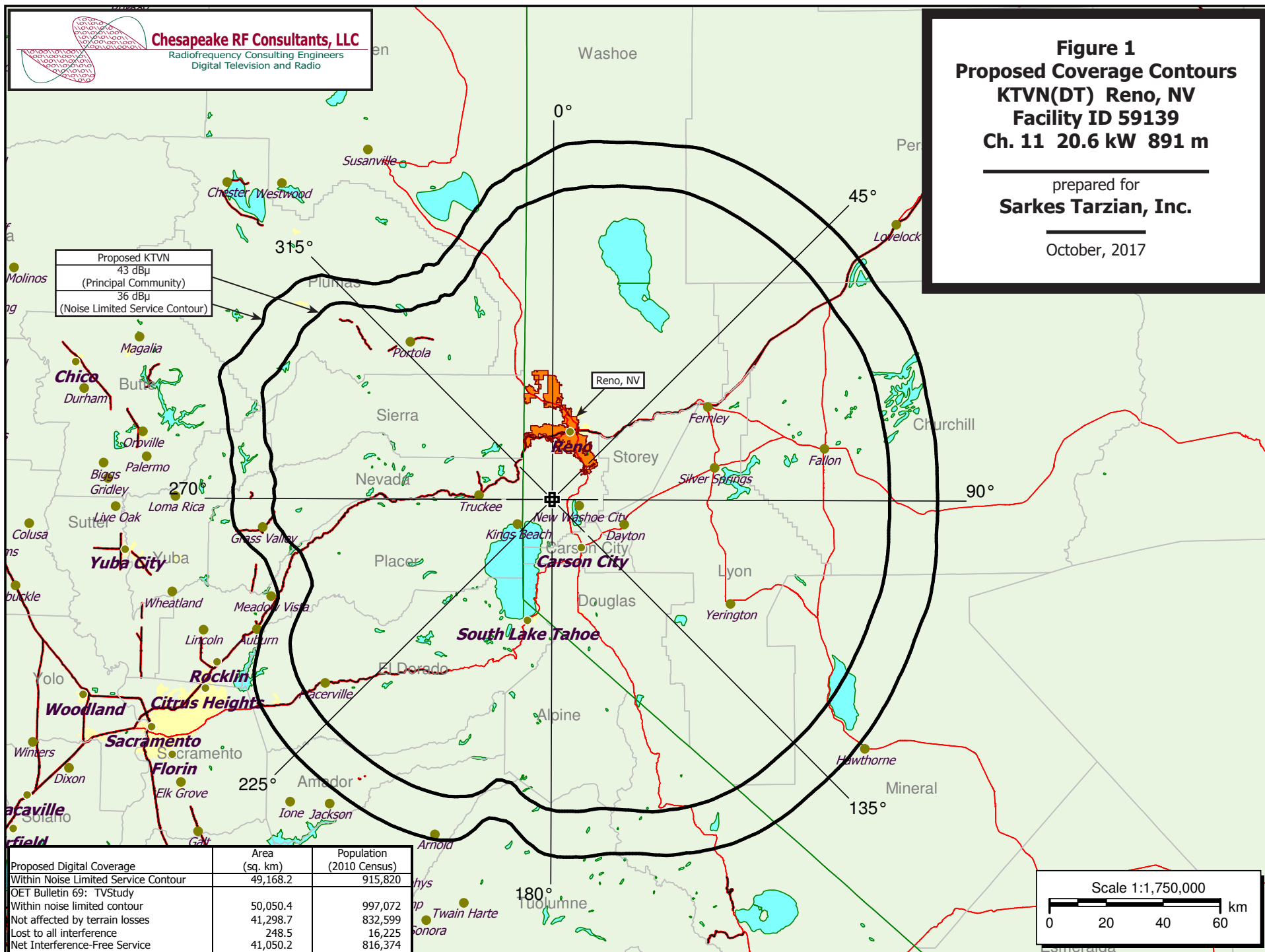
Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1
Proposed Coverage Contours
KTVN(DT) Reno, NV
Facility ID 59139
Ch. 11 20.6 kW 891 m

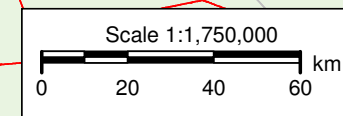
prepared for
Sarkes Tarzian, Inc.

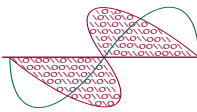
October, 2017

| |
|---------------------------------|
| Proposed KTVN |
| 43 dBμ |
| (Principal Community) |
| 36 dBμ |
| (Noise Limited Service Contour) |



| Proposed Digital Coverage | Area (sq. km) | Population (2010 Census) |
|--------------------------------------|------------------|-----------------------------|
| Within Noise Limited Service Contour | 49,168.2 | 915,820 |
| OET Bulletin 69: TVStudy | | |
| Within noise limited contour | 50,050.4 | 997,072 |
| Not affected by terrain losses | 41,298.7 | 832,599 |
| Lost to all interference | 248.5 | 16,225 |
| Net Interference-Free Service | 41,050.2 | 816,374 |





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Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 2
Maximum ERP per §73.622(f)
KTVN(DT) Reno, NV
Facility ID 59139
Ch. 11 20.6 kW 891 m

prepared for
Sarkes Tarzian, Inc.

October, 2017

Proposed KTVN
36 dBu Contour
Area: 49,168 sq. km

KREN-TV Ch. 26 Reno, NV
BLCDT-20090227AAM
39.95 dBu Contour
Area: 49,197 sq. km

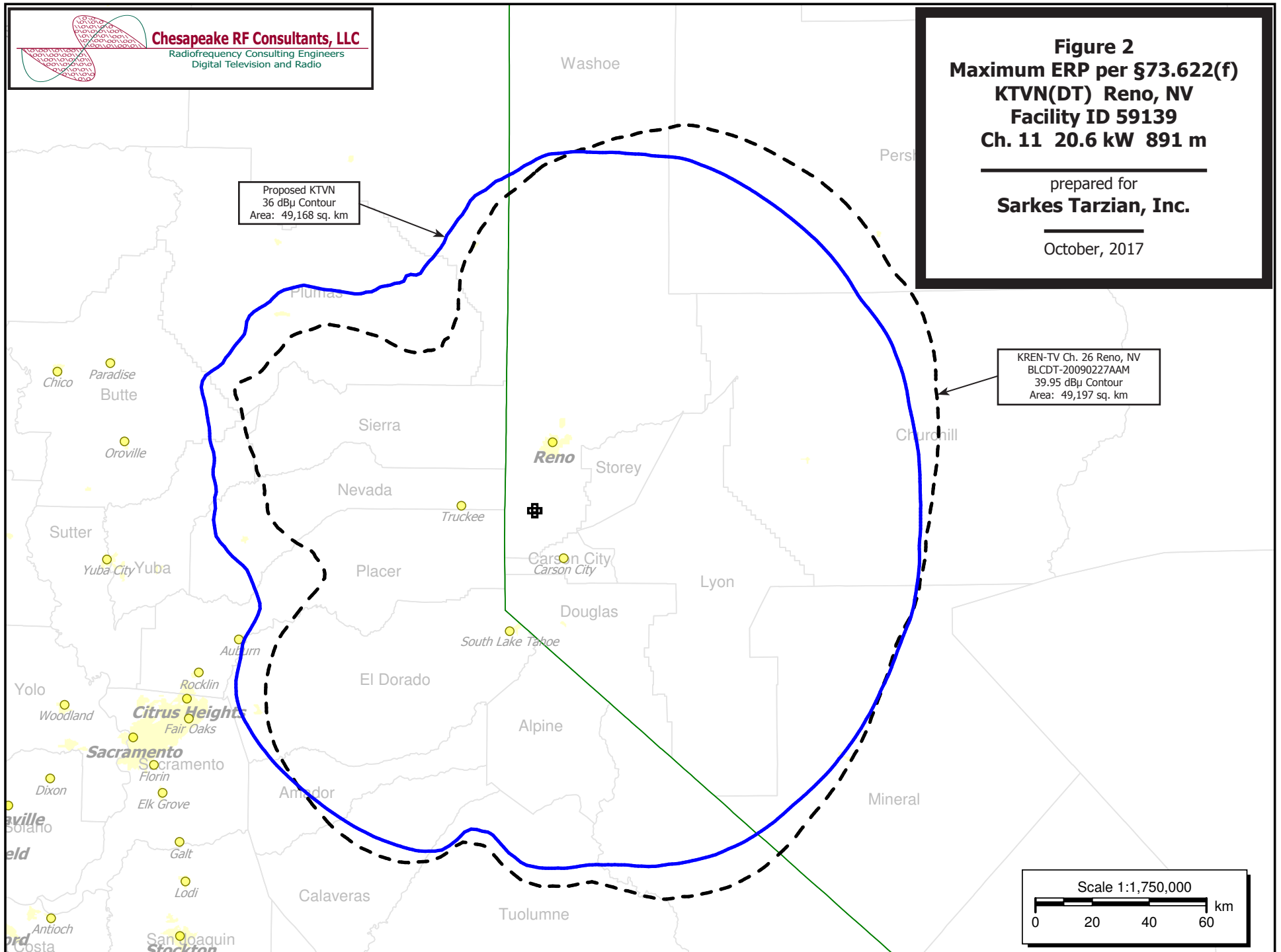
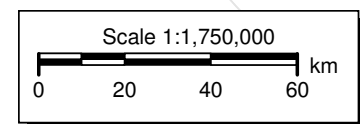
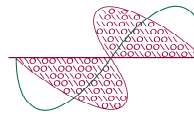


Table 1 KTVN(DT) OET Bulletin 69 Interference Study
(page 1 of 2)



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

tvstudy v2.2.3 (6K70F1)
Database: localhost, Study: KTVN 20.6kW Prop, Model: Longley-Rice
Start: 2017.10.09 15:37:37

Study created: 2017.10.09 15:37:17

Study build station data: LMS TV 2017-10-07 LMSTV

Proposal: KTVN D11 DT APP RENO, NV
File number: KTVN 20.6kW Prop
Facility ID: 59139
Station data: User record
Record ID: 1334
Country: U.S.
Zone: II

Stations potentially affected by proposal:

| IX | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-----|---------|------|-----|--------|----------------|------------------|----------|
| No | KXTV | D10 | DT | LIC | SACRAMENTO, CA | BLCDT20120201AAM | 184.2 km |
| No | KEET | D11 | DT | LIC | EUREKA, CA | BLANK0000005864 | 381.7 |
| Yes | KNSO | D11 | DT | LIC | MERCED, CA | BLCDT20100202ABE | 252.5 |
| Yes | KCBA | D11 | DT | CP | SALINAS, CA | BLANK0000028196 | 317.8 |
| No | KRNV-DT | D12 | DT | CP | RENO, NV | BLANK0000027998 | 0.0 |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D11
Latitude: 39 18 56.20 N (NAD83)
Longitude: 119 53 6.00 W
Height AMSL: 2976.4 m
HAAT: 891.4 m
Peak ERP: 20.6 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 1.90

36.0 dBu contour:

| Azimuth | ERP | HAAT | Distance |
|---------|---------|---------|----------|
| 0.0 deg | 20.6 kW | 679.7 m | 122.5 km |
| 45.0 | 20.6 | 1310.3 | 136.6 |
| 90.0 | 20.6 | 1245.9 | 135.4 |
| 135.0 | 20.6 | 1366.5 | 137.7 |
| 180.0 | 20.6 | 737.5 | 124.3 |
| 225.0 | 20.6 | 864.5 | 126.7 |
| 270.0 | 20.6 | 474.9 | 111.6 |
| 315.0 | 20.6 | 451.5 | 109.9 |

ERP exceeds maximum

ERP: 20.6 kW ERP maximum: 15.7 kW

**Proposal service area extends beyond baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 1032.4 km

Distance to Mexican border: 778.6 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 223.2 degrees Distance: 240.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 81.1 degrees Distance: 1252.7 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Table 1 KTVN(DT) OET Bulletin 69 Interference Study
(page 2 of 2)



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

Interference to BLCDT20100202ABE LIC, scenario 1

| Desired: | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-------------------|------|-------------------|-----|-------------------|-----------------|-------------------|----------------|
| | KNSO | D11 | DT | LIC | MERCED, CA | BLCDT20100202ABE | |
| Undesireds: | KTVN | D11 | DT | BL | RENO, NV | DTVBL59139 | 252.5 km |
| | KTVN | D11 | DT | APP | RENO, NV | KTVN 20.6kW Prop | 252.5 |
| | KXTV | D10 | DT | LIC | SACRAMENTO, CA | BLCDT20120201AAM | 223.7 |
| | KTTV | D11 | DT | LIC | LOS ANGELES, CA | BLCDT20100709AFD | 339.7 |
| | KCBA | D11 | DT | CP | SALINAS, CA | BLANK0000028196 | 187.4 |
| Service area | | Terrain-limited | | IX-free, before | | IX-free, after | Percent New IX |
| 47181.6 2,092,512 | | 42557.1 2,031,080 | | 41663.6 2,023,100 | | 41655.6 2,023,100 | 0.02 0.00 |
| Undesired | | Total IX | | Unique IX, before | | Unique IX, after | |
| KTVN D11 DT BL | | 79.3 697 | | 27.8 0 | | | |
| KTVN D11 DT APP | | 87.2 697 | | | | 35.8 0 | |
| KXTV D10 DT LIC | | 11.9 15 | | 0.0 0 | | 0.0 0 | |
| KTTV D11 DT LIC | | 52.0 402 | | 52.0 402 | | 52.0 402 | |
| KCBA D11 DT CP | | 813.8 7,578 | | 754.4 6,881 | | 754.4 6,881 | |

Interference to BLANK0000028196 CP, scenario 1

| Desired: | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-------------------|--------|-------------------|-----|-------------------|-------------------|-------------------|----------------|
| | KCBA | D11 | DT | CP | SALINAS, CA | BLANK0000028196 | |
| Undesireds: | KTVN | D11 | DT | BL | RENO, NV | DTVBL59139 | 317.8 km |
| | KTVN | D11 | DT | APP | RENO, NV | KTVN 20.6kW Prop | 317.8 |
| | KXTV | D10 | DT | LIC | SACRAMENTO, CA | BLCDT20120201AAM | 164.9 |
| | KNSO | D11 | DT | LIC | MERCED, CA | BLCDT20100202ABE | 187.4 |
| | KGO-TV | D12 | DT | CP | SAN FRANCISCO, CA | BLANK0000025366 | 139.3 |
| Service area | | Terrain-limited | | IX-free, before | | IX-free, after | Percent New IX |
| 32366.1 3,094,778 | | 24596.2 2,327,400 | | 22838.8 1,319,880 | | 22826.8 1,319,880 | 0.05 0.00 |
| Undesired | | Total IX | | Unique IX, before | | Unique IX, after | |
| KTVN D11 DT BL | | 99.8 20,497 | | 8.0 0 | | | |
| KTVN D11 DT APP | | 123.8 20,800 | | | | 20.0 0 | |
| KXTV D10 DT LIC | | 4.0 0 | | 0.0 0 | | 0.0 0 | |
| KNSO D11 DT LIC | | 1091.4 85,889 | | 859.9 2,403 | | 851.9 2,100 | |
| KGO-TV D12 DT CP | | 813.6 1,004,575 | | 658.0 921,631 | | 658.0 921,631 | |

Interference to proposal, scenario 1
1.95% interference

| Desired: | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-----------------|------|-----------------|-----|-----------------|----------------|------------------|----------|
| | KTVN | D11 | DT | APP | RENO, NV | KTVN 20.6kW Prop | |
| Undesireds: | KXTV | D10 | DT | LIC | SACRAMENTO, CA | BLCDT20120201AAM | 184.2 km |
| | KNSO | D11 | DT | LIC | MERCED, CA | BLCDT20100202ABE | 252.5 |
| | KCBA | D11 | DT | CP | SALINAS, CA | BLANK0000028196 | 317.8 |
| Service area | | Terrain-limited | | IX-free | | Percent IX | |
| 50050.4 997,072 | | 41298.7 832,599 | | 41050.2 816,374 | | 0.60 1.95 | |
| Undesired | | Total IX | | Unique IX | | Prct Unique IX | |
| KXTV D10 DT LIC | | 88.3 11,051 | | 40.1 4,528 | | 0.10 0.54 | |
| KNSO D11 DT LIC | | 104.3 8,088 | | 36.0 4,329 | | 0.09 0.52 | |
| KCBA D11 DT CP | | 152.3 5,744 | | 88.0 845 | | 0.21 0.10 | |

**Channel and
Facility
Information**

| Section | Question | Response |
|--------------------------------------|---------------|------------|
| Proposed Community of License | Facility ID | 59139 |
| | State | Nevada |
| | City | RENO |
| | DTV Channel | 11 |
| Facility Type | Facility Type | Commercial |
| | Station Type | Main |
| Zone | Zone | 2 |

**Antenna Location
Data**

| Section | Question | Response |
|---------------------------------------|---|----------------------|
| Antenna Structure Registration | Do you have an FCC Antenna Structure Registration (ASR) Number? | No |
| | ASR Number | |
| Coordinates (NAD83) | Latitude | 39° 18' 56.2" N+ |
| | Longitude | 119° 53' 06.0" W- |
| | Structure Type | LTOWER-Lattice Tower |
| | Overall Structure Height | 60.7 meters |
| | Support Structure Height | 50.0 meters |
| | Ground Elevation (AMSL) | 2920.9 meters |
| Antenna Data | Height of Radiation Center Above Ground Level | 55.5 meters |
| | Height of Radiation Center Above Average Terrain | 891.4 meters |
| | Height of Radiation Center Above Mean Sea Level | 2976.4 meters |
| | Effective Radiated Power | 20.6 kW |

Antenna Technical Data

| Section | Question | Response |
|--------------------------------|---|-----------------|
| Antenna Type | Antenna Type | Non-Directional |
| | Do you have an Antenna ID? | |
| | Antenna ID | |
| Antenna Manufacturer and Model | Manufacturer: | DIE |
| | Model | TF-4HT-M |
| | Rotation | 0 degrees |
| | Electrical Beam Tilt | 1.9 |
| | Mechanical Beam Tilt | Not Applicable |
| | toward azimuth | |
| | Polarization | Horizontal |
| DTV and DTS: Elevation Pattern | Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? | No |
| | Uploaded file for elevation antenna (or radiation) pattern data | |

**Construction
Permit
Certifications**

| Section | Question | Response |
|--|--|----------|
| Post-Incentive Auction Expedited Processing | It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice. | Yes |
| | It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice. | No |
| | It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice. | Yes |
| | The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. | Yes |
| Environmental Effect | Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.) | No |
| Broadcast Facility | The proposed facility complies with the applicable engineering standards and assignment requirements of 47 C. F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125. | Yes |