Comprehensive Engineering Statement
Prepared for
Nelson TV, Inc.
WAUR-LD LaSalle, IL Facility ID 187840
Channel 32 11.1 kW 122 meters AGL

Nelson TV, Inc. ("Nelson") is the licensee of low power television translator WAUR-LD, Facility ID 187840. *Nelson* is hereby submitting a proposal for a minor change to the license in order to move the transmission facility 42.2 km from its current location to ASRN 1010527, an existing support structure for WSPY-FM (Plano, IL) and WLPD-LP (Plano, IL). No increase in overall structure height is necessary for the instant proposal.

The proposed facility will continue to operate on Channel 32 using a "stringent" out of channel emission mask with a directional, cardioid pattern antenna having an effective radiated power of 11.1 kW. The proposed antenna is an ERI model ALP12L2-HSWR-32, horizontally polarized, oriented with the main lobe at 250 degrees. **Figure 1** depicts the coverage contours of the licensed digital facility and the proposed facility at the WSPY-FM tower. The service area overlap with each facility demonstrates compliance with the minor change criteria of §73.3572.

Allocation Considerations

The instant proposal complies with the Commission's interference protection requirements toward all DTV, television translator, LPTV, and Class A stations. A detailed interference study was conducted in accordance with the terrain dependent Longley-Rice point- to-point propagation model, per the Commission's Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET 69"). The interference study examined the change in interference as experienced by nearby pertinent stations that would result from the proposed facility.

The results, summarized in **Table I**, show that no new interference in excess of 0.5% is predicted to full power, Class A stations, or to secondary stations. Accordingly, the instant proposal complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

International Coordination and Other Matters

The proposed facility is located 451 km from the nearest U.S. – Canada border, which is well beyond the coordination distance specified for international coordination. The nearest FCC monitoring station is at Allegan, Michigan, at a distance of 240 km from the proposed site. This exceeds by a great margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The proposed site is also located outside the area specified in §73.1030(a)(1). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, is not required. Based on information extracted from the Commission's engineering database, the nearest AM broadcast station WKBM(AM), 930 kHz, Sandwich, IL, is located 12.1 km distant from the proposed site, and is not a factor.

As described fully above, it is believed that the instant proposal complies with the Commission's allocation Rules and policies.

Environmental Considerations

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required. *Nelson* herein proposes to move the WAUR-LD digital facility to an existing tower structure, presently authorized for the WSPY-FM (FCC File BLH-20140122ABB) and WLPD-LP (FCC File BLTTL-19900514IR) facilities.

The use of existing tower structures has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change i n

structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin 65 ("OET-65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The proposed WAUR-LD digital Channel 32 antenna will be situated such that its center of radiation will be 121.9 meters above ground level. According to elevation pattern data provided by the antenna manufacturer, the WAUR-LD Channel 32 antenna has a maximum relative field of less than 25 percent from 15 to 90 degrees below the horizontal plane (i.e., below the antenna). Thus, a "worst-case" relative field value of 0.25 is used for purposes of the calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 32 (center frequency 581 MHz) is 387.3 μW/cm^2.

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET 65.

$$\mathbf{S = (33.4098)\ (F^2)\ (ERP)\ /\ D^2}$$

Where:

S = power density in microwatts/cm^2
ERP = total (average) ERP in Watts
F = relative field factor
D = distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a power density of 1.61 μW/cm² at two meters above ground level near the antenna support structure, or 0.42 percent of the general population/uncontrolled limit.

§1.1307(b)(3) states that facilities are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the exposure limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level or near the base of the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will be restricted and controlled through the use of a fence and locked gate. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level or at the base of the top mounted tower structure. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Conclusion

Based on the preceding, it is believed that the instant proposal complies with all Commission Rules and policies.

