

EXHIBIT 36  
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NONIONIZING RADIATION COMPLIANCE  
West Tennessee Public TV Council  
Lexington, TN

The proposed WLJT-DT facilities will fully comply with the current FCC Standard regarding human exposure to nonionizing radiation. It should be noted that the tower that will support the proposed antenna presently supports the antenna for the WLJT-TV Channel 11 analog facilities. The WLJT-TV facilities operate with a peak visual effective radiated power of 316 kilowatts and an aural effective radiated power of 31.6 kilowatts using an RCA TW-15A11-P omnidirectional antenna with its center of radiation 135.4 meters above ground level. Table 36.0 and Figure 36.0 present the vertical radiation pattern for this antenna, which was supplied by Dielectric, the current manufacturer of this antenna. The proposed WLJT-DT facilities will employ a Jampro JA/MS-AL-16 antenna that will be mounted with its center of radiation 105.5 meters above ground level. Table 33.1 and Figure 33.1, contained in Exhibit 33 to the attached application, present the vertical radiation pattern for the proposed antenna. Equation (2), found on Page 30 of Supplement A to OET Bulletin 65, details the calculation technique used to determine the power density at the base of a TV broadcast tower. In calculating the predicted power density levels for the proposed WLJT-DT facilities, it is necessary to substitute the proposed average DTV effective radiated power (282 kilowatts) for the expression  $[0.4ERP_v + ERP_A]$  in this equation to compensate for the fact that DTV power levels are expressed in terms of average power, rather than peak power, as is the case for the visual portion of an analog TV signal. Table 36.1 lists the maximum power density levels predicted for both the WLJT-TV analog and WLJT-DT digital facilities at two meters above ground level based on this equation and the vertical radiation

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pattern for each facility. As can be seen from this table, the total power density generated by these two facilities at two meters above ground level will be 5.6% of the permitted level for uncontrolled exposure. Based upon this information, the implementation of the WLJT-DT facilities proposed in the attached application will not result in power density levels at the base of this tower that will be in excess of the permitted level for uncontrolled exposure.

The proposed WLJT-DT facilities, in conjunction with WLJT-TV, will also take appropriate steps to insure that workers who must climb this tower will not be exposed to power densities exceeding the permitted levels for controlled exposure. These steps will include a reduction in power or the cessation of operation, as appropriate, by either or both of these stations at any time that workers must be on this tower in any area where the total power density levels exceed the permitted level for controlled exposure.



