TECHNICAL EXHIBIT
MINOR CHANGE TV TRANSLATOR DTV FLASH-CUT
DISPLACEMENT APPLICATION FOR CONSTRUCTION PERMIT
STATION W52DB (FACILITY ID 64442)
MUSKEGON, MICHIGAN

JANUARY 25, 2006

CH 31 15 KW-ND

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Technical Narrative

This technical exhibit supports a minor change digital television (DTV) flash-cut displacement application from TV translator station W52DB at Muskegon, Michigan (Facility ID 64442).

According to the Federal Communications Commission (FCC) database, station W52DB is licensed for an analog (NTSC) operation on channel 52 with a minus (-) carrier offset (BLTTL-20040217ACY). A directional antenna (DA) is employed. The maximum visual effective radiated power (ERP) is 21.7 kilowatts (kW). The antenna center of radiation is 327.9 meters above mean sea level (AMSL). The transmitter site coordinates are 43-18-50, 86-09-17 (NAD-27). The FCC antenna structure registration number for the existing structure is 1231051.

Station W52DB currently operates as an analog station on an out-of-core channel (52). Station W52DB proposes a flash-cut displacement application to operate DTV on in-core channel 31. No change in site (43-18-50, 86-09-17), antenna height (Rc=327.9 m AMSL) or city of assignment (Muskegon, MI) is proposed. It is proposed to use a Dielectric model TLP-16A non-directional antenna system fed by a 2 kW DTV transmitter. The proposed ERP is 15 kW. The proposed antenna center of radiation remains 128 meters above ground level (AGL), and 327.9 meters AMSL. Since there is no proposed change in the overall height of the existing structure, the Federal Aviation Administration (FAA) is not being notified of the proposed W52DB DTV operation.

The gain for the Dielectric model TLP-16A antenna system is 16 (12.04 dB). The antenna will be coupled to the transmitter through 137.2 meters (450 feet) of Andrew HJ7-50A 1-5/8 inch air dielectric coaxial transmission line. The manufacturer's average power handling capability for the line on channel 31 is 6.5 kW. The efficiency of the line on channel 31 is 58.7%. The TV translator DTV transmitter power output (TPO) will be 1.6 kW. This combination results in the proposed TV translator DTV ERP of 15 kW-ND.

There are no other known TV or AM broadcast stations within 5 kilometers of the W52DB site. FM broadcast stations WLCS (Ch.252A, North Muskegon, MI, 1.6 kW-ND, 139 m) and WVIB (Ch.261A, Holton, MI, 2.9 kW-DA, 144 m) are co-located on the same structure as W52DB. Although no adverse electromagnetic interaction is expected, the applicant recognizes its responsibility to correct problems that its proposed TV translator DTV operation may cause.

Allocation Considerations

A study has been conducted using the provisions of Section 74 Subpart G of the FCC rules to assure that the proposal will not create prohibited interference with other authorized or pending analog (NTSC) and digital (DTV) full-power TV, low power television (LPTV), TV translator, and Class A TV stations. The proposed W52DB channel 31 TV translator DTV operation was studied using the FCC's recently adopted LPTV-DTV rules and the interference procedures outlined in the FCC's OET-69 Bulletin. In accordance with current FCC processing policy, a 1 kilometer grid and the 1990 US Census was employed. The proposed W52DB channel 31 TV translator DTV operation complies with the FCC's allocation standards (ie, less than 0.5% new interference caused to other pertinent assignments).

The W52DB site is 274 kilometers from the nearest point of the US/Canada border. Consideration has been given to Canadian TV and DTV assignments. The proposed W52DB co-channel analog interfering contour (30.2 dBu, F(50,10)) and digital interfering contour (12.4 dBu F(50,10)) do not extend into Canadian territory (see Figure 3).

It is believed the proposed W52DB channel 31 TV translator DTV operation complies with the US/Canada TV/DTV Agreements. The applicant recognizes that it is a secondary service and must protect full service TV and DTV facilities if it should cause prohibited interference.

The closest point of the Mexican border is more than 2000 kilometers to the southwest. The closest FCC monitoring station is at Allegan, Michigan, approximately 80 kilometers to the south-southeast. The closest point of the National Radio Quiet Zone (VA/WV) is more than 650 kilometers to the southeast. The Table Mountain Radio Quiet Zone (CO) is more than 1600 kilometers to the west. The closest radio astronomy site using channel 37 is at North Liberty, Iowa, approximately 476 kilometers to the west-southwest. These separations are considered sufficient to not be a coordination concern.

