

ENGINEERING STATEMENT RE  
APPLICATION FOR AUXILIARY LICENSE  
FCC CONSTRUCTION PERMIT NO. BXPCDT-20140804ACF  
WMYO-DT, SALEM, INDIANA  
CHANNEL 51 1000 KW DA ERP 367.5 METERS HAAT

JULY 2015

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington           )  
  ) ss  
District of Columbia        )

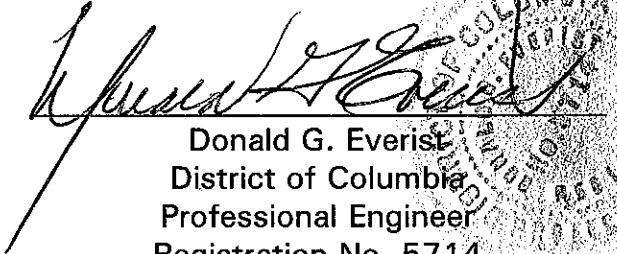
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

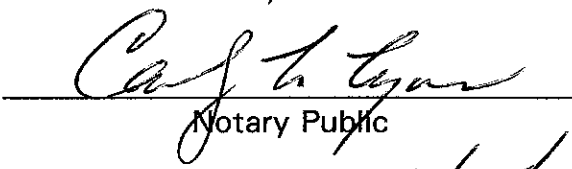
That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

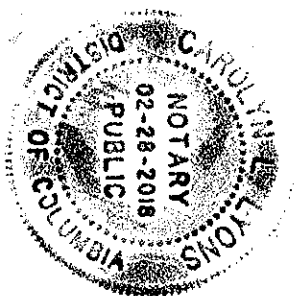
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

  
Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 13<sup>th</sup> day of July, 2015.

  
Notary Public

My Commission Expires: 2/28/2018



This engineering statement has been prepared on behalf of Independence Television Company licensee of WMYO-DT, Salem, Indiana, and accompanies the request for auxiliary license of the outstanding construction permit (FCC File No. BXPCDT-20140804ACF) for auxiliary operation.

WMYO-DT is licensed to operate on Channel 51 with 1000 kW non-directional ERP at 390.4 meters with height above average terrain ("HAAT").

The DTV antenna is side-mounted on a an existing tower having a total overall structure height above ground of 304.8 meters (1000 feet). The existing transmitter site is located at 5257 S Skyline Dr, Floyds Knob, Indiana.

The antenna manufactured by Dielectric (TFU-32DSB-R-DC-S) is diplexed with WDRB-DT and has been modeled using that manufacturer's software designed to calculate the specific effects of the WDRB-DT tower on the WMYO-DT pattern. Best efforts have been made to maximize the pattern. For WMYO-DT's radiation pattern that modeling software model also calculated the tower effects on the WMYO-DT signal and was designed to enhance to the extent feasible the WMYO-DT service area.

Since there is no change in overall height, FAA airspace approval was not required. The tower registration number of the existing tower is 1028421. Exhibit E-1 is a diagram of the tower and provides the location of the auxiliary antenna.

The tower geographic coordinates of the existing site are as follows:

North Latitude: 38° 21' 00"

West Longitude: 85° 50' 57"

NAD-27

The tower geographic coordinates in datum NAD-83 based on the antenna registration number 1028421 are as follows:

North Latitude: 38° 21' 00.0"

West Longitude: 85° 50' 57.0"

NAD-83

#### Equipment Data

Antenna: Dielectric, Type TFU-32DSB-R-DC-S, Special (horizontally polarized) antenna with 0.75° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included. See Exhibit E-2 which includes Table I (horizontal plane field ratio values every 10 degrees in azimuth and Table II provides the elevation plane field ratio)

#### Power Data

Transmitter output	27.16 kW	14.34 dBk
EHT 7" or	79.2%	1.01 dB
equivalent-length 274.3		
meters (900 ft)		
Input power to the antenna	21.5 kW	13.33 dBk
Antenna power gain,	46.5	16.67 dB
Main Lobe		
Effective Radiated Power,	1000 kW	30 dBk
Maximum		

Elevation Data

Vertical dimension of Channel 51 side-mounted antenna	16.2 meters 53.1 feet
Overall height above ground of the existing antenna structure (including beacon and lightning protection)	304.8 meters 1000 feet
Center of radiation of Channel 51 antenna above ground	273.1 meters 896 feet
Elevation of site above mean sea level	292.9 meters 961 feet
Center of radiation of Channel 51 antenna above mean sea level	566 meters 1857 feet
Overall height above mean sea level of existing tower (including beacon)	597.7 meters 1961 feet
Antenna height above average terrain	367.5 meters 1206 feet

NOTE: Slight height differences result due to conversion to metric.