Figure 1 - WAUR-LD Coverage Contours (Proposed and As-Licensed)

prepared June 2016 for

Nelson TV, Inc.
WAUR-LD LaSalle, IL
Facility ID 187840
Ch. 32 11.1 kW 122m AGL

Cavell, Mertz & Associates, Inc.
Manassas, VA

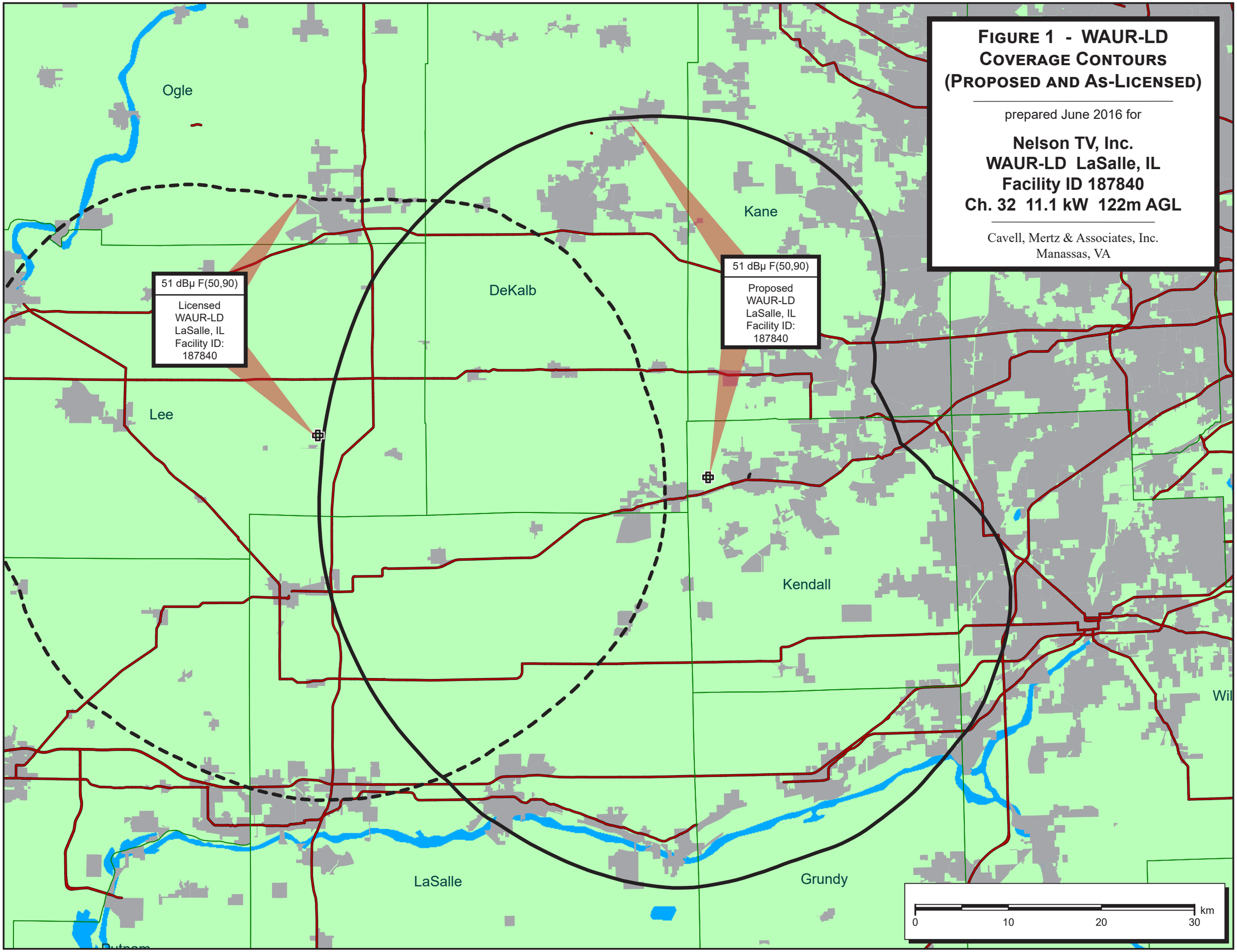

Exhibit 13 - Table I

INTERFERENCE STUDY RESULTS

prepared for

Nelson TV, Inc.

