



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN
APPLICATION FOR A
“CHECKLIST” DTV CONSTRUCTION PERMIT
WSMH-DT - FLINT, MICHIGAN
DTV - CH. 16 - 19.3 kW - 348.1 m HAAT**

Prepared for: WSMH Licensee, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

GENERAL

This office has been authorized by WSMH Licensee, LLC, licensee of WSMH(TV), channel 66, Flint, Michigan, and applicant for paired DTV allotment WSMH-DT, channel 16, to prepare this statement, FCC Form 301, Section III-D, and the associated exhibits in support of an application for a “checklist” construction permit pursuant to Commission policy set forth in paragraph 113 of the *Second DTV Periodic Report and Order*¹. WSMH-DT intends, according to that stated policy, to continue to pursue its non-checklist application, BPCDT-19991028ACK, currently on file. The instant “checklist” application proposes to install an omni-directional antenna with a centerline height above average terrain of 348.1 meters and operate with an effective radiated power of 19.3 kW, pending the ultimate resolution of the existing international coordination issues with Canada.

¹ See *Second Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, 19 FCC Rcd 18279, (2004) (“*Second DTV Periodic Report and Order*”)

It is herein proposed to locate WSMH-DT's "checklist" transmission facilities on a new tower support structure located at 43° 13' 31" North latitude, 84° 4' 33" West longitude. The structure is registered in the FCC's tower registration database, registration number 1241302. The licensee proposes to ultimately co-locate WSMH(TV) with the facilities of WSMH-DT at this site. The ultimate relocation of WSMH-DT's "expansion" DTV facility will be proposed in a future application to amend WSMH-DT's pending application for construction permit, BPCDT-19991028ACG, at such time that existing international coordination issues are finally resolved. The location of WSMH-DT's "checklist" facility, as proposed herein, and the ultimate relocation of its "expansion" DTV facility, is necessary because the currently licensed analog TV and DTV allotment site is leased, the tower structure can not support another antenna, and the other facilities can not be altered, or expanded, to accommodate any facility for WSMH-DT.

WSMH Licensee, LLC has obtained a new site which can be utilized by both WSMH(TV) and WSMH-DT. The licensee has a obtained a construction permit, BPCT-20040312AAM, which authorizes it to construct a new tower and to relocate WSMH(TV) to the new site. SpectraSite, the licensee's contractor, is currently erecting the tower at the authorized site. The applicant herein seeks authority to begin digital broadcasting using a "checklist" facility at its newly authorized analog TV site while continuing to pursue resolution of international coordination issues associated with its pending DTV application, BPCDT-19991028ACK. Co-location of analog TV, interim "checklist" DTV facilities and finally "expansion" DTV facilities on the new tower will serve to further the Commission's

goals in the deployment of DTV service in the United States since the new support structure has been designed to accommodate multiple television transmission facilities.

PROPOSED OMNIDIRECTIONAL ANTENNA

The applicant intends to install a new Dielectric model TLP-16A omnidirectional antenna on the new tower support structure at the new site. The antenna manufacturer's vertical plane radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane, is shown in exhibits 2A and 2B, and tabulated in exhibit 3. The "checklist" antenna will be side mounted on the new support structure. A Vertical Plan Antenna Sketch showing various elevations at the proposed site is provided in Exhibit 1.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 4 contains the predicted DTV Noise Limited (41 dBu) contour and the predicted principal community (48 dBu) contour. The 48 dBu contour entirely encompasses the principal community of license, Flint, Michigan.

ALLOCATION CONSIDERATIONS

Even though the instant application proposes a DTV facility which does not precisely meet the criteria for a “checklist” facility, in that the proposed HAAT exceeds the allotment HAAT by more than 10 meters, the proposed ERP has been reduced to the extent necessary to prevent the distance to the resultant predicted noise limited (41 dBu) contour to exceed the distance to WSMH-DT’s allotment predicted 41 dBu contour in any direction. As shown in exhibit 5 the proposed predicted 41 dBu noise limited contour is contained wholly within WSMH-DT’s allotment 41 dBu contour.