As noted above, interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin.[1] The proposed W52DB channel 31 TV translator DTV operation complies with the FCC's "de minimis" (0.5%) interference policy. The applicant recognizes the proposal is secondary to authorized full-service analog and DTV operations. The applicant understands that it must correct and/or eliminate prohibited interference that may result from its proposed operation. If necessary, a waiver of the FCC rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin.

Radiofrequency Electromagnetic Field Exposure

The proposed W52DB facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. An ERP of 15 kW was assumed. A relative field value of 0.2 was assumed for the proposed antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.001263 mW/cm^2. This is less than 1% of the FCC's

[1] The duTreil, 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 1 km was employed. A Sun based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

recommended limit of 0.38 mW/cm^2 for channel 31 for an "uncontrolled" environment. It is less than 1% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, 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.

Figure 4 is a map showing the predicted 74 dBu F(50,50) contour for the present W52DB analog operation on channel 52 (21.7 kW-DA). The map also shows the predicted 51 dBu F(50,90) contour for the proposed W52DB TV translator DTV operation on channel 31 (15 kW-ND). As shown, there is overlap between the present and proposed W52DB contours.

If there are questions concerning this technical statement or the technical portion of this application, please communicate with the office of the undersigned.

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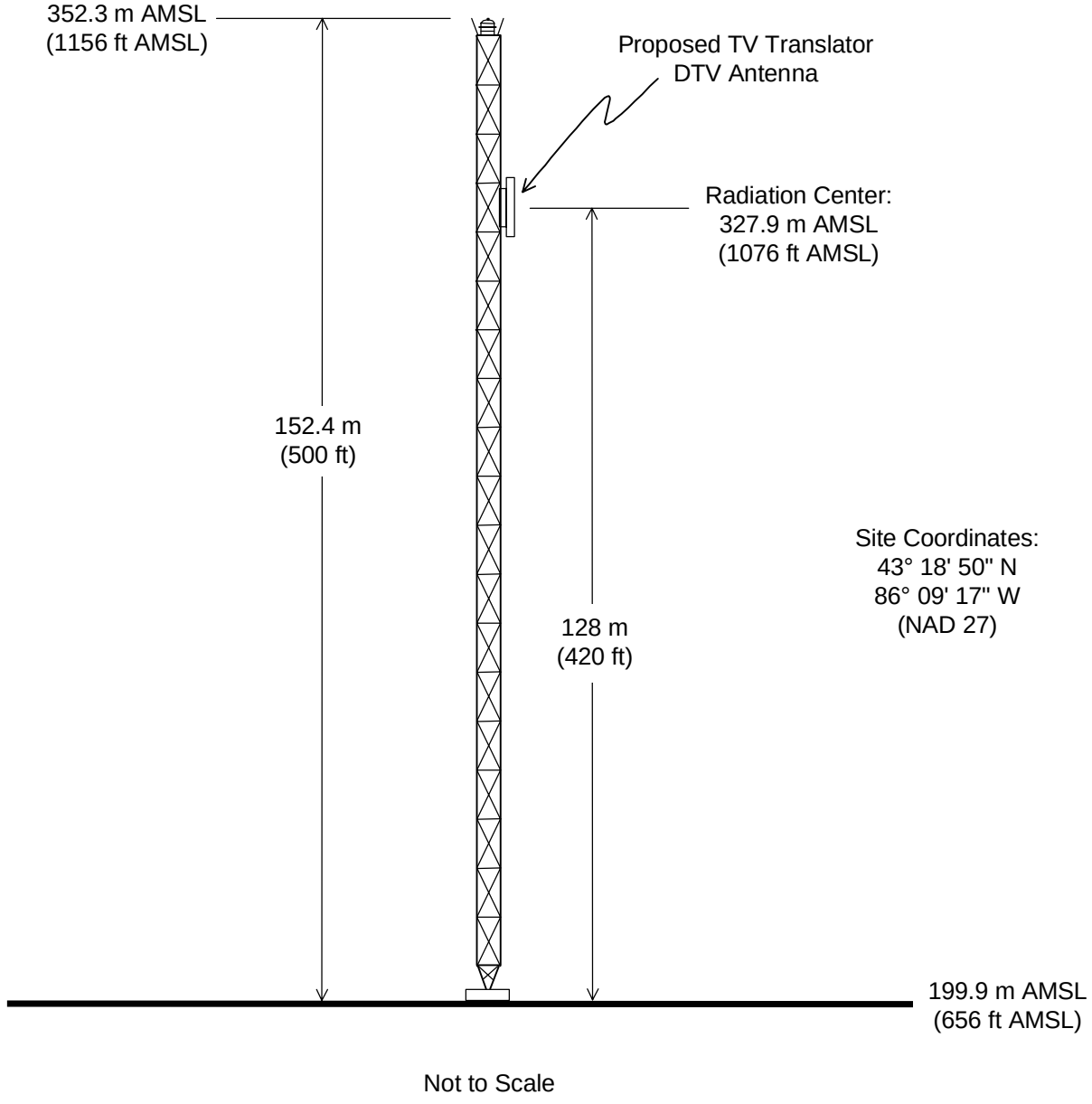
January 25, 2006

Figure 1

JANUARY 2006

Tower Reg. No. 1231051



ANTENNA AND SUPPORTING STRUCTURE

TV TRANSLATOR STATION W52DB

MUSKEGON, MI

CH 31 15 KW-ND

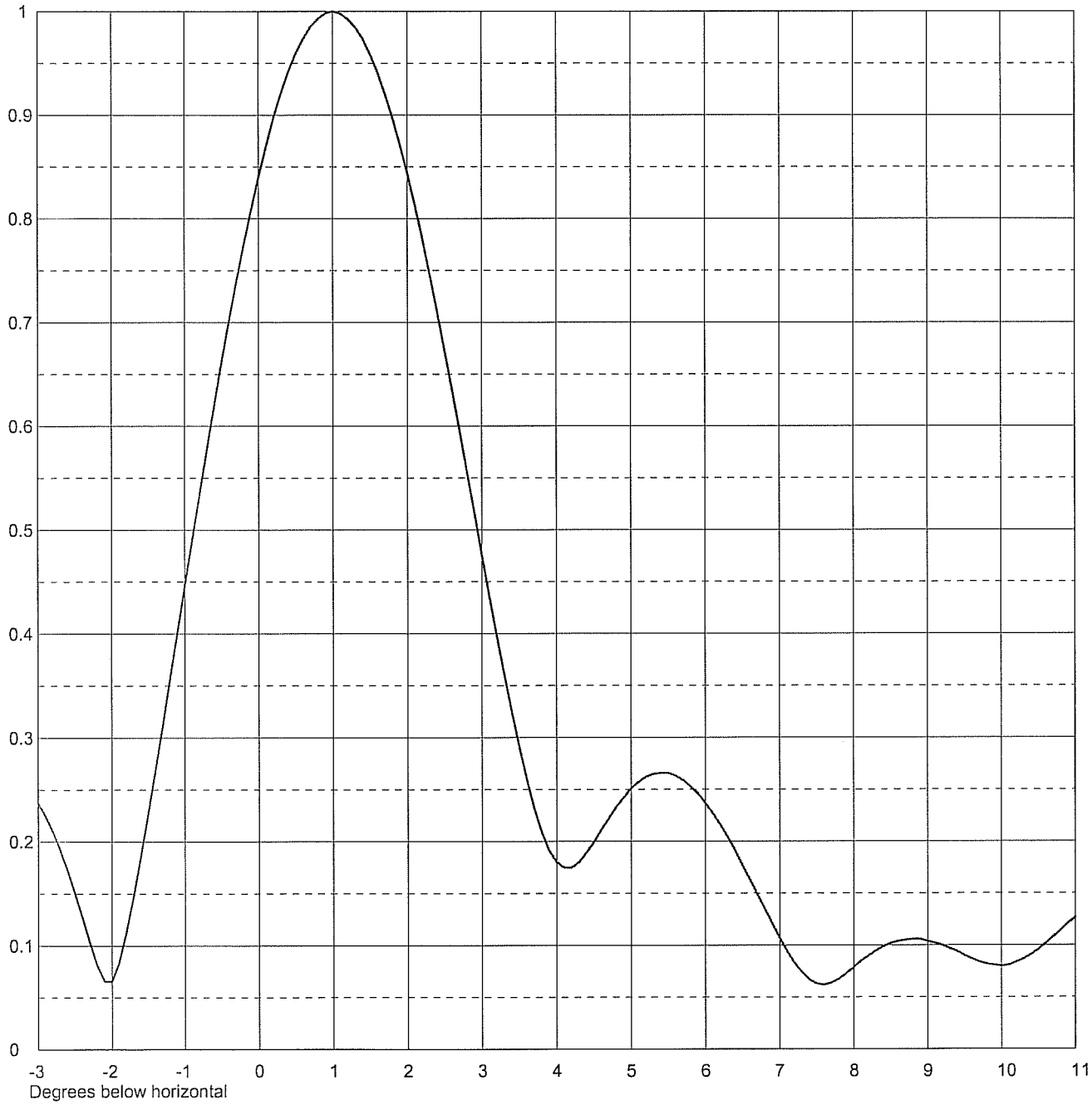
du Treil, Lundin & Rackley, Inc., Sarasota, Florida

Dielectric

Date	13 Jan 2006		
Call Letters	W52DB	Channel	31
Location	Muskegon, MI		
Customer			
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	575.00 MHz
Calculated / Measured	Calculated	Drawing #	16L160100



Remarks:

Dielectric

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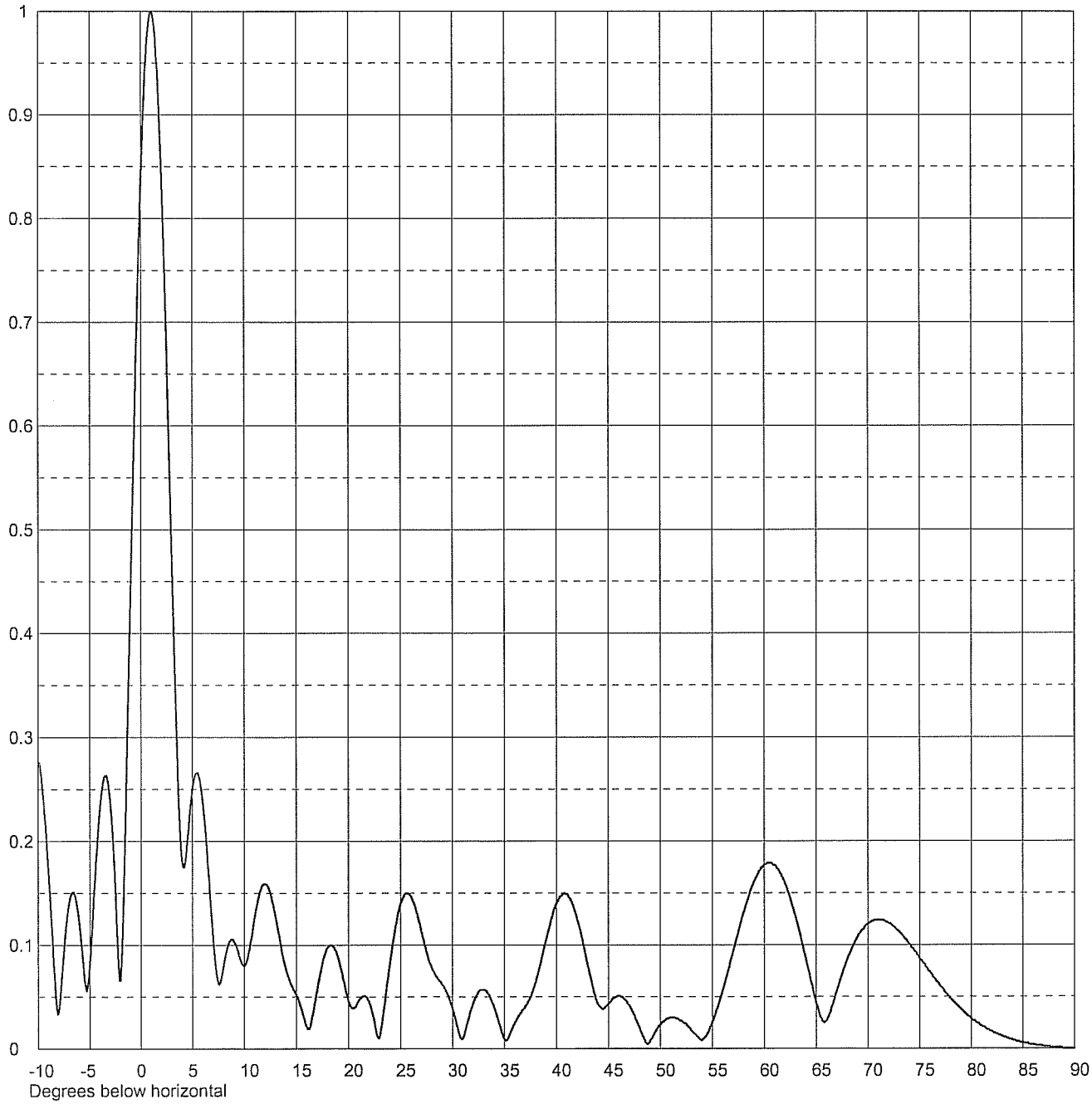
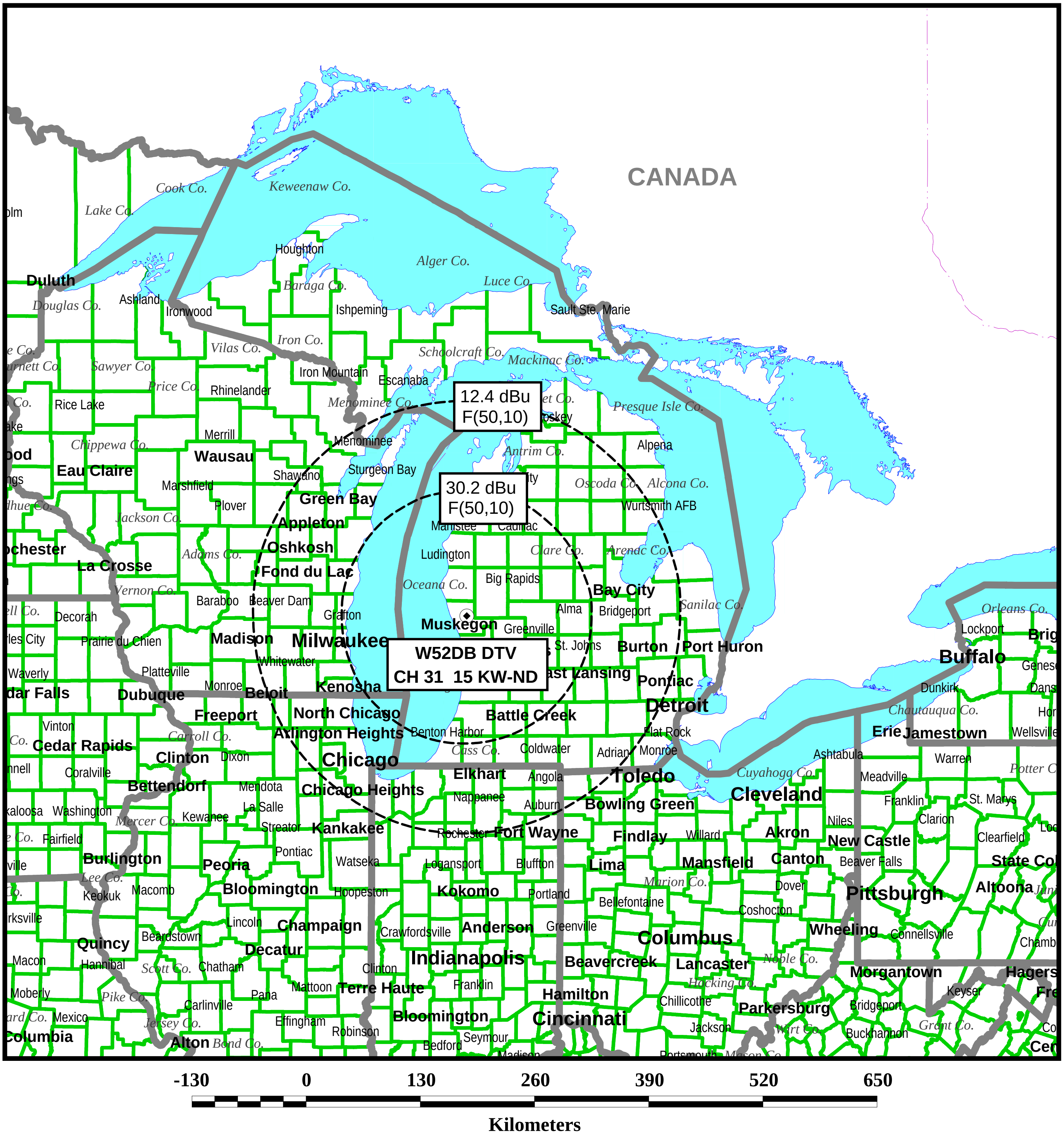
RMS Gain at Horizontal	11.3 (10.53 dB)	Frequency	575.00 MHz
Calculated / Measured	Calculated	Drawing #	16L160100-90



Remarks:

Figure 3

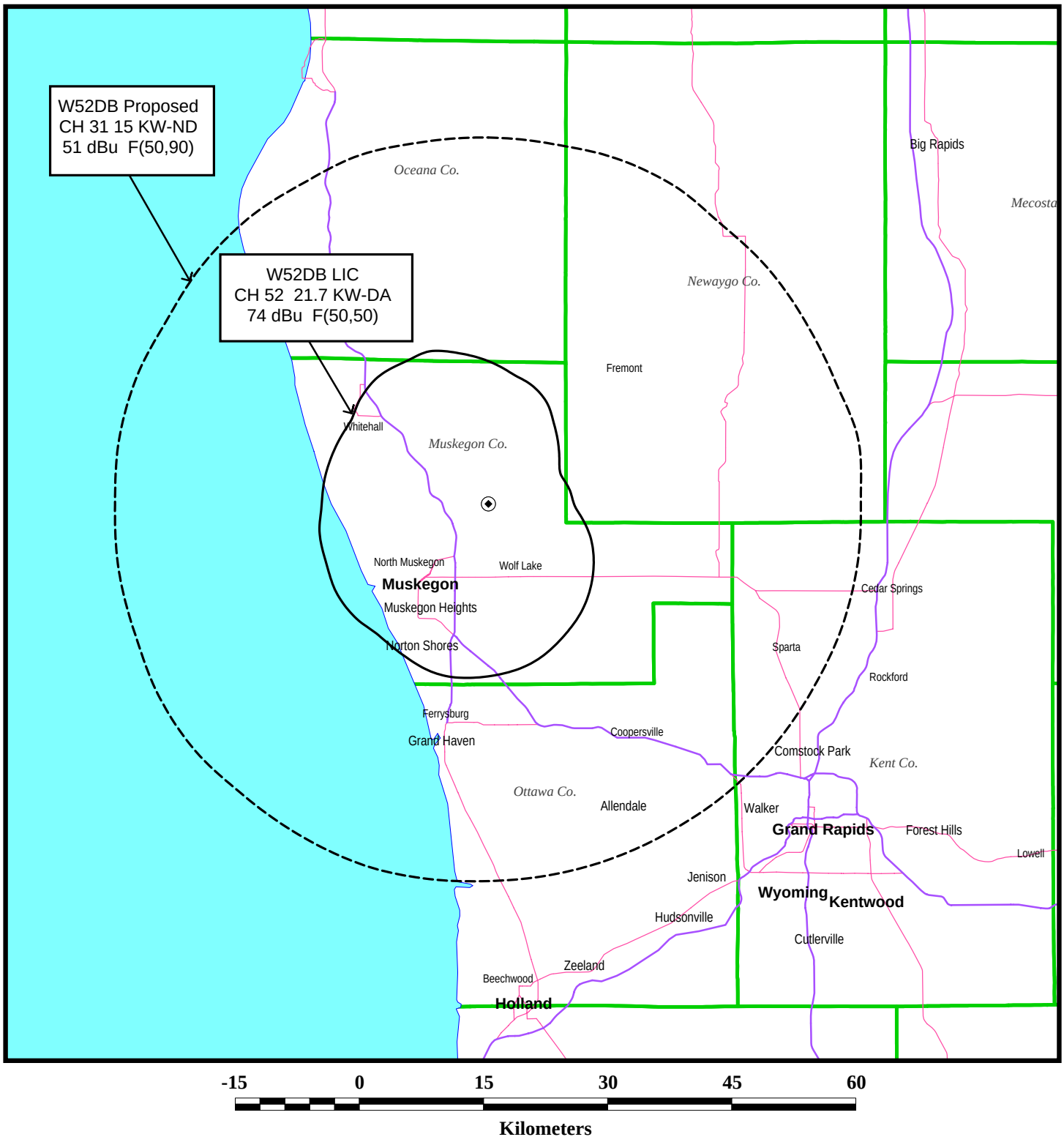


CANADA ALLOCATION

STATION W52DB
MUSKEGON, MICHIGAN

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 4



PREDICTED COVERAGE CONTOURS

STATION W52DB
MUSKEGON, MICHIGAN

du Treil, Lundin & Rackley, Inc. Sarasota, Florida