

TECHNICAL EXHIBIT
MINOR CHANGE AMENDMENT TO APPLICATION
FOR DTV CONSTRUCTION PERMIT
STATION WLVI-DT (FACILITY ID 73238)
CAMBRIDGE, MASSACHUSETTS

JANUARY 23, 2003

CH 41 550 KW (MAX-DA) 345 M

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Technical Narrative

This Technical Exhibit supports a minor change amendment to the application for digital television (DTV) construction permit (CP) for station WLVI-DT at Cambridge, Massachusetts. Station WLVI-DT's current application proposes operation on channel 41 (BPCDT-19990909AAH, Facility ID 73238). Station WLVI-DT proposes to use a Dielectric TFU-24DSB-B(C) directional antenna (DA) system. The antenna pattern is "omnioid" shaped with the major lobe oriented to the east (90 degrees True). The proposed maximum DTV effective radiated power (ERP) is 550 kilowatts (kW). The antenna will incorporate an electrical beam tilt of 1.5 degrees and an additional mechanical tilt of 1 degree at 90 degrees True. The proposed antenna center of radiation is located 343.5 meters above ground level (AGL), and 388 meters above mean sea level (AMSL). The proposed antenna height above average terrain (HAAT) is 345 meters. The transmitter site coordinates are 42-18-12, 71-13-08 (NAD-27). The FCC tower registration number for the supporting structure is 1004233.

Proposed DTV Facilities

This minor change amendment to the pending application proposes to change the directional antenna relative field values contained in paragraph 10e, Section III-D of FCC Form 301 to reflect the proposed antenna's relative field values at the radio horizon. There is no other change from that on file in the current WLVI-DT application.

Figure 1 is a sketch of the proposed WLVI-DT antenna mounted on the existing structure. This figure is submitted for convenient reference since there is no change from the information already on file.

Figure 2 contains the proposed directional antenna pattern information. The proposed antenna system consists of a Dielectric TFU-24DSB-B(C) with the major lobe oriented toward 90 degrees true. The antenna will incorporate an electrical beam tilt of 1.5 degrees and a mechanical tilt of 1 degree at 90 degrees True. The beam tilt at 90 degrees True (east) will be 2.5 degrees, and the beam tilt at 270 degrees True (west) will be 0.5 degree. Figure 2 includes the calculation of the proposed antenna relative field pattern at the radio horizon. The relative field values at the radio horizon are included in the application form.

The proposed WLVI-DT transmitter site is approximately 302 kilometers from the closest point of the Canadian border. Consideration has been given to the US/Canada Letter of Understanding (LOU) concerning implementation of digital television (DTV) in the border zone. For purposes of Canadian allocation concerns, the proposed WLVI-DT operation has been considered as Class VL. As shown in Figure 4, the proposed WLVI-DT operation is short-spaced to one Canadian DTV allotment, Class VU station CKMI-TV on channel 41 at Sherbrooke, Quebec. Interference calculations have been made using the Longley-Rice propagation model and the procedures contained in the US/Canada LOU (see sheet 3 of Figure 4). The interference calculations indicate that the proposed WLVI-DT operation will cause no interference in terms of population (ie, 0 people), and only 0.3% calculated interference in terms of area. It is believed the proposed WLVI-DT operation complies with the provisions of the US/Canada LOU. If coordination of the proposed WLVI-DT is required, it is respectfully requested with consideration given for use of the Longley-Rice showing as shown on sheet 3 of Figure 4.

The proposed WLVI-DT site is more than 2700 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Belfast, Maine approximately 294 kilometers to the northeast. The closest point of the National Radio Quiet Zone (VA/WV) is more than 700 kilometers to the southwest. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2800 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at Hancock, New Hampshire, approximately 94

kilometers to the northwest. These separations are considered sufficient to not be a coordination concern.

The proposed WLVI-DT site is the site authorized to stations WLVI-TV (Ch.56), WFXT-TV (Ch.25), WFXT-DT (Ch.31) and WSBK-TV (Ch.38). There are also TV and FM stations located on other towers in the vicinity. There are 3 AM stations located within 3.2 kilometers (2 miles) of the proposed WLVI-DT site. The AM stations are all 2.9 kilometers (1.8 miles) southeast of the WLVI-DT site. The AM stations are: WUNR on 1600 kHz at Brookline, MA (Lic. 5 kW DA-1, CP 20 kW DA-1); WKOK on 1200 kHz at Newton, MA (CP, 50 kW, DA-2); and WRCA on 1330 kHz at Watertown, MA (CP, 25 kW-D, 17 kW-N, DA-2). The addition of the WLVI-DT antenna to the existing structure is not expected to have any adverse impact on the 3 AM stations. Although no adverse electromagnetic interference is expected, the applicant recognizes that it is responsible to remedy prohibited electromagnetic problems that its proposed operation may create.

Figure 3 is a map showing the predicted 48 dBu F(50,90) principal city contour and 41 dBu F(50,90) service contour for the proposed WLVI-DT operation. The city limits of Cambridge, Massachusetts are identified. The estimated population within the proposed 41 dBu contour is 6,791,566 people (2000 Census).

Allocation Study

Figure 4 includes a separation study for DTV channel 41 at the proposed WLVI-DT site. The separation study was used for allocation reference purposes only. Interference calculations have been made to pertinent analog (NTSC) full service assignments and DTV allotments and assignments using the procedures outlined in the FCC's OET-69 Bulletin. The proposed WLVI-DT operation complies with the FCC's interference standards.

Pertinent low power television (LPTV) stations that qualify for Class A consideration and are operating within the FCC's core band (ie, 2-51) have been examined. Interference calculations using the procedures outlined in the FCC's OET-69 Bulletin and a 1 kilometer grid have been made. The proposed WLVI-DT operation will not cause

interference to any known Class A assignment. If necessary, a waiver of the FCC rules is respectfully requested based on use of the OET-69 procedures.

Radiofrequency Electromagnetic Field Exposure

The proposed WLVI-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 343.5 meters above ground level. The maximum DTV ERP is 550 kW. A relative field value of 0.2 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0063 mW/cm^2 . This is less than 2% of the FCC's recommended limit of 0.42 mW/cm^2 for channel 41 for an "uncontrolled" environment. The calculated power density 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. As this is a multi-user site an agreement will control access. 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. The proposed WLVI-DT operation appears to be otherwise categorically excluded from environmental processing.