The applicant therefore believes that the instant application can be considered to be a DTV “checklist” application as a practical matter. If the Commission believes it necessary, the applicant herein requests a waiver of Section 73.622(f)(2) of the rules to permit “checklist” status. The applicant provides the following studies which satisfy Section 73.623(c)(2) of the rules pertaining to changes in DTV allotments and facilities.

NTSC Allocation Considerations

An allocation study was performed, using the Commission’s application processing software TV_Process, to ensure that the proposed DTV transmitter site complies with the Commission’s *de minimis* interference criteria in Section 73.622(c)(2). The study revealed that the proposed DTV facility causes no impermissible interference to any pertinent authorized NTSC facility.

DTV Allocation Considerations

The same study was evaluated to determine if the proposed location of WSMH-DT

at the new site is predicted to cause any level of new prohibited interference to DTV stations, expansion construction permits or DTV allotments. Results indicate that the instant proposal to locate WSMH-DT at the new site as a "checklist" facility is predicted to cause no unacceptable level of new interference to the populations served by any DTV station, expansion construction permit or allotment.

Class A Television Allocation Considerations

As required in Section 73.613 of the FCC's Rules, the interference contour overlap analysis which is provided by TV_Process was considered, based on the proposed WSMH-DT facility, to establish compliance with the protection requirements contained therein. The study results indicate that no prohibited contour overlap exists with any Class A LPTV stations.

BLANKETING AND INTERMODULATION INTERFERENCE

A number of broadcast and non-broadcast facilities are located within 10 km of the proposed WSMH-DT transmitter/antenna site. The applicant recognizes its responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

ENVIRONMENTAL CONSIDERATIONS

RADIO FREQUENCY IMPACT

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are

generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines establish a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (DA 04-319, February 6, 2004), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 provides the technical data required to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared (mW/cm^2) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula, $(\text{frequency}/1500)$. The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared (mW/cm^2) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, $(\text{frequency}/300)$. The predicted emissions of WSMH-DT must be considered, along with the predicted emissions from other proposed stations at the site. For WSMH-DT, which will

operate on DTV Channel 16 (482-488 MHz), the MPE is 0.323 milliwatts per centimeter squared (mW/cm^2) in an "uncontrolled" environment and $1.615 \text{ mW}/\text{cm}^2$ in a "controlled" environment. The proposed WSMH-DT facility will operate with a maximum ERP of 19.3 kW using a horizontally polarized transmitting antenna at a centerline height of 354.3 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WSMH-DT facility is predicted to produce a power density at two meters above ground level of $0.00047 \text{ mW}/\text{cm}^2$, which is 0.14% of the FCC guideline value for "uncontrolled" environments, and 0.028% of the FCC guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value including all stations at the proposed site is only 3.90% of the limit for "uncontrolled" environments, and 0.78% of the limit for "controlled" environments.

OCCUPATIONAL SAFETY

The applicant for WSMH-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the proposed WSMH-DT antenna. The applicant is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel.

SUMMARY

It is submitted that the instant application for "checklist" construction permit for WSMH-DT seeking to locate the transmission facilities of WSMH-DT as described herein,

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WSMH-DT - FLINT, MICHIGAN
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except for the proposed HAAT being greater than 10 meters above the allotment HAAT for which a waiver is requested, otherwise complies with the Rules, Regulations and Policies of the Federal Communications Commission. This statement, FCC Form 301, Section III-D, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: November 15, 2005


John E. Hidle, P.E.