The facility as constructed complies with the provision as outlined in the outstanding construction permit.

ABOVE GROUND

ABOVE MEAN SEA LEVEL

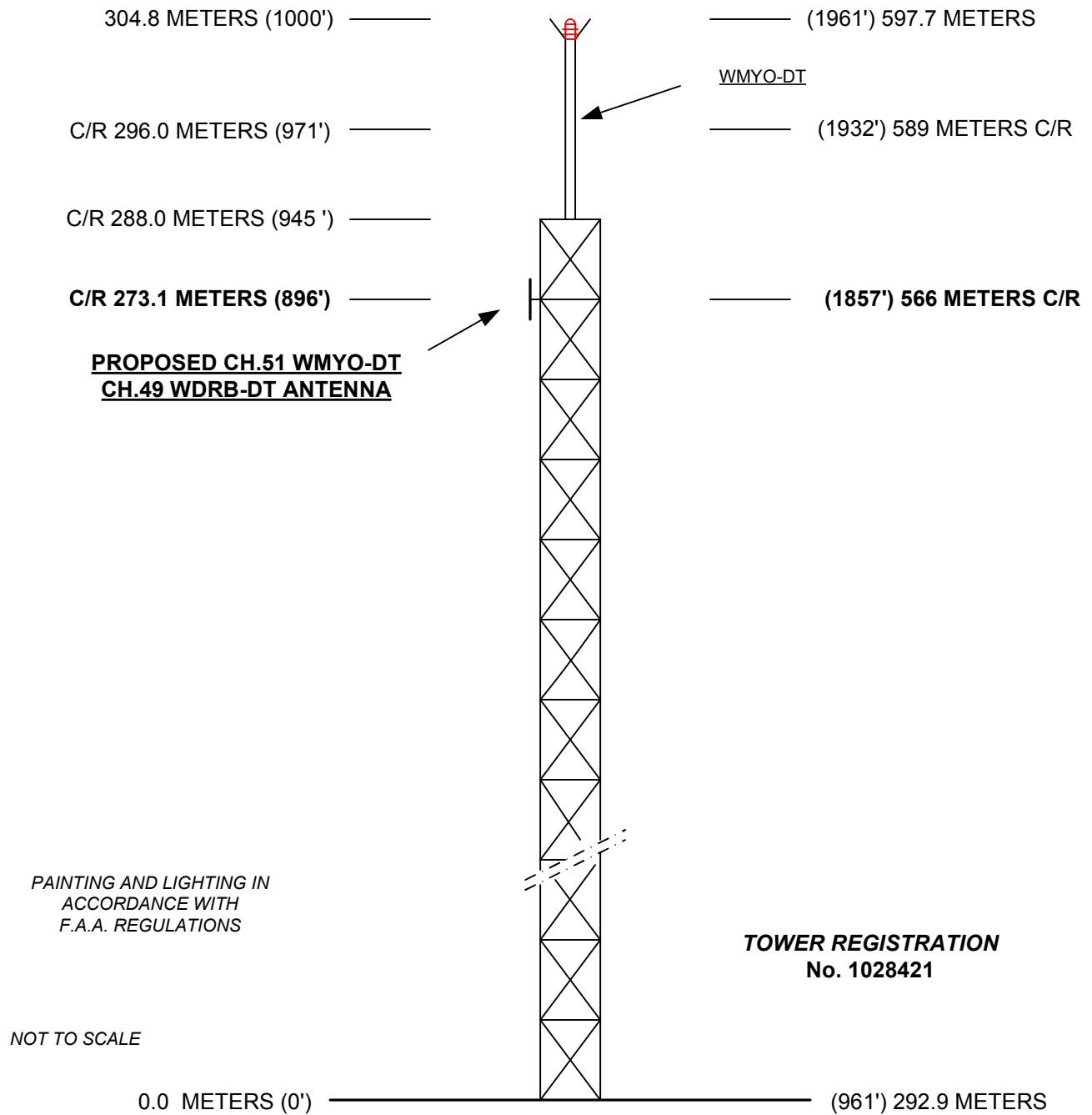


EXHIBIT E-1  
TOWER SKETCH  
EXISTING TOWER  
WMYO-DT, SALEM, INDIANA  
JULY 2014

COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