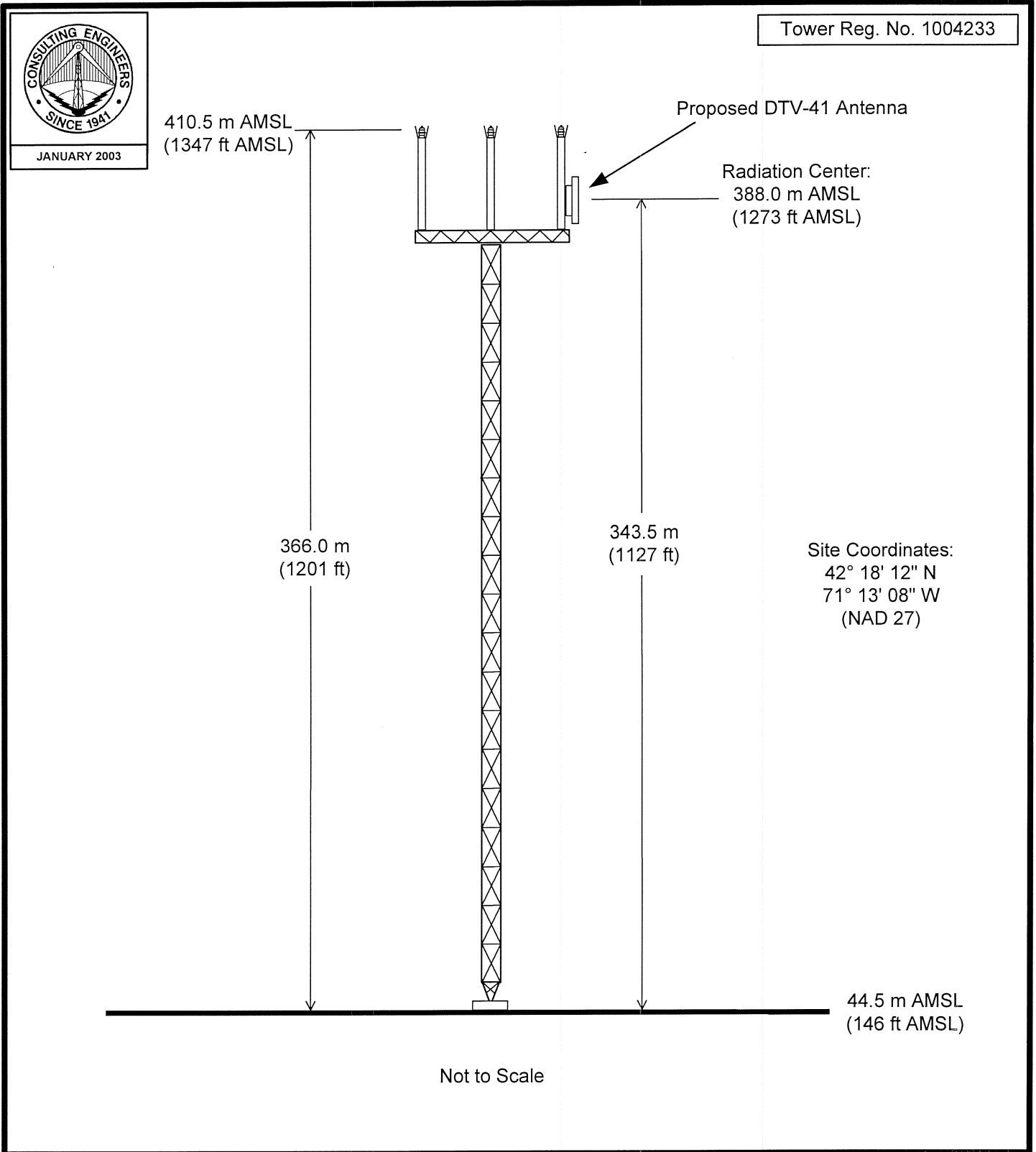
If there are questions concerning the technical portion of this application,
please contact the office of the undersigned.

John A. Lundin

du Treil, Lundin & Rackley, Inc.
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Sarasota, Florida 34237
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January 23, 2003

Figure 1



ANTENNA AND SUPPORTING STRUCTURE

STATION WLVI-DT

CAMBRIDGE, MASSACHUSETTS

CH 41 550 KW (MAX-DA) 345 M

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

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CALCULATION OF PROPOSED DA RELATIVE FIELD & ERP AT RADIO HORIZON

<u>Bearing</u>	<u>Antenna HAAT</u>	<u>Depression Angle to Radio Horizon</u>	<u>Antenna Total Vertical Beam Tilt</u>	<u>Vertical Pattern Relative Field at Radio Horizon</u>	<u>Antenna Azimuth Pattern Relative Field</u>	<u>Adjusted Relative Field at Radio Horizon</u>	<u>ERP at Radio Horizon</u>
0 deg.	338.0 m	0.51 deg.	1.50 deg.	0.68	0.65	0.44	106.5 kW
10	342.7	0.51	1.67	0.58	0.699	0.41	92.5
20	362.1	0.53	1.84	0.50	0.759	0.38	79.4
30	366.1	0.53	2.00	0.37	0.817	0.30	49.5
40	368.3	0.53	2.14	0.31	0.869	0.27	40.1
50	363.6	0.53	2.27	0.23	0.914	0.21	24.3
60	366.5	0.53	2.37	0.19	0.951	0.18	17.8
70	362.3	0.53	2.44	0.16	0.975	0.16	14.1
80	358.3	0.52	2.49	0.15	0.993	0.15	12.4
90	356.7	0.52	2.50	0.15	1.0	0.15	12.4
100	362.8	0.53	2.49	0.15	0.996	0.15	12.4
110	361.5	0.53	2.44	0.16	0.981	0.16	14.1
120	350.3	0.52	2.37	0.19	0.955	0.18	17.8
130	346.6	0.52	2.27	0.23	0.92	0.21	24.3
140	348.1	0.52	2.14	0.30	0.876	0.26	37.2
150	361.2	0.53	2.00	0.37	0.826	0.31	52.9
160	355.3	0.52	1.84	0.49	0.771	0.38	79.4
170	345.5	0.52	1.67	0.59	0.714	0.42	97.0
180	336.1	0.51	1.50	0.68	0.661	0.45	111.4
190	330.0	0.50	1.33	0.78	0.615	0.48	126.7
200	323.6	0.50	1.16	0.86	0.583	0.50	137.5
210	327.4	0.50	1.00	0.92	0.57	0.57	178.7
220	338.0	0.51	0.86	0.96	0.57	0.57	178.7
230	334.5	0.51	0.73	0.99	0.59	0.59	191.5
240	338.7	0.51	0.63	1.00	0.61	0.61	204.7
250	333.0	0.51	0.56	1.00	0.63	0.63	218.3
260	337.5	0.51	0.52	1.00	0.64	0.64	225.3
270	339.7	0.51	0.50	1.00	0.65	0.65	232.4
280	334.9	0.51	0.52	1.00	0.64	0.64	225.3
290	326.4	0.50	0.56	1.00	0.63	0.63	218.3
300	330.2	0.50	0.63	1.00	0.61	0.61	204.7
310	340.4	0.51	0.73	0.99	0.59	0.59	191.5
320	338.9	0.51	0.86	0.96	0.58	0.58	185.0
330	343.8	0.51	1.00	0.92	0.57	0.57	178.7
340	341.2	0.51	1.16	0.86	0.579	0.50	137.5
350	342.2	0.51	1.33	0.78	0.61	0.48	126.7