43° 13' 31" NL
084° 04' 33" WL

EXHIBIT 1

OVERALL HEIGHT
378.6 M AGL; 563.9 M AMSL

WSMH-DT ANTENNA
RGL
354.3 M AGL; 539.6 M AMSL; 348.1 HAAT

GROUND ELEVATION = 185.3 M AMSL / AVERAGE TERRAIN = 191.5 M

VERTICAL PLAN ANTENNA SKETCH

WSMH-DT, SPRINGFIELD, ILLINOIS

CH. 16, 19.3 kW - 348.1 m HAAT

NOVEMBER, 2005

CARL T. JONES
CORPORATION

NOTE: NOT DRAWN TO SCALE

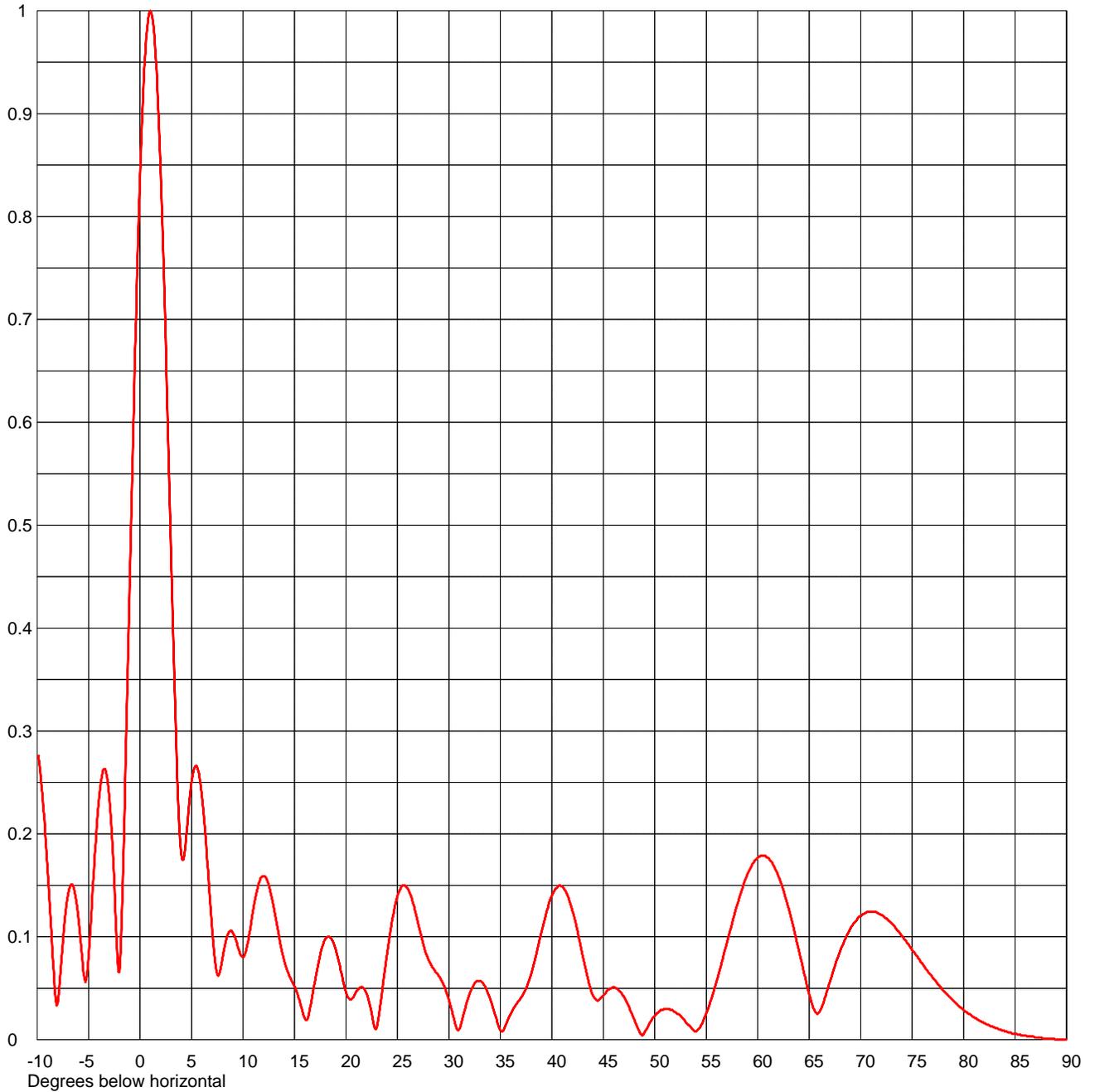


Exhibit No.
2A

Date **11 Nov 2005**
Call Letters **WSMH-DT** Channel **16**
Location **Flint, Michigan**
Customer **WSMH Licensee, LLC**
Antenna Type **TLP-16A**