WAUR-LD La Salle, IL

Facility Id: 187840

Ch. 32 11.1 kW

Channel	Affected Station	City, State	File Number	Calculated Baseline (2000 Census)	Interference Population without Proposal (2000 Census)	Interference Population with Proposal (2000 Census)	New Interference Population	New Interference Percentage
25	WMKB-LP	Rochelle, IL	BLTTL-20070813AFM			--- No Interference ---		
30	WLPD-LP	Plano, IL	BLTTL-19900514IR			--- No Interference ---		
31	WFLD	Chicago, IL	BLCDT-20090223ABV	9,531,945	25,781	56,818	31,037	0.326 %
31	W31BX-D	Danville, IL	BLDTT-20090304ABU			--- No Interference ---		
31	W31DT-D	Sterling - Dixon, IL	BDCCDTL-20110726AJF			--- No Interference ---		
31	WUDP-LD	Lafayette, IN	BMPDTL-20111011ADV			--- No Interference ---		
32	K32KZ-D	Cedar Falls, IA	BLANK-0000004670			--- No Interference ---		
32	K32KZ-D	Cedar Falls, IA	BLANK-0000004385			--- No Interference ---		
32	W39BH	Champaign, IL	BMPTTL-20010111ABF			--- No Interference ---		
32	WMEU-CD	Chicago, IL	BLDTA-20131212ABK	8,106,171	2,038	41,267	39,229	0.484 %
32	WLS-TV	Chicago, IL	BDRTCDT-20090630AFT	116,879	7,677,074	7,677,074	0	0.000 %
32	W32EF-D	Peoria, IL	BMPDTL-20110721ABJ			--- No Interference ---		
32	W32EF-D	Peoria, IL	BLANK-0000010599			--- No Interference ---		
32	W32EF-D	Peoria, IL	BLANK-0000010565	177,701	67,923	67,923	0	0.000 %
32	WTJR	Quincy, IL	BLCDT-20091110ADL			--- No Interference ---		
32	WNDY-TV	Marion, IN	BLCDT-20110706ABJ			--- No Interference ---		
32	WFQX-DR	Cadillac, MI	BPRM-20080620AOP			--- No Interference ---		
32	WFQX-TV	Cadillac, MI	BLCDT-20091217ACU			--- No Interference ---		
32	WBWM-LP	Mount Pleasant, MI	BLTTL-20001220ABG			--- No Interference ---		
32	W32DS-D	Maplewood, OH	BLDTT-20110104ABK			--- No Interference ---		
32	WBUW	Janesville, WI	BLCDT-20040930BHL	1,267,229	7,273	11,249	3,976	0.314 %
33	WCHU-LD	Chicago, IL	BLDTL-20110928ALC			--- No Interference ---		
33	WCHU-LD	Chicago, IL	BDISDTL-20100720ABQ			--- No Interference ---		
33	WCHU-LD	Chicago, IL	BMPDTL-20110912ACN			--- No Interference ---		
33	W33DV-D	Peoria, IL	BDCCDTT-20120713ADV			--- No Interference ---		
33	WITI	Milwaukee, WI	BLCDT-20091106AEL			--- No Interference ---		