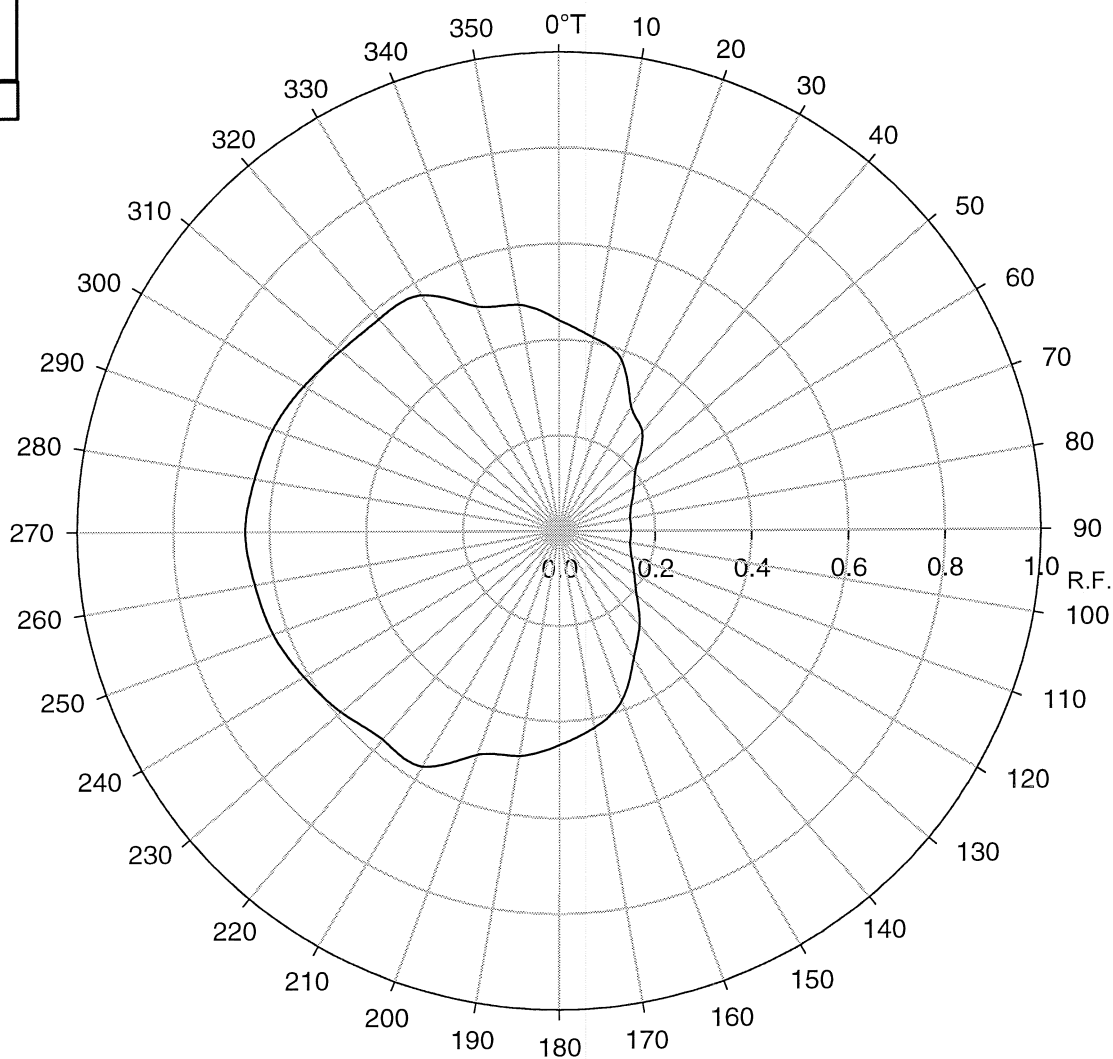
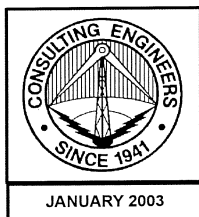
Antenna HAAT determined with 3 second digitized terrain database and antenna radiation center height of 388 m AMSL.

Depression angle to radio horizon determined by $0.0277 \times \text{square root of HAAT}$ per Section 73.684 of FCC rules.

Tilt of antenna vertical beam based on proposal of 1.5 degrees of electrical tilt and 1.0 degree of mechanical tilt at 90 degrees True.

Vertical pattern relative field based on information provided by Dielectric for TFU-24DSB-B(C) antenna with 1.5 degrees of electrical beam tilt (see Sheet 5 of Figure 2)

Azimuth pattern relative field based on Dielectric TFU-24DSB-B(C) with major lobe oriented toward 90 degrees True.



