

Comprehensive Technical Exhibit

Amendment to Application for Construction Permit

WHOI-DT – Peoria, Illinois

Barrington Peoria License LLC

March, 2008

General

The following engineering statement and attached exhibits have been prepared for **Barrington Peoria License LLC**, licensee of digital television station WHOI-DT (Facility ID: 6866) at Peoria, Illinois, and are in support of their amendment to application for construction permit for the WHOI-DT post transition facilities.¹ WHOI currently operates on channel 19 as an NTSC facility, with current pre-transition DTV operations on channel 40. In the post-transition environment, WHOI-DT will operate on channel 19 pursuant to the Commission's DTV Table of Allotments.

In its original application, Barrington proposed that WHOI would operate with a maximum effective radiated power of 49 kW at a center of radiation of 203 meters above average terrain utilizing the existing WHOI(TV) Harris TAZ-38U antenna. This combination of parameters caused the distance to the predicted noise limited service contour along several azimuths to exceed the five mile limitation imposed in Report and Order In the Matter of the Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television.² This extension in the noise limited service contour was necessary to avoid loss of service to approximately 54,000 viewers who currently receive the station's analog service. Barrington therefore sought a case-by-case waiver of the Commission's filing freeze.

Although the parameters proposed in the original application would permit the applicant to more closely replicate current analog Grade B service contour, the Commission's staff has advised Barrington that the application would not promptly be granted because it proposes to extend the

¹ The pending application bears FCC File Number BPCDT-20080317AHQ.

² See Paragraph 151 of the Report and Order in the Matter of the Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television.

station's contour by more than five miles beyond the station's Appendix B contour. In order to obtain prompt approval of its application for construction permit, this amended application therefore proposes a reduction in the effective radiated power from the originally proposed 49 kW maximum to a maximum of 7.8 kW. All other parameters provided in the original application remain unchanged. In order to avoid substantial loss of service to the station's analog viewers, however, Barrington intends to file an application to expand these facilities after the Commission begins accepting expansion applications.

Amended Discussion of WHOI-DT Allotment and Proposed Facilities

In the Commission's Table of Allotments, WHOI-DT is specified as operating in the post-transition environment on channel 19. Appendix B specifies a maximum effective radiated power of 52.7 kW at an antenna center of radiation at 160 meters above average terrain and an antenna ID of 74550 for WHOI-DT operations.

As discussed in the original application, the pattern contained within Antenna ID 74550 is consistent with the antenna utilized for WHOI-DT's pre-transition operations on channel 40, but is inconsistent with the antenna to be utilized in the post-transition environment.³ WHOI-DT will operate on channel 19 in the post-transition environment utilizing its current analog antenna system. The channel 19 antenna is a Harris TAZ-38U, which is a "zig-zag" type antenna with a specified directional pattern. Although this pattern is generally similar to the Andrew pattern in terms of shape, rotation of the pattern and scalloping caused by the design of the Harris antenna as well as the necessary above described reduction in effective radiated power will result in changes causing the proposed facility to vary from the facilities described in Appendix B.

³ WHOI-DT is an Andrew (ERI) ALP16M2-HSE-40. Specified rotation of the off-the-shelf pattern is 0 degrees as the solitary main lobe of this pattern is oriented at true north.

In addition to the proposed directional antenna pattern change, a change in the height above average terrain for the proposed facility relative to the Appendix B facilities will be necessary. This change in the height above average terrain is necessary to ensure that the construction permit accurately reflects the height above average terrain at which the station's analog antenna is currently mounted. It was determined that the center of radiation of the WHOI-DT antenna specified in Appendix B is correct relative to mean sea level, but is incorrect relative to average terrain. Specifically, the antenna's center of radiation should be 203.1 meters above average terrain as specified in the original application and unchanged in this amendment.

It should be noted that the center of radiation for the channel 19 NTSC antenna, which will be utilized for DTV operations in the post-transition environment, relative to mean sea level is in fact correct at 388 meters AMSL. Similarly, the center of radiation above ground level is also correct. Only the center of radiation above average terrain was in question, and has been appropriately corrected.

Although an effective radiated power of 52.7 kW was specified in Appendix B, the applicