

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT  
(FCC FILE NO. BNPTTL-20000831AGS)  
LPTV STATION K53IL  
FACILITY ID 127180  
TWIN FALLS, IDAHO  
CH 53 150 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a modification of the construction permit for LPTV station K53IL at Twin Falls, Idaho (Facility ID: 127180; File No. BNPTTL-20000831AGS). Specifically, this modification application proposes to change the directional antenna system and increase the effective radiated power (ERP). No other changes are proposed, including no change in channel (53), frequency offset designation (+), transmitter site, antenna radiation center height above mean sea level (1632 meters), or community of license (Twin Falls). The instant application is considered a "minor change" in facilities pursuant to Section 73.3572.

It is proposed to operate on channel 53 (704-710 MHz) with a "plus" carrier frequency offset using a Superior Broadcast Products (SBP) model UP-4-SL "off-the-shelf" directional antenna system with a main lobe orientation of 25° true. The maximum ERP will be 150 kW. The SBP antenna will be mounted at the 88 meter level on the existing tower (ASR 1040175) resulting in an antenna radiation center height above mean sea level of 1632 meters.

Minor Change Application

Figure 1 depicts the licensed and herein proposed 74 dBu contours for K53IL. As indicated, the proposed 74 dBu contour encompasses the majority of the licensed 74 dBu contour. Therefore, the proposed modification is considered a "minor" change in facilities pursuant to Section 73.3572.

Response to Paragraph 13 - TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed K53IL

operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations.

Response to Paragraph 13 - DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed K53IL operation on channel 53 complies with the FCC's 0.5% interference threshold criteria to all allotted, proposed or actual DTV operating facilities on channels 52, 53 and 54. Figure 2 provides the output of study based on OET-69 Bulletin which demonstrates that the proposed K53IL operation complies with the FCC's DTV interference criteria.<sup>1</sup>

Response to Paragraph 13 - LPTV/TV Translator, Class A Station Protection

A study has been conducted which indicates that the K53IL proposal will not create prohibited interference to other existing, authorized or proposed LPTV, TV Translator and LPTV stations with the exceptions of licensed (BLTTL-20040830ACD) LPTV station KTFT-LP on channel 38 at Twin Falls, Idaho and authorized (BNPTTL-20000831AGR) LPTV station K52JI on channel 52 at Twin Falls, Idaho. However, based on consideration of terrain shielding and the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.707(e)], it is believed that K53IL's operation complies with the FCC's interference criteria. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. The results of the OET Bulletin No. 69 interference analyses are contained in Figure 2.

Environmental Considerations

The proposed K53IL LPTV facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". The calculated power density at the

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<sup>1</sup> The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. A Sun computer system was employed. The results have been found to be in agreement with the results of the FCC implementation of OET Bulletin 69.

base of the tower was calculated using the appropriate equation of the Bulletin.

Using a greater than expected vertical relative field value of 0.25, a peak visual effective radiated power of 150 kW, 10 percent aural power, and an antenna center of radiation height above ground level of 88 meters, the calculated power density at 2 meters above ground level at the base of the tower is 0.0212 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 4.5% percent of the Commission's recommended limit of  $0.47 \text{ mW}/\text{cm}^2$  for TV channel 53 applicable to general population/uncontrolled exposure areas. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