RELATIVE FIELD PATTERN ENVELOPE AT RADIO HORIZON

TV STATION WLVI-DT
CAMBRIDGE, MASSACHUSETTS
CH 41 550 KW (MAX-DA) 345 M

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

Dielectric

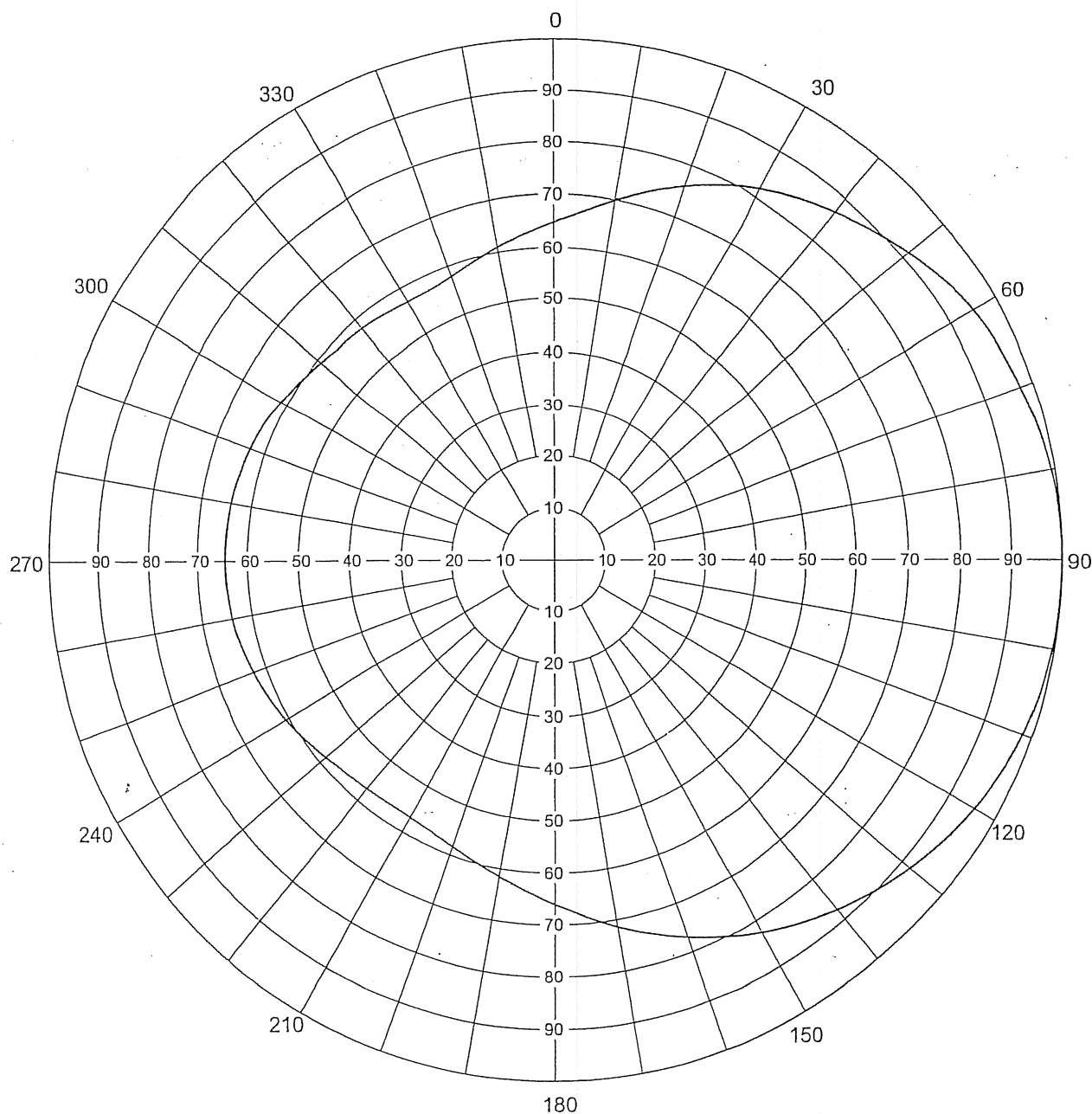
Date
Call Letters **WLVI-DT**
Location
Customer
Antenna Type