EXHIBIT 13 - FIGURE 2
ANTENNA HORIZONTAL PLANE (AZIMUTH)
RELATIVE FIELD PATTERN
prepared June 2016 for
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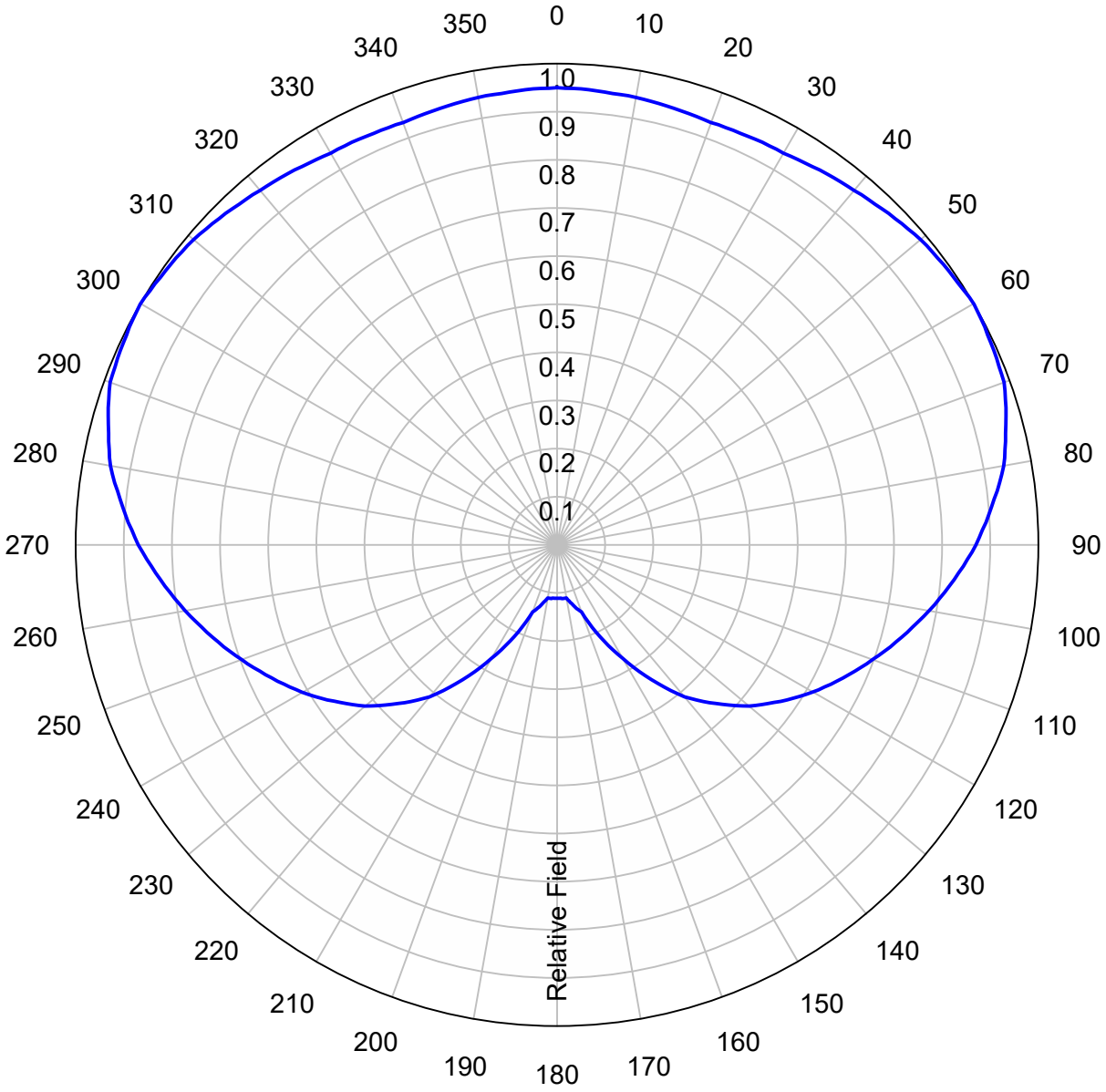
AZIMUTH PATTERN

Type:	***ALP-WR***	
	Numeric	***dBd***
Directivity:	***1.69***	***2.28***
Peak(s) at:		

Channel:	***32***
Location:	
Polarization:	***Horizontal***

Note: Pattern shape and directivity may vary with channel and mouting configuration.