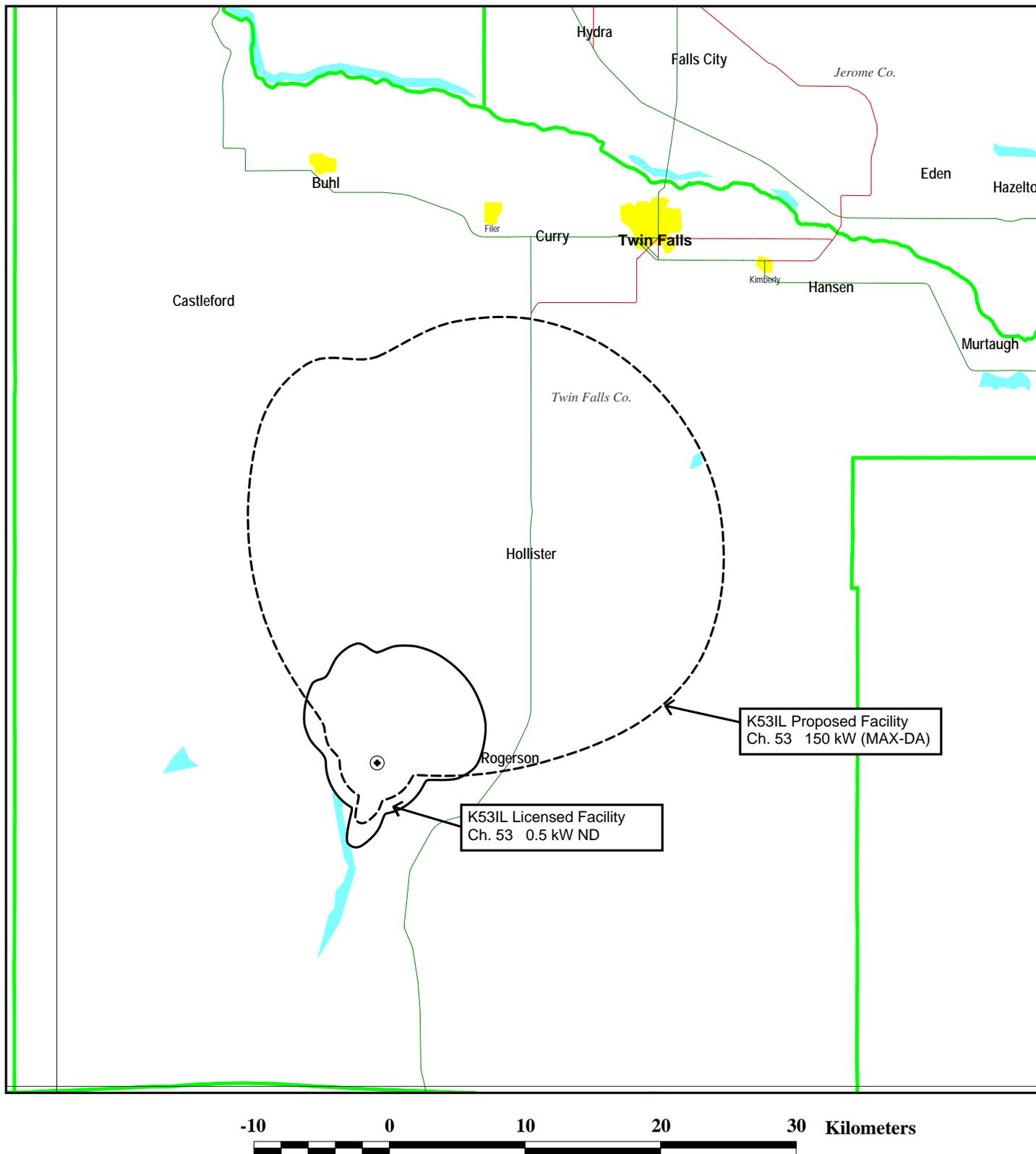
Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in place to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.



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**PREDICTED 74 DBU CONTOURS  
LPTV STATION K53IL  
TWIN FALLS, IDAHO  
CH 53 150 KW (MAX-DA)**

OET-69 TV/DTV INTERFERENCE and SPACING ANALYSIS PROGRAM

1990 Census data selected

Date: 10-20-2005 Time: 13:45:10

Record Selected for Analysis

K53IL USERRECORD-01 TWIN FALLS ID US  
Channel 53 ERP 150. kW HAAT 173. m RCAMSL 01632 m  
Latitude 042-12-53 Longitude 0114-42-42  
Status APP Zone 2 Border Offset +  
Dir Antenna Make CDB Model 00000000046271 Beam tilt N Ref Azimuth 25.  
Last update Cutoff date Docket  
Comments  
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Not full service station