AZIMUTH PATTERN

RMS Gain at Main Lobe
Calculated / Measured

1.70 (2.30 dB)
Calculated

Frequency **MHz**
Drawing # **DSB-B**

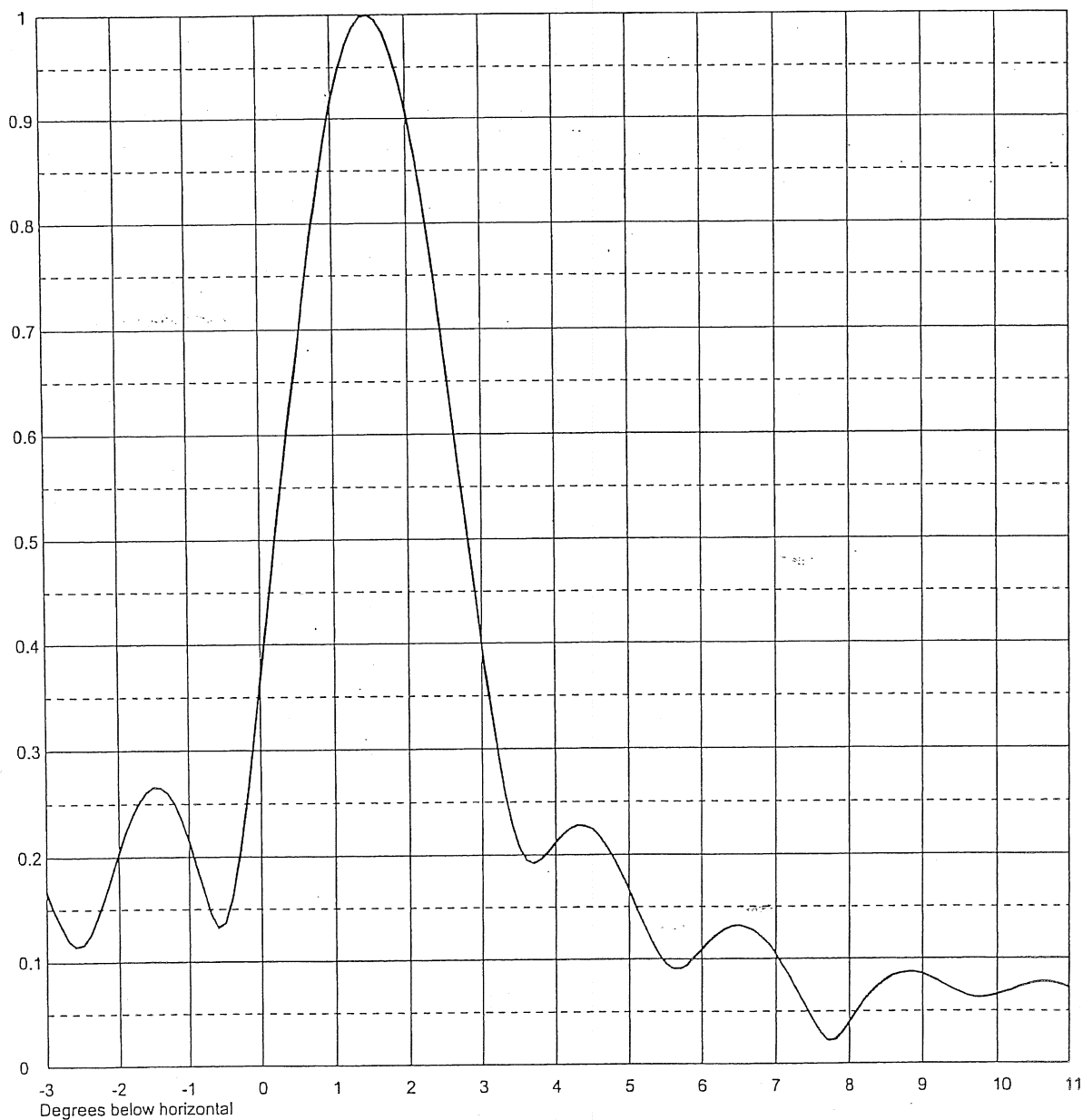




Date
Call Letters **WLVI-DT**
Location
Customer
Antenna Type

ELEVATION PATTERN

RMS Gain at Main Lobe	23.5 (13.71 dB)	Beam Tilt	1.50 Degrees
RMS Gain at Horizontal	3.2 (5.05 dB)	Frequency	MHz
Calculated / Measured	Calculated	Drawing #	24B235150



Dielectric

Date
Call Letters **WLVI-DT**
Location
Customer
Antenna Type

ELEVATION PATTERN

RMS Gain at Main Lobe	23.5 (13.71 dB)	Beam Tilt	1.50 Degrees
RMS Gain at Horizontal	3.2 (5.05 dB)	Frequency	MHz
Calculated / Measured	Calculated	Drawing #	24B235150-90

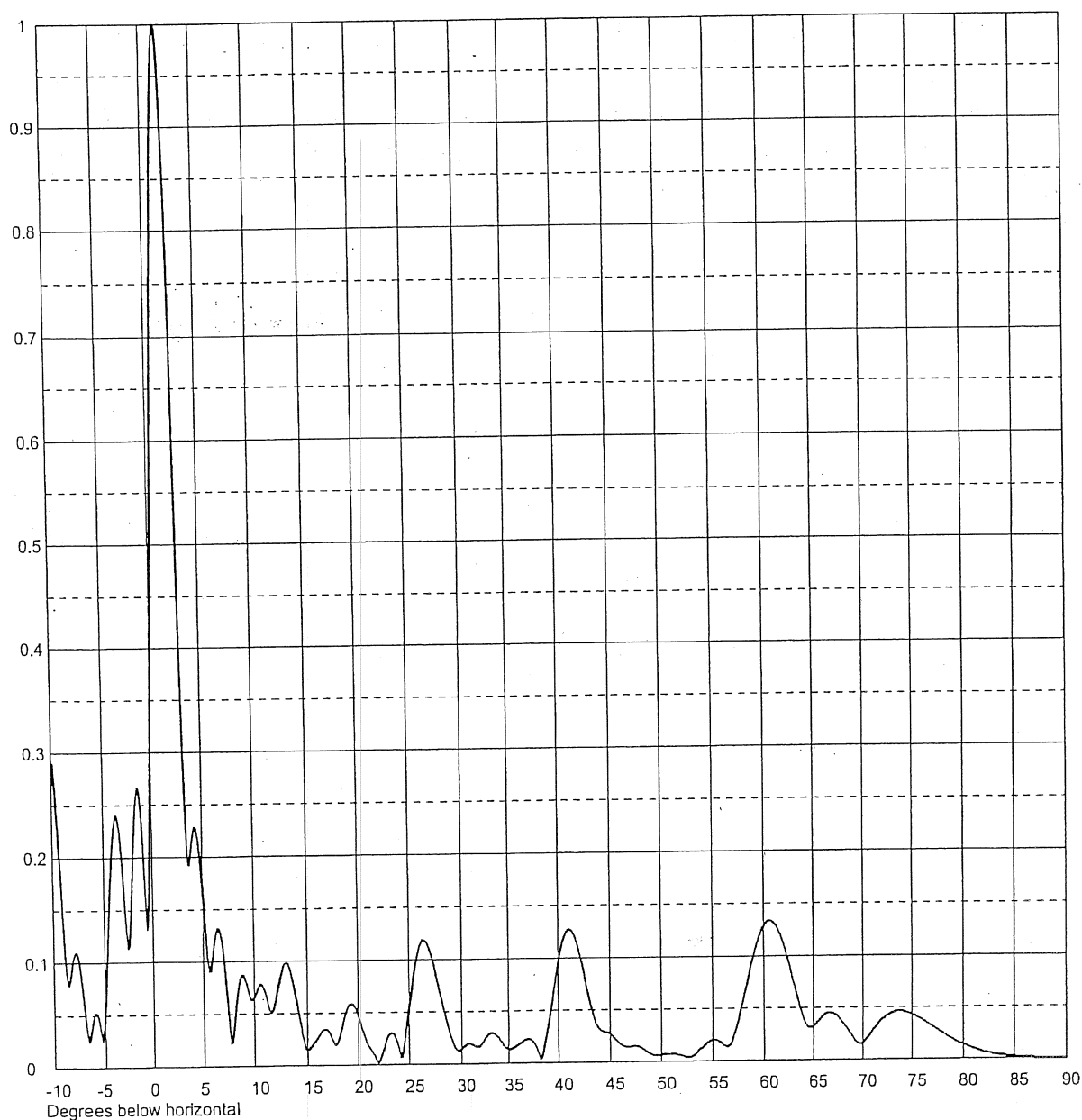
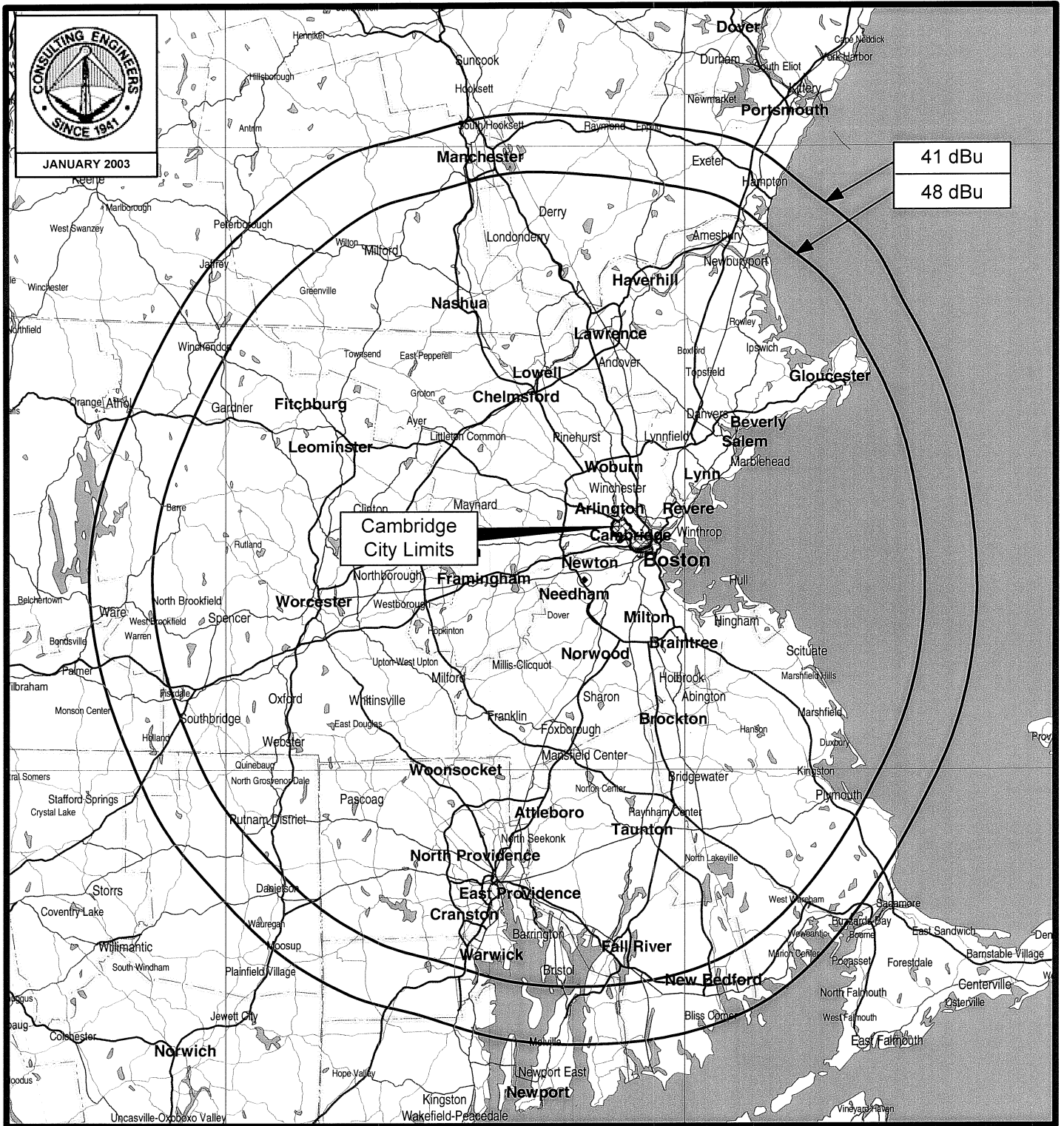