Proposal Number

Revision

Date

Call Letters

Channel 7-13

Location

Customer

Antenna Type TW-15A

# TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # 15W150050

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.136	2.4	0.478	10.6	0.150	30.5	0.051	51.0	0.034	71.5	0.020
-9.5	0.153	2.6	0.404	10.8	0.144	31.0	0.049	51.5	0.032	72.0	0.018
-9.0	0.152	2.8	0.341	11.0	0.135	31.5	0.047	52.0	0.030	72.5	0.017
-8.5	0.136	3.0	0.294	11.5	0.104	32.0	0.046	52.5	0.028	73.0	0.016
-8.0	0.127	3.2	0.268	12.0	0.075	32.5	0.043	53.0	0.027	73.5	0.015
-7.5	0.131	3.4	0.264	12.5	0.070	33.0	0.038	53.5	0.026	74.0	0.014
-7.0	0.144	3.6	0.275	13.0	0.086	33.5	0.034	54.0	0.026	74.5	0.013
-6.5	0.153	3.8	0.294	13.5	0.100	34.0	0.033	54.5	0.028	75.0	0.013
-6.0	0.155	4.0	0.315	14.0	0.103	34.5	0.037	55.0	0.031	75.5	0.012
-5.5	0.170	4.2	0.331	14.5	0.097	35.0	0.044	55.5	0.033	76.0	0.012
-5.0	0.217	4.4	0.341	15.0	0.089	35.5	0.050	56.0	0.036	76.5	0.011
-4.5	0.280	4.6	0.344	15.5	0.086	36.0	0.052	56.5	0.037	77.0	0.011
-4.0	0.330	4.8	0.339	16.0	0.085	36.5	0.051	57.0	0.038	77.5	0.011
-3.5	0.343	5.0	0.328	16.5	0.080	37.0	0.048	57.5	0.037	78.0	0.011
-3.0	0.313	5.2	0.310	17.0	0.069	37.5	0.040	58.0	0.036	78.5	0.010
-2.8	0.293	5.4	0.288	17.5	0.055	38.0	0.035	58.5	0.034	79.0	0.010
-2.6	0.275	5.6	0.264	18.0	0.051	38.5	0.032	59.0	0.032	79.5	0.010
-2.4	0.288	5.8	0.236	18.5	0.062	39.0	0.032	59.5	0.029	80.0	0.009
-2.2	0.274	6.0	0.213	19.0	0.076	39.5	0.034	60.0	0.027	80.5	0.009
-2.0	0.303	6.2	0.191	19.5	0.084	40.0	0.036	60.5	0.025	81.0	0.008
-1.8	0.352	6.4	0.174	20.0	0.083	40.5	0.036	61.0	0.023	81.5	0.007
-1.6	0.417	6.6	0.182	20.5	0.073	41.0	0.038	61.5	0.023	82.0	0.007
-1.4	0.492	6.8	0.156	21.0	0.060	41.5	0.040	62.0	0.023	82.5	0.006
-1.2	0.571	7.0	0.153	21.5	0.051	42.0	0.042	62.5	0.023	83.0	0.006
-1.0	0.651	7.2	0.152	22.0	0.050	42.5	0.044	63.0	0.024	83.5	0.005
-0.8	0.728	7.4	0.152	22.5	0.052	43.0	0.044	63.5	0.025	84.0	0.004
-0.6	0.800	7.6	0.150	23.0	0.053	43.5	0.043	64.0	0.026	84.5	0.004
-0.4	0.863	7.8	0.147	23.5	0.052	44.0	0.039	64.5	0.026	85.0	0.003
-0.2	0.916	8.0	0.143	24.0	0.053	44.5	0.034	65.0	0.027	85.5	0.003
0.0	0.958	8.2	0.138	24.5	0.057	45.0	0.029	65.5	0.028	86.0	0.002
0.2	0.965	8.4	0.132	25.0	0.063	45.5	0.028	66.0	0.028	86.5	0.002
0.4	0.999	8.6	0.128	25.5	0.066	46.0	0.027	66.5	0.028	87.0	0.001
0.6	0.998	8.8	0.126	26.0	0.063	46.5	0.030	67.0	0.028	87.5	0.001
0.8	0.982	9.0	0.126	26.5	0.054	47.0	0.034	67.5	0.028	88.0	0.001
1.0	0.952	9.2	0.130	27.0	0.043	47.5	0.037	68.0	0.028	88.5	0.000
1.2	0.909	9.4	0.135	27.5	0.035	48.0	0.040	68.5	0.027	89.0	0.000
1.4	0.854	9.6	0.141	28.0	0.036	48.5	0.040	69.0	0.026	89.5	0.000
1.6	0.789	9.8	0.147	28.5	0.044	49.0	0.040	69.5	0.025	90.0	0.000
1.8	0.716	10.0	0.151	29.0	0.051	49.5	0.039	70.0	0.024		
2.0	0.638	10.2	0.154	29.5	0.054	50.0	0.037	70.5	0.023		
2.2	0.557	10.4	0.163	30.0	0.054	50.5	0.038	71.0	0.021		

TABLE 36.0

## WLJT-TV VERTICAL RADIATION PATTERN

Remarks:

West Tennessee Public TV Council  
Lexington, TN

## ELEVATION PATTERN

RMS Gain at Main Lobe

15.0 (11.76 dB)

Beam Tilt

0.50 Degrees

RMS Gain at Horizontal

13.8 (11.40 dB)