Facility meets maximum power limit

Azimuth (Deg)	ERP (kW)	HAAT (m)	74.0 dBu F(50,50) (km)
0.0	100.860	140.0	29.9
45.0	116.160	172.9	33.3
90.0	3.604	114.9	11.9
135.0	0.135	33.0	2.9
180.0	0.135	51.6	3.6
225.0	0.135	33.0	2.9
270.0	0.135	33.0	2.9
315.0	0.524	107.2	7.2

Contour Overlap Evaluation from LPTV Station to Full Service TV & DTV

No Spacing violations or contour overlap from LPTV station

Contour Overlap Evaluation from LPTV to Full Service TV & DTV Complete

Contour Overlap Evaluation from LPTV Station to LPTV Stations

Contour overlap to station  
KTFT-LP 38 TWIN FALLS ID BLTTL 20040830ACD

Station inside contour of station  
K52JI 52 TWIN FALLS ID BNPTTL 20000831AGR

Contour Overlap Evaluation from LPTV to LPTV Stations Complete

Contour Overlap to Proposed Station

Station  
K52JI 52 TWIN FALLS ID BNPTTL20000831AGR

Is inside contour of station  
K53IL 53 TWIN FALLS ID USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

- Proposed facility OK to FCC Monitoring Stations
- Proposed facility OK toward West Virginia quite zone
- Proposed facility OK toward Table Mountain
- Proposed facility is beyond the Canadian coordination distance
- Proposed facility is beyond the Mexican coordination distance
- Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

Channel	Call	City/State	ARN
53	K53IL	TWIN FALLS ID	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
38	KTFT-LP	TWIN FALLS ID	62.1	LIC	BLTTL	-20040830ACD
52	K52JI	TWIN FALLS ID	0.0	CP	BNPTTL	-20000831AGR

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Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
38	KTFT-LP	TWIN FALLS ID	BLTTL -20040830ACD

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
34	KXTF-DT	TWIN FALLS ID	0.6	PLN	DTVPLN -DTVP0935
35	KXTF	TWIN FALLS ID	0.6	LIC	BLCT -19890131KI
38	KSL-TV	SALT LAKE CITY UT	294.6	LIC	BLCDT -20050614ABG
38	KSL-DT	SALT LAKE CITY UT	294.6	PLN	DTVPLN -DTVP1073
53	K53IL	TWIN FALLS ID	62.1	APP	USERRECORD-01

Total scenarios = 1

Result key: 1  
Scenario 1 Affected station 1  
Before Analysis

Results for: 38N ID TWIN FALLS BLTTL 20040830ACD LIC

	POPULATION	AREA (sq km)
within Noise Limited Contour	78571	4575.4
not affected by terrain losses	77942	4423.1
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 38N ID TWIN FALLS BLTTL 20040830ACD LIC

	POPULATION	AREA (sq km)
within Noise Limited Contour	78571	4575.4
not affected by terrain losses	77942	4423.1
lost to NTSC IX	12	8.0
lost to additional IX by ATV	0	0.0
lost to all IX	12	8.0

Potential Interfering Stations Included in above Scenario 1

53N ID TWIN FALLS USERRECORD01 APP

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
52	K52JI	TWIN FALLS ID	BNPTTL -20000831AGR

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
52	KSAW-LP	TWIN FALLS ID	62.1	LIC	BLTTL -20011220ABC
53	K53IL	TWIN FALLS ID	0.0	CP	BNPTTL -20000831AGS

53 K53IL TWIN FALLS ID 0.0 APP USERRECORD-01  
Proposal causes no interference

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Summary of OET-69 Calculations

1 38 KTFT-LP TWIN FALLS ID LIC BLTTL -20040830ACD  
2 52 K52JI TWIN FALLS ID CP BNPTTL -20000831AGR

<u>Result Key</u>	<u>Scenario</u>	<u>Affected Station</u>	<u>Before</u>	<u>After</u>	<u>Baseline</u>	<u>Net Change</u>	<u>Percentage</u>
1	1	1	0	12	78571	12	0.015

There is no interference to station 2