Figure 3



PREDICTED DTV COVERAGE CONTOURS

STATION WLVI-DT
CAMBRIDGE, MASSACHUSETTS
CH 41 550 KW (MAX-DA) 345 M

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

CDBS TV/DTV SEPARATION STUDY

Job Title: Proposed WLVI-DT, Cambridge, MA.

Separation Buffer: 100 km

Channel: 41 Zone: I Type: DTV Class: VL

Coordinates: 42-18-12 071-13-08

<u>Call</u> <u>FID</u>	<u>City</u> <u>St</u>	<u>Status</u>	<u>File</u> <u>Num.</u>	<u>Chan.</u> <u>Zone</u>	<u>ERP-kW</u> <u>HAAT-m</u>	<u>DA</u> <u>ID</u>	<u>Latitude</u> <u>Longitude</u>	<u>Bearing</u> <u>(deg.)</u>	<u>Distance</u> <u>(km)</u>	<u>Required</u> <u>(km)</u>
WHPX 51980	NEW LONDON CT	LIC C	BLCT 19860924KI	26 (+) I	2820.0 381	DA 24006	41-25-05 072-11-55	219.8	127.6	<24.1,>80.5 Clear
WMEA-TV 39656	BIDDEFORD ME	APP C	BPET 20020814AB	26 (-) I	133.0 230.7	DA 44407	43-25-00 070-48-17	15.1	128.2	<24.1,>80.5 Clear
WMEA-TV 39656	BIDDEFORD ME	LIC C	BLET 379	26 (-) I	692.0 244	ND	43-25-00 070-48-09	15.2	128.3	<24.1,>80.5 Clear
WUNI 30577	WORCESTER MA	LIC C	BLCT 19991214AB	27 (Z) I	1150.0 466	ND	42-20-09 071-42-57	275.2	41.1	<24.1,>80.5 Short
WNEU 51864	MERRIMACK NH	APP C	BPCT 20020123AA	34 (Z) I	1410.0 293	DA 43208	42-59-02 071-35-20	338.3	81.5	<24.1,>80.5 Clear
WSBK-TV 73982	BOSTON MA	LIC C	BLCT 19910619KG	38 (Z) I	2340.0 354	ND	42-18-12 071-13-08	90.0	0.0	<24.1,>80.5 Clear
WDPX-DT 6476	VINEYARD MA	APP C	HA BPCDT 19991101AF	40 I	300.0 153	DA 42283	41-41-20 070-20-49	133.2	99.4	<24,>110 Short
DWZBU	VINEYARD MA	HA DTV ALLOTMENT		40 I	50.0 155	DA	41-41-19 070-20-49	133.2	99.4	<24,>110 Short
WGGB-TV 25682	SPRINGFIELD MA	LIC C	BLCT 19990429KH	40 (Z) I	4270.0 324	DA 17192	42-14-30 072-38-57	267.1	118.2	<12,>106 Clear
WLVI-DT 73238	CAMBRIDGE MA	APP C	BPCDT 19990909AA	41 I	550.0 345	DA 42833	42-18-12 071-13-08	0.0	0.0	
DWLVI	CAMBRIDGE MA	DTV ALLOTMENT		41 I	50.0 360	DA	42-18-12 071-13-08	0.0	0.0	
WVTA 69943	WINDSOR VT	APP C	BPET 20020507AA	41 (Z) I	875.0 692	ND	43-26-15 072-27-08	321.9	161.3	217.3 Short