ELEVATION PATTERN

RMS Gain at Main Lobe	16.0 (12.04 dB)	Beam Tilt	1.00 Degrees
RMS Gain at Horizontal	11.3 (10.53 dB)	Frequency	485.00 MHz
Calculated / Measured	Calculated	Drawing #	16L160100-90



Remarks:

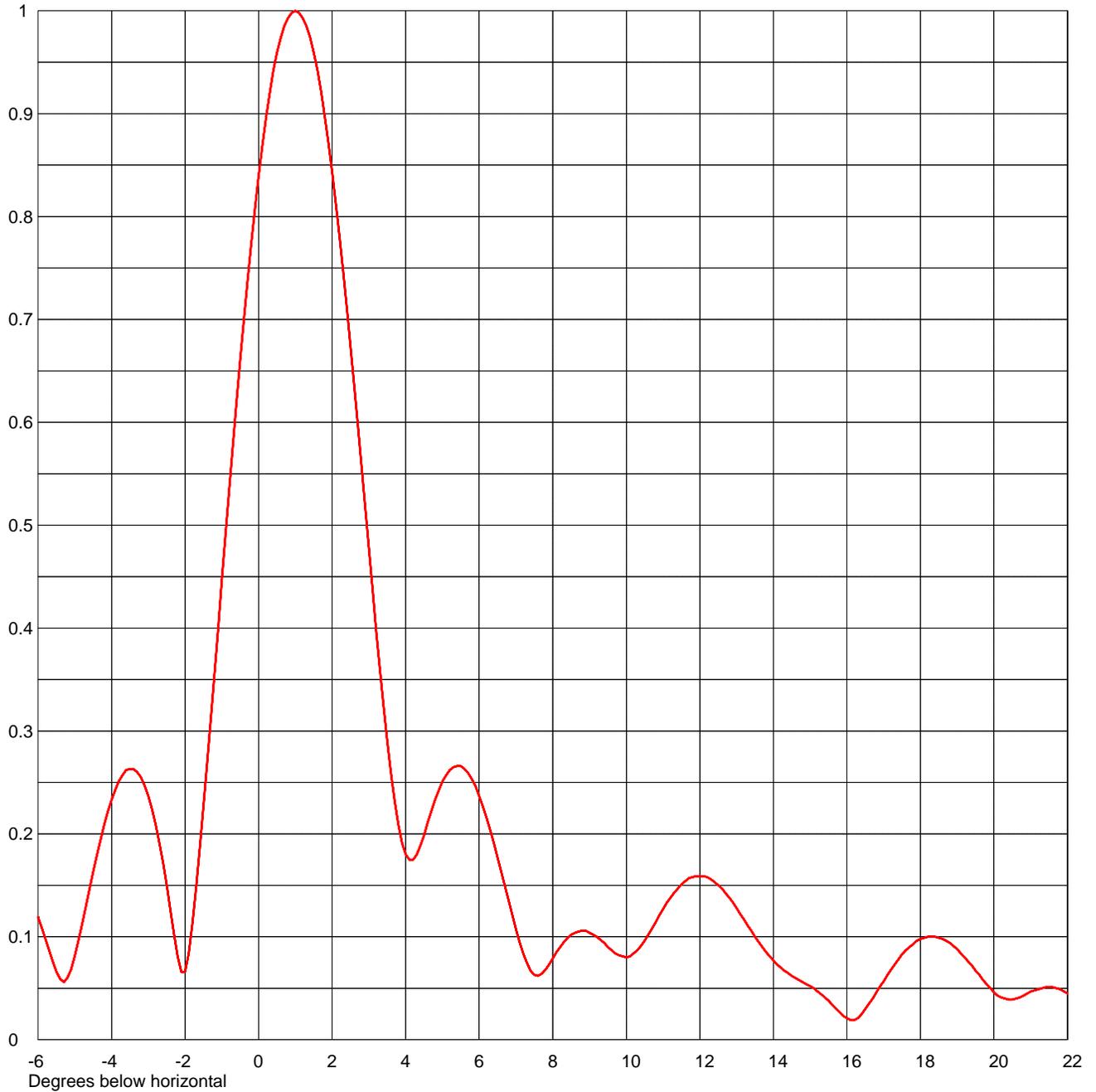


Exhibit No.
2B

Date **11 Nov 2005**
Call Letters **WSMH-DT** Channel **16**
Location **Flint, Michigan**
Customer **WSMH Licensee, LLC**
Antenna Type **TLP-16A**

ELEVATION PATTERN