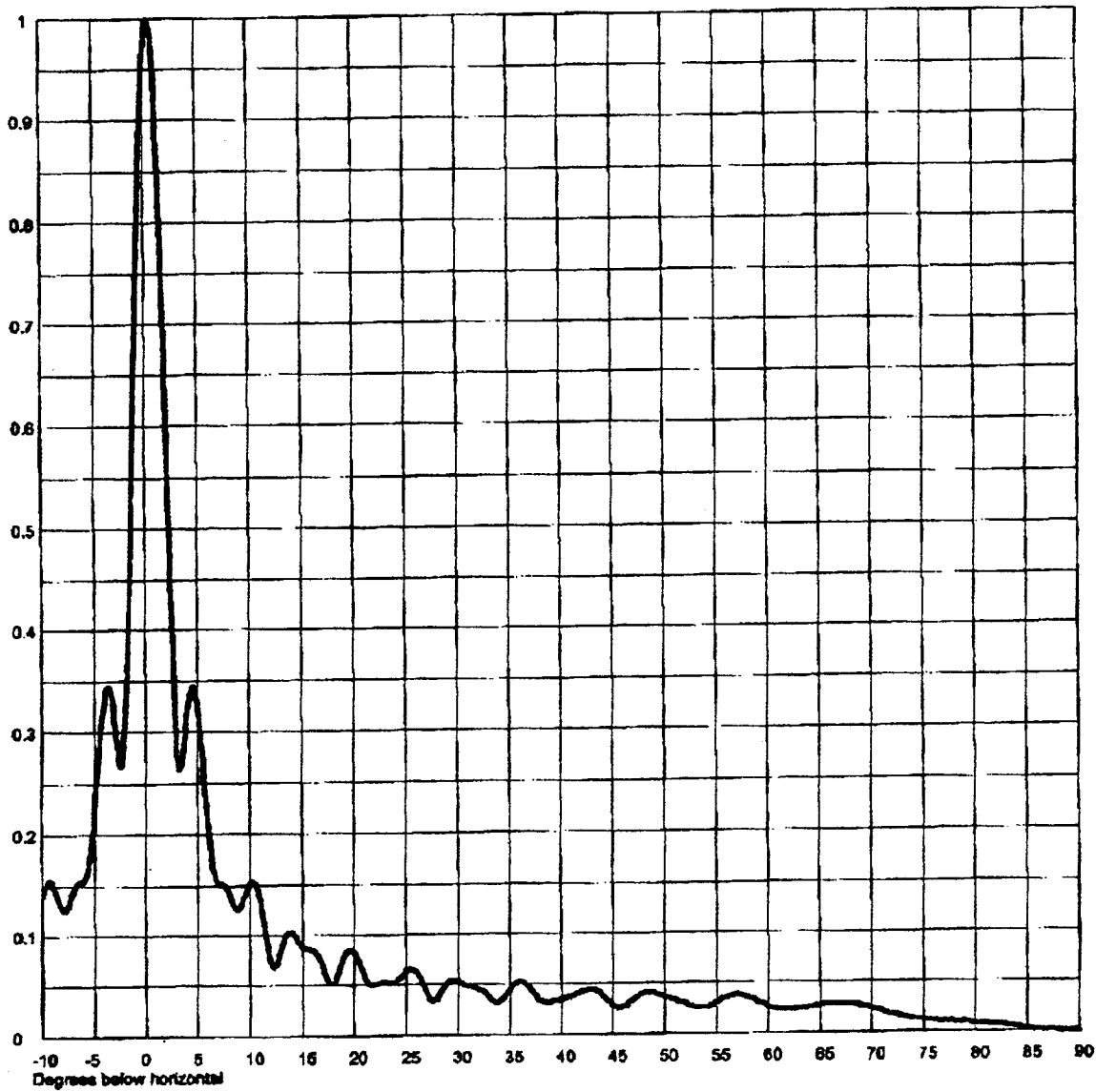
Frequency

Calculated / Measured

Calculated

Drawing #

15W150050



Remarks:

FIG. 36.0

## WLJT-TV VERTICAL RADIATION PATTERN

West Tennessee Public TV Council  
Lexington, TN

TABLE 36.1

POWER DENSITY  
CALCULATIONS - 2 m AGL  
 West Tennessee Public TV Council  
 Lexington, TN

<u>Station</u>	<u>Channel</u>	Effective Radiated Power (kW)	Antenna Height (m AGL)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	Permitted Uncontrolled Power Density ( $\mu\text{W}/\text{cm}^2$ )	Percent of <u>Limit</u>
WLJT-TV	11	316.0	135.4	0.27	200.0	0.14
WLJT-DT	47	282.0	105.5	24.3	445.3	5.46
Total Predicted Power Density						<hr/> 5.60%