FIGURE 4
Sheet 2 of 3

Call FID	City St	Status	File Num.	Chan. Zone	ERP-kW HAAT-m	DA ID	Latitude Longitude	Bearing (deg.)	Distance (km)	Required (km)
WVTA 69943	WINDSOR VT CP	C	BPET 19990413KF	41 (Z) I	1050.0 693	DA 19011	43-26-15 072-27-08	321.9	161.3	217.3 Short
WVTA 69943	WINDSOR VT LIC	C	BLET 19900213KE	41 (Z) I	1050.0 684	DA	43-26-15 072-27-09	321.9	161.4	217.3 Short
WFYW-LP 33955	WATERVILLE ME LIC	C	BLTTL 19991208AB	41 (-)	28.5	ND	44-29-04 069-39-20	27.0	273.4	Class A
WXTV 74215	PATERSON NJ LIC	C	BLCT 19920218KE	41 (-) I	2340.0 421	DA 17280	40-44-54 073-59-10	234.0	288.4	217.3 Clear
WXTV 74215	PATERSON NJ CP	C	BPCT 20000202AA	41 (-) I	2340.0 421	DA 31174	40-44-54 073-59-10	234.0	288.4	217.3 Clear
CKMI-TV	SHERBROOKE QU CAN	DTV ALLOTMENT		41-VU I			45-18-43 072-14-32	346.6	344.3	371.0 Short
DWHDHT	BOSTON MA DTV	ALLOTMENT		42 I	947.9 306	DA	42-18-40 071-13-00	11.9	0.9	<24,>110 Clear
WHDH-DT 72145	BOSTON MA LIC	C	BLCDT 19990408KF	42 I	948.0 288	ND	42-18-41 071-13-00	11.5	0.9	<24,>110 Clear
WSAH-DT 70493	BRIDGEPORT CT APP	C	BPCDT 19991101AF	42 I	778.0 152	ND	41-21-43 073-06-48	236.9	188.9	<24,>110 Clear
DWHAIT	BRIDGEPORT CT DTV			42 I	50.0 156	DA	41-21-43 073-06-48	236.9	188.9	<24,>110 Clear
WGBX-TV 72098	BOSTON MA LIC	C	BLET 20010103AB	44 (Z) I	1100.0 374	ND	42-18-37 071-14-14	297.1	1.7	<24.1,>80.5 Clear
WRDM-LP 10153	HARTFORD CT CP	C	BPTTL 20000728AF	44 (+)	0.118	ND	41-46-07 072-40-26	244.2	134.3	Class A
	WESTBROOK ME ADD	C		45 (+) I			43-40-36 070-21-48	24.2	167.8	<24.1,>80.5 Clear
WYDN 18783	WORCESTER MA LIC	C	BLET 20001226AA	48 (+) I	2290.0 246	DA 40666	42-18-14 071-53-51	270.3	56.0	<24.1,>80.5 Short

Study Date: 20030122

Study Start: 09:43:57

CANADIAN INTERFERENCE CAUSED BY PROPOSED WLVI-DT TO CKMI-TV DTV ALLOTMENT

CELL SIZE : 2.0 km

Using DTV->DTV service parameters from US/Canada LOU

Using circles for service area

CKMI-TV 45-18-43 072-14-32 41(0) 550.0 kW 599.0 m AMSL 90.0 % 39.0 dBu
SHERBROOKE QU
CANTAB DTV ALLOTMENT CLASS VU
Calculated RCAMSL with HAAT of 300 m
% loc = 90.00 % time = 90.00

	Area	Pop
within Noise Limited Contour	21118.8 sq km	720585
not affected by terrain losses	18388.7	691537

WLVI-DT 42-18-12 071-13-08 41(N) 550.0 kW-DA 388 m AMSL 10.0 % 39.0
CAMBRIDGE MA 17066 5802 DTVSERVICE: 5802000 NTSCSERVICE: 5805000
PROPOSED AMENDMENT TO APPLICATION BPCDT-19990909AAH CLASS VL
0.44 0.41 0.38 0.30 0.27 0.21 0.18 0.16 0.15 0.15 0.15 0.16
0.18 0.21 0.26 0.31 0.38 0.42 0.45 0.48 0.50 0.57 0.57 0.59
0.61 0.63 0.64 0.65 0.64 0.63 0.61 0.59 0.58 0.57 0.50 0.48
Ref Az: 0.0

D/U Baseline: 19.5 dB

% loc = 10 % time = 10

	Area	Pop
Interference	64.1 sq km	0 (0.0%)

Study end time: 09:44:53

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 CAMBRIDGE, MASSACHUSETTS
 CH 41 550 KW (MAX-DA) 345 M

Technical Specifications

Channel	41
Frequency	632-638 MHz
Proposed Site Coordinates (NAD 27)	42° 18' 12" North Latitude 71° 13' 08" West Longitude
Site Elevation above mean sea level	44.5 m
Average elevation above mean sea level of 8 equally spaced radials, 3-16 kilometers	43.0 m
Overall height of antenna structure (#1004233)	
Above ground	366.0 m
Above mean sea level	410.5 m
Height of antenna radiation center	
Above ground	343.5 m
Above mean sea level	388.0 m
Above average terrain	345 m
Transmitter rated power output (average)	20 kW
Transmission line	Dielectric 7 inch 75 Ohm rigid coax
Length	(1150 ft) 350.5 m
Efficiency (1.22 dB loss)	75.5%
Shared Line Combiner/Splitter (0.3 dB loss)	93.3%
Antenna	Dielectric TFU-24DSB-B(C)
Polarization	Horizontal
Peak Power Gain	40.0
Beam Tilt (electrical)	1.5°
Main Lobe	90° T
Beam tilt (mechanical at 90 degrees True)	1.0 deg.