RMS Gain at Main Lobe	16.0 (12.04 dB)	Beam Tilt	1.00 Degrees
RMS Gain at Horizontal	11.3 (10.53 dB)	Frequency	485.00 MHz
Calculated / Measured	Calculated	Drawing #	16L160100



Remarks:



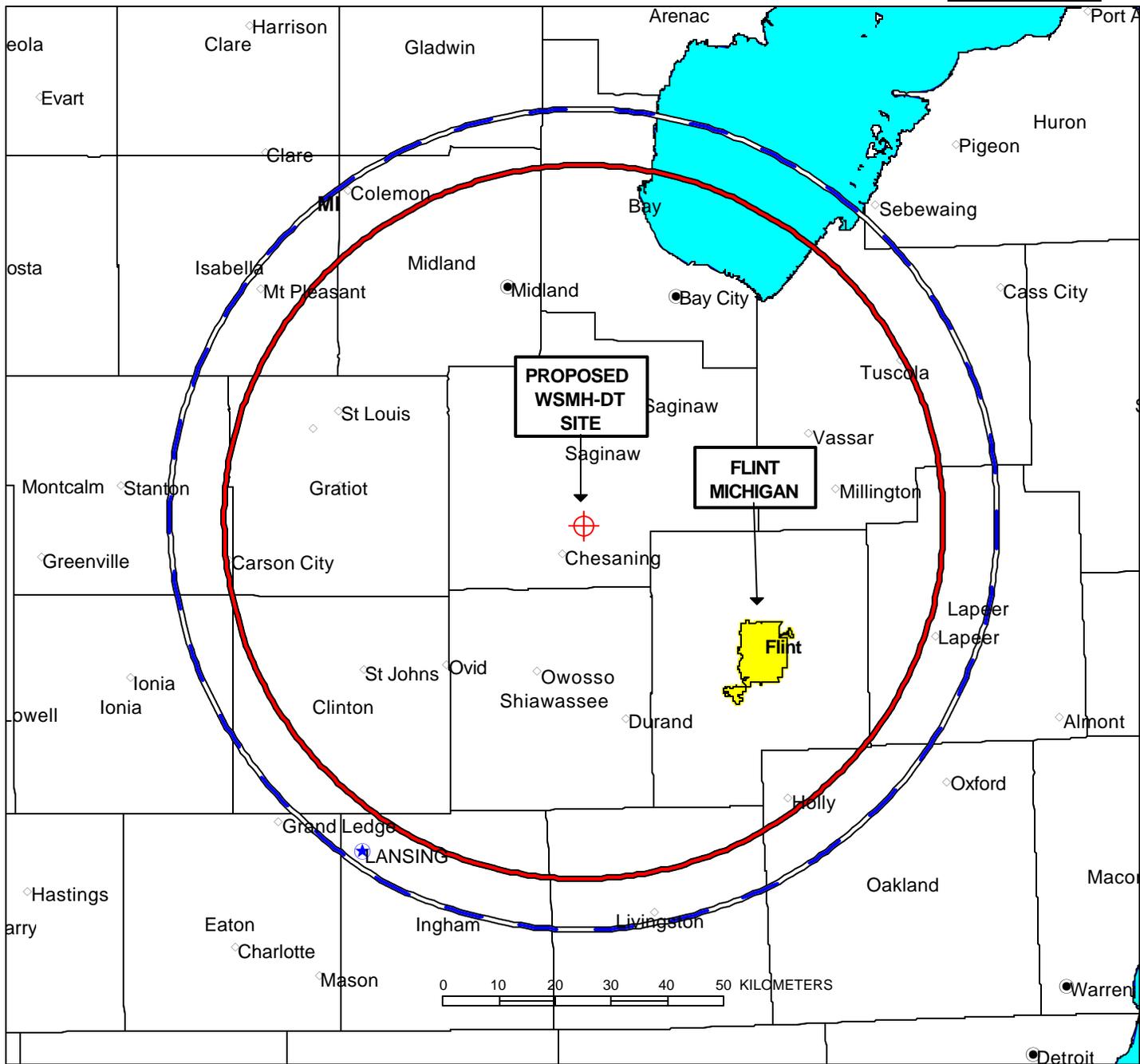
Date **11 Nov 2005**
 Call Letters **WSMH-DT** Channel **16**
 Location **Flint, Michigan**
 Customer **WSMH Licensee, LLC**
 Antenna Type **TLP-16A**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **16L160100**