WDRB-DT, LOUISVILLE, KENTUCKY



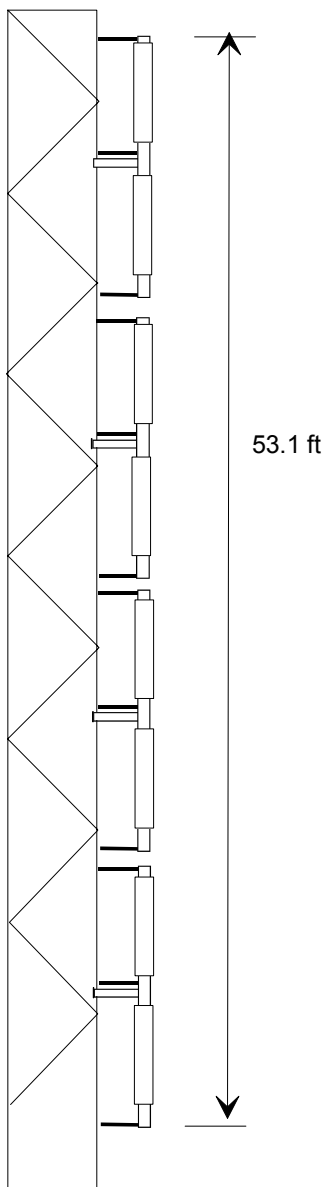
**DTV SIDE MOUNTED ANTENNA**  
**TFU-32DSB-R O4 TC**  
**WDRB-DT/ WFTE-DT: Louisville, KY**

**MECHANICAL DATA**

CaAc = 157.6 ft<sup>2</sup> Excludes Mounts

Weight = 2230 lbs Excludes Mounts

EIA-222-F Specification  
(70 mi/h basic wind speed)



CH d49 d51  
TFU-32DSB-R O4 TC

SWB-050211-2SK

NOT DRAWN TO SCALE



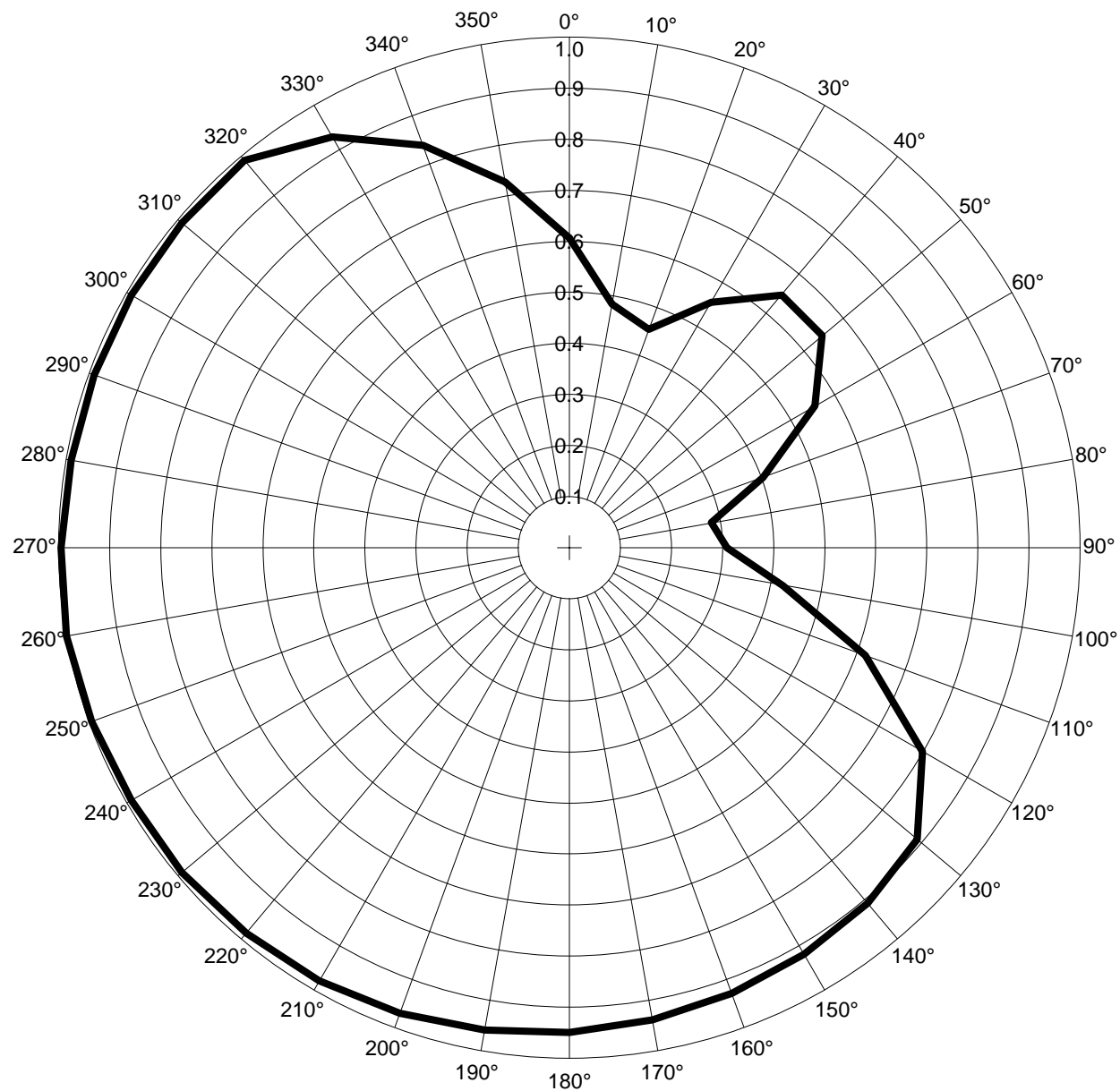
COHEN, DIPPELL AND EVERIST, P.C.

TABLE I  
TABULATION OF HORIZONTAL FIELD VALUE  
FOR THE PROPOSED OPERATION OF  
WMYO-DT, SALEM, INDIANA  
CH.51 1000 KW DA ERP 367.5 METERS HAAT  
JULY 2015

<u>Azimuth</u> N °E, T	<u>Field</u>	<u>Azimuth</u> N °E, T	<u>Field</u>
0	0.6	180	0.94
10	0.48	190	0.95
20	0.45	200	0.96
30	0.55	210	0.97
40	0.64	220	0.975
50	0.64	230	0.98
60	0.55	240	0.98
70	0.4	250	0.985
80	0.28	260	0.99
90	0.305	270	0.985
100	0.42	280	0.98
110	0.61	290	0.98
120	0.79	300	0.98
130	0.88	310	0.98
140	0.9	320	0.98
150	0.91	330	0.92
160	0.92	340	0.83
170	0.93	350	0.72

Note: N 262° E, T field ratio is 1.0

# HORIZONTAL PLANE PATTERN



Relative Intensity

Pattern file: WDRB 05162005.pat



Proposal Number **DCA-10848** Revision: **1**  
 Date **24-Mar-05**  
 Call Letters **WDRB-DT** Channel **51**  
 Location **Louisville, KY**  
 Customer  
 Antenna Type **TFU-32DSB-R O4 TC**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **32B310075-90-51**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.082	2.4	0.185	10.6	0.069	30.5	0.022	51.0	0.014	71.5	0.062
-9.5	0.065	2.6	0.200	10.8	0.066	31.0	0.015	51.5	0.017	72.0	0.058
-9.0	0.074	2.8	0.217	11.0	0.056	31.5	0.014	52.0	0.015	72.5	0.053
-8.5	0.035	3.0	0.216	11.5	0.038	32.0	0.029	52.5	0.009	73.0	0.047
-8.0	0.042	3.2	0.195	12.0	0.099	32.5	0.035	53.0	0.008	73.5	0.041
-7.5	0.055	3.4	0.159	12.5	0.142	33.0	0.029	53.5	0.016	74.0	0.034
-7.0	0.022	3.6	0.123	13.0	0.135	33.5	0.021	54.0	0.023	74.5	0.028
-6.5	0.023	3.8	0.103	13.5	0.089	34.0	0.023	54.5	0.023	75.0	0.022
-6.0	0.047	4.0	0.107	14.0	0.033	34.5	0.024	55.0	0.016	75.5	0.017
-5.5	0.105	4.2	0.120	14.5	0.017	35.0	0.016	55.5	0.013	76.0	0.013
-5.0	0.175	4.4	0.126	15.0	0.029	35.5	0.003	56.0	0.036	76.5	0.010
-4.5	0.175	4.6	0.120	15.5	0.021	36.0	0.016	56.5	0.066	77.0	0.007
-4.0	0.091	4.8	0.100	16.0	0.014	36.5	0.026	57.0	0.096	77.5	0.005
-3.5	0.102	5.0	0.075	16.5	0.029	37.0	0.025	57.5	0.120	78.0	0.004
-3.0	0.155	5.2	0.055	17.0	0.028	37.5	0.009	58.0	0.133	78.5	0.003
-2.8	0.142	5.4	0.058	17.5	0.007	38.0	0.023	58.5	0.133	79.0	0.003
-2.6	0.110	5.6	0.077	18.0	0.029	38.5	0.064	59.0	0.121	79.5	0.002
-2.4	0.072	5.8	0.095	18.5	0.051	39.0	0.104	59.5	0.099	80.0	0.002
-2.2	0.073	6.0	0.104	19.0	0.050	39.5	0.130	60.0	0.071	80.5	0.001
-2.0	0.122	6.2	0.102	19.5	0.036	40.0	0.134	60.5	0.044	81.0	0.001
-1.8	0.175	6.4	0.091	20.0	0.024	40.5	0.115	61.0	0.028	81.5	0.001
-1.6	0.210	6.6	0.076	20.5	0.013	41.0	0.081	61.5	0.032	82.0	0.001
-1.4	0.215	6.8	0.065	21.0	0.005	41.5	0.048	62.0	0.039	82.5	0.001
-1.2	0.185	7.0	0.064	21.5	0.017	42.0	0.032	62.5	0.041	83.0	0.001
-1.0	0.117	7.2	0.071	22.0	0.013	42.5	0.031	63.0	0.035	83.5	0.001
-0.8	0.057	7.4	0.078	22.5	0.008	43.0	0.027	63.5	0.025	84.0	0.000
-0.6	0.165	7.6	0.080	23.0	0.027	43.5	0.021	64.0	0.016	84.5	0.000
-0.4	0.326	7.8	0.076	23.5	0.024	44.0	0.019	64.5	0.019	85.0	0.000
-0.2	0.500	8.0	0.067	24.0	0.012	44.5	0.019	65.0	0.027	85.5	0.000
0.0	0.667	8.2	0.059	24.5	0.065	45.0	0.016	65.5	0.032	86.0	0.000
0.2	0.813	8.4	0.057	25.0	0.116	45.5	0.010	66.0	0.032	86.5	0.000
0.4	0.923	8.6	0.061	25.5	0.142	46.0	0.009	66.5	0.027	87.0	0.000
0.6	0.987	8.8	0.067	26.0	0.133	46.5	0.009	67.0	0.018	87.5	0.000
0.8	1.000	9.0	0.070	26.5	0.100	47.0	0.006	67.5	0.008	88.0	0.000
1.0	0.962	9.2	0.068	27.0	0.058	47.5	0.007	68.0	0.012	88.5	0.000
1.2	0.876	9.4	0.062	27.5	0.029	48.0	0.014	68.5	0.025	89.0	0.000
1.4	0.754	9.6	0.054	28.0	0.029	48.5	0.020	69.0	0.038	89.5	0.000
1.6	0.609	9.8	0.051	28.5	0.033	49.0	0.021	69.5	0.049	90.0	0.000
1.8	0.456	10.0	0.051	29.0	0.025	49.5	0.017	70.0	0.056		
2.0	0.318	10.2	0.058	29.5	0.009	50.0	0.010	70.5	0.061		
2.2	0.219	10.4	0.066	30.0	0.016	50.5	0.009	71.0	0.063		

EXHIBIT E-2a