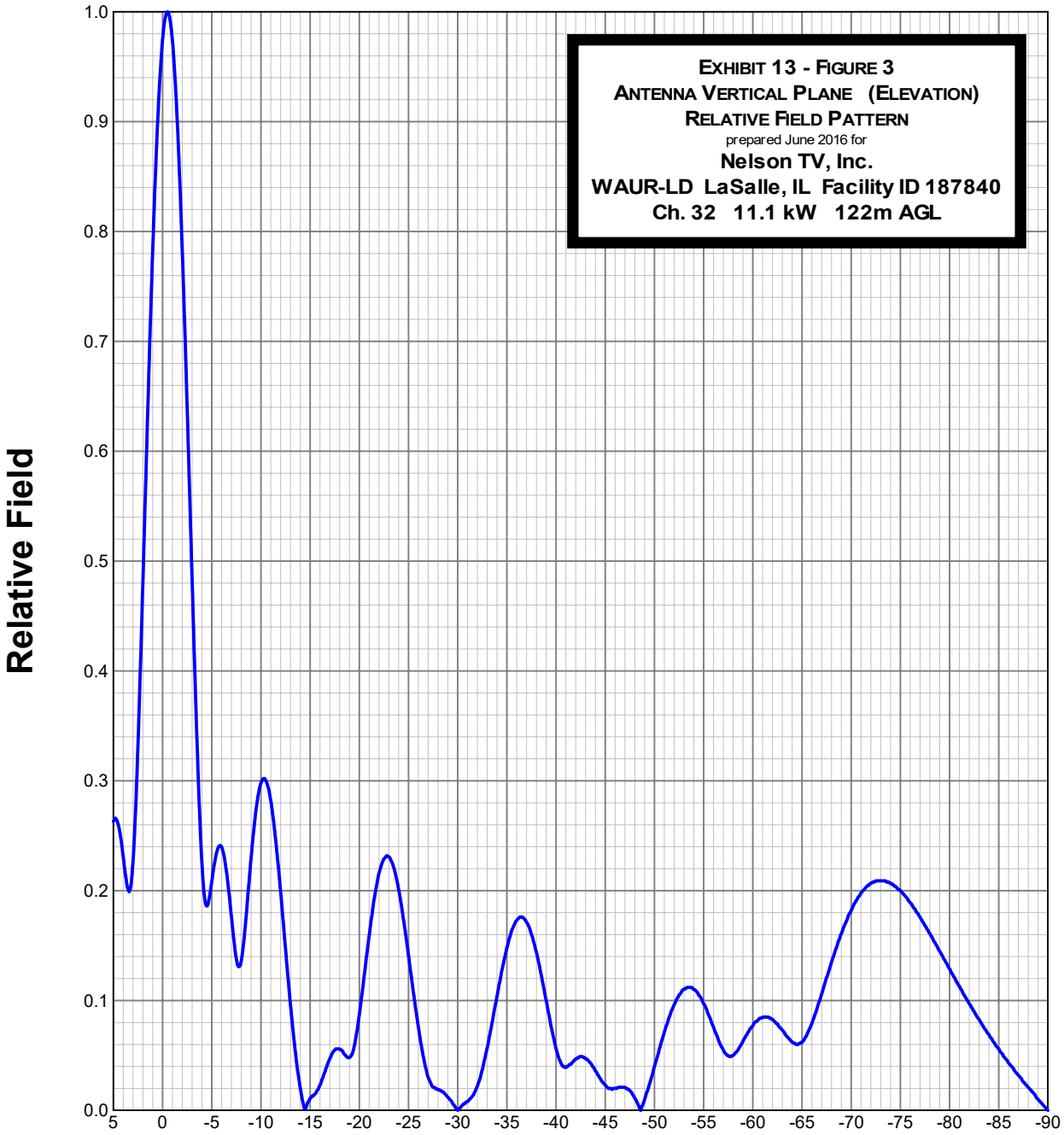


Relative field radiation pattern shown prior to 250° rotation.

Preliminary, subject to final design and review.

ELEVATION PATTERN

Type:	ALP12L2		Channel:	32
Directivity:	Numeric	dBd	Location:	
Main Lobe:	12.64	11.02	Beam Tilt:	-0.50
Horizontal:	12.02	10.80	Polarization:	Horizontal



Preliminary, subject to final design and review.