Angle	Field										
-10.0	0.283	2.4	0.711	10.6	0.102	30.5	0.020	51.0	0.030	71.5	0.124
-9.5	0.238	2.6	0.635	10.8	0.114	31.0	0.010	51.5	0.029	72.0	0.121
-9.0	0.167	2.8	0.556	11.0	0.127	31.5	0.027	52.0	0.027	72.5	0.118
-8.5	0.083	3.0	0.476	11.5	0.151	32.0	0.044	52.5	0.023	73.0	0.113
-8.0	0.036	3.2	0.397	12.0	0.159	32.5	0.055	53.0	0.017	73.5	0.107
-7.5	0.096	3.4	0.324	12.5	0.150	33.0	0.057	53.5	0.012	74.0	0.101
-7.0	0.141	3.6	0.259	13.0	0.128	33.5	0.052	54.0	0.008	74.5	0.094
-6.5	0.149	3.8	0.209	13.5	0.100	34.0	0.040	54.5	0.014	75.0	0.087
-6.0	0.119	4.0	0.180	14.0	0.077	34.5	0.024	55.0	0.026	75.5	0.081
-5.5	0.066	4.2	0.175	14.5	0.062	35.0	0.009	55.5	0.040	76.0	0.074
-5.0	0.081	4.4	0.189	15.0	0.052	35.5	0.014	56.0	0.057	76.5	0.067
-4.5	0.163	4.6	0.211	15.5	0.038	36.0	0.025	56.5	0.075	77.0	0.060
-4.0	0.233	4.8	0.233	16.0	0.021	36.5	0.034	57.0	0.094	77.5	0.054
-3.5	0.263	5.0	0.251	16.5	0.030	37.0	0.041	57.5	0.113	78.0	0.048
-3.0	0.237	5.2	0.262	17.0	0.057	37.5	0.050	58.0	0.131	78.5	0.043
-2.8	0.209	5.4	0.266	17.5	0.083	38.0	0.064	58.5	0.147	79.0	0.038
-2.6	0.172	5.6	0.263	18.0	0.098	38.5	0.084	59.0	0.161	79.5	0.033
-2.4	0.127	5.8	0.253	18.5	0.099	39.0	0.105	59.5	0.171	80.0	0.029
-2.2	0.081	6.0	0.237	19.0	0.088	39.5	0.125	60.0	0.177	80.5	0.025
-2.0	0.066	6.2	0.216	19.5	0.067	40.0	0.140	60.5	0.179	81.0	0.022
-1.8	0.113	6.4	0.191	20.0	0.046	40.5	0.148	61.0	0.177	81.5	0.019
-1.6	0.187	6.6	0.163	20.5	0.039	41.0	0.149	61.5	0.170	82.0	0.016
-1.4	0.270	6.8	0.135	21.0	0.047	41.5	0.141	62.0	0.159	82.5	0.014
-1.2	0.357	7.0	0.107	21.5	0.051	42.0	0.125	62.5	0.145	83.0	0.012
-1.0	0.446	7.2	0.083	22.0	0.045	42.5	0.105	63.0	0.128	83.5	0.010
-0.8	0.534	7.4	0.067	22.5	0.025	43.0	0.081	63.5	0.108	84.0	0.008
-0.6	0.620	7.6	0.062	23.0	0.012	43.5	0.059	64.0	0.087	84.5	0.007
-0.4	0.700	7.8	0.068	23.5	0.047	44.0	0.043	64.5	0.065	85.0	0.006
-0.2	0.774	8.0	0.079	24.0	0.084	44.5	0.038	65.0	0.044	85.5	0.005
0.0	0.840	8.2	0.090	24.5	0.117	45.0	0.043	65.5	0.029	86.0	0.004
0.2	0.896	8.4	0.099	25.0	0.140	45.5	0.049	66.0	0.027	86.5	0.003
0.4	0.941	8.6	0.104	25.5	0.150	46.0	0.051	66.5	0.040	87.0	0.002
0.6	0.973	8.8	0.106	26.0	0.147	46.5	0.048	67.0	0.056	87.5	0.002
0.8	0.993	9.0	0.104	26.5	0.133	47.0	0.042	67.5	0.072	88.0	0.001
1.0	1.000	9.2	0.100	27.0	0.113	47.5	0.032	68.0	0.086	88.5	0.001
1.2	0.993	9.4	0.094	27.5	0.093	48.0	0.020	68.5	0.098	89.0	0.000
1.4	0.974	9.6	0.087	28.0	0.078	48.5	0.008	69.0	0.108	89.5	0.000
1.6	0.942	9.8	0.082	28.5	0.069	49.0	0.007	69.5	0.115	90.0	0.000
1.8	0.898	10.0	0.080	29.0	0.062	49.5	0.016	70.0	0.120		
2.0	0.844	10.2	0.084	29.5	0.053	50.0	0.023	70.5	0.123		
2.2	0.781	10.4	0.091	30.0	0.039	50.5	0.028	71.0	0.124		