Proposed Operation

Transmitter output power (average)	19.5 kW
Transmission line/combiner/splitter loss	5.7 kW
Antenna input power	13.8 kW
Maximum DTV Effective Radiated Power (MAX-DA) (at 90 degrees True and 2.5 degrees depression angle)	550 kW

SECTION III-D - DTV ENGINEERING DATA

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:	
(a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this location as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input checked="" type="radio"/> No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must submit the Exhibit called for in Item 13.	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community.	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable.	<input checked="" type="radio"/> Yes <input type="radio"/> No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	<input checked="" type="radio"/> Yes <input type="radio"/> No

SECTION III-D - DTV Engineering**TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1.	Channel Number: DTV 41 Analog TV, if any 56
2.	Zone: I <input checked="" type="radio"/> II <input type="radio"/> III <input type="radio"/>
3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 42 Minutes 18 Seconds 12 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 71 Minutes 13 Seconds 8 <input checked="" type="radio"/> West <input type="radio"/> East
4.	Antenna Structure Registration Number: 1004233 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
5.	Antenna Location Site Elevation Above Mean Sea Level: 44.5 meters
6.	Overall Tower Height Above Ground Level: 366 meters
7.	Height of Radiation Center Above Ground Level: 343.5 meters
8.	Height of Radiation Center Above Average Terrain : 345 meters

9.	Maximum Effective Radiated Power :	550 kW																																																																																																
10.	<p>Antenna Specifications:</p> <p>a. Manufacturer DIE Model TFU-24DSB-B (C)</p> <p>b. Electrical Beam Tilt: 1.5 degrees <input type="checkbox"/> Not Applicable</p> <p>c. Mechanical Beam Tilt: 1 degrees toward azimuth 90 degrees True <input type="checkbox"/> Not Applicable</p> <p style="text-align: right;">[Exhibit 39]</p> <p>Attach as an Exhibit all data specified in 47 C.F.R. Section 73.685.</p> <p>d. Polarization: <input checked="" type="radio"/> Horizontal <input type="radio"/> Circular <input type="radio"/> Elliptical</p> <p>e. Directional Antenna Relative Field Values: <input type="checkbox"/> Not applicable (Nondirectional)</p> <p>[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.] [Relative Field Values]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">10e. Directional Antenna Relative Field Values [Fill in this subform for a composite directional (not off-the-shelf) antenna, only.]</p> <p>e. Directional Antenna Relative Field Values:</p> <p>Rotation (Degrees): <input checked="" type="checkbox"/> No Rotation</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th></tr> </thead> <tbody> <tr><td>0</td><td>0.44</td><td>10</td><td>0.41</td><td>20</td><td>0.38</td><td>30</td><td>0.3</td><td>40</td><td>0.27</td><td>50</td><td>0.21</td></tr> <tr><td>60</td><td>0.18</td><td>70</td><td>0.16</td><td>80</td><td>0.15</td><td>90</td><td>0.15</td><td>100</td><td>0.15</td><td>110</td><td>0.16</td></tr> <tr><td>120</td><td>0.18</td><td>130</td><td>0.21</td><td>140</td><td>0.26</td><td>150</td><td>0.31</td><td>160</td><td>0.38</td><td>170</td><td>0.42</td></tr> <tr><td>180</td><td>0.45</td><td>190</td><td>0.48</td><td>200</td><td>0.5</td><td>210</td><td>0.57</td><td>220</td><td>0.57</td><td>230</td><td>0.59</td></tr> <tr><td>240</td><td>0.61</td><td>250</td><td>0.63</td><td>260</td><td>0.64</td><td>270</td><td>0.65</td><td>280</td><td>0.64</td><td>290</td><td>0.63</td></tr> <tr><td>300</td><td>0.61</td><td>310</td><td>0.59</td><td>320</td><td>0.58</td><td>330</td><td>0.57</td><td>340</td><td>0.5</td><td>350</td><td>0.48</td></tr> <tr> <td colspan="2">Additional Azimuths</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> </div> <p style="margin-top: 10px;">If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. Exhibit required. [Exhibit 40]</p>		Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	0	0.44	10	0.41	20	0.38	30	0.3	40	0.27	50	0.21	60	0.18	70	0.16	80	0.15	90	0.15	100	0.15	110	0.16	120	0.18	130	0.21	140	0.26	150	0.31	160	0.38	170	0.42	180	0.45	190	0.48	200	0.5	210	0.57	220	0.57	230	0.59	240	0.61	250	0.63	260	0.64	270	0.65	280	0.64	290	0.63	300	0.61	310	0.59	320	0.58	330	0.57	340	0.5	350	0.48	Additional Azimuths											
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11.	<p>Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if Certification Checklist items 1(a), (b), or (c) are answered "No".)</p> <p style="text-align: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No [Exhibit 41]</p> <p>If No, attach as an Exhibit justification therefore, including a summary of any previously granted waivers.</p>																																																																																																	
12.	<p>If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if Certification Checklist item 3 is answered "No".)</p> <p style="text-align: right;">[Exhibit 42]</p>																																																																																																	
13.	<p>Environmental Protection Act. Submit in an Exhibit the following: [Exhibit 43]</p> <p>If Certification Checklist Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.</p> <p>By checking "Yes" to Certification Checklist Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in</p>																																																																																																	

excess of FCC guidelines.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.

PREPARERS CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.

Exhibits

Exhibit 39

Description: SEE EXHIBIT 43 - FIGURE 2

Exhibit 40

Description: SEE EXHIBIT 43 - FIGURE 2

Exhibit 42

Description: SEE EXHIBIT 43 - FIGURE 3

COMPLIES WITH SECTION 73.625

Exhibit 43

Description: COMPREHENSIVE TECHNICAL EXHIBIT

TECHNICAL NARRATIVE

FIGURE 1 - ANTENNA AND SUPPORTING STRUCTURE

FIGURE 2 - ANTENNA PATTERNS

FIGURE 3 - PREDICTED DTV COVERAGE CONTOURS

FIGURE 4 - ALLOCATION STUDY

FIGURE 5 - TECHNICAL SPECIFICATIONS

Attachment 43

Description

[COMPREHENSIVE TECHNICAL EXHIBIT](#)

SECTION III - PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOHN A. LUNDIN	Relationship to Applicant (e.g., Consulting Engineer) TECHNICAL CONSULTANT	
Signature	Date 1/23/2003	
Mailing Address DU TREIL, LUNDIN & RACKLEY, INC. 201 FLETCHER AVENUE		
City SARASOTA	State or Country (if foreign address) FL	Zip Code 34237 -
Telephone Number (include area code) 9413296000	E-Mail Address (if available) JOHN@DLR.COM	

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