Remarks:

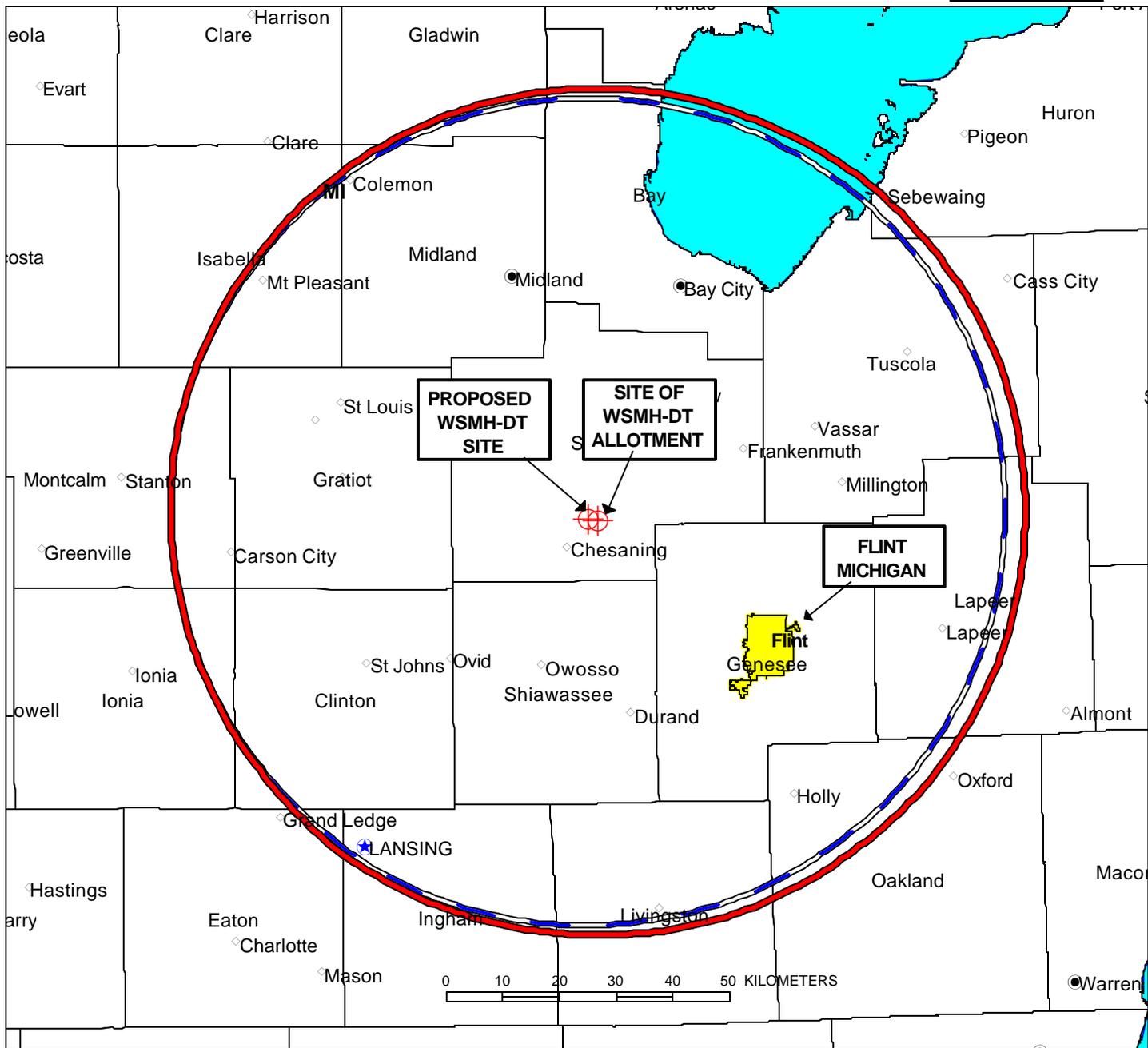


COVERAGE CONTOURS OF PROPOSED FACILITY

WSMH-DT, FLINT, MICHIGAN
CH. 16, 19.3 kW ERP (NON-D);
348.1 m HAAT
NOVEMBER, 2005

41 dBu F(50,90) Noise-Limited Coverage Contour

48 dBu F(50,90) "City Grade" Coverage Contour



**COMPARISON OF COVERAGE CONTOURS
OF ALLOTMENT AND PROPOSAL**

WSMH-DT, FLINT, MICHIGAN
CH. 16, 19.3 kW ERP (NON-D);
348.1 m HAAT
NOVEMBER, 2005

**Noise-Limited Coverage Contour of
WSMH-DT Allotment
41 dBu F(50,90)**

**Noise-Limited Coverage Contour of
WSMH-DT Proposed Facility
41 dBu F(50,90)**

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY
WSMH-DT, FLINT, MICHIGAN
CHANNEL 16, 19.3 kW ERP, 348.1 m HAAT
NOVEMBER, 2005**

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WSMH-DT	DT	16	485	H	352.3	19.300	0.300	0.00047	0.323	0.14%
WSMH(TV)	TV	66	785	H	366	1750.000	0.300	0.01964	0.523	3.75%
TOTAL PERCENTAGE OF ANSI VALUE=										3.90%

** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.

***Includes facilities at site and within 315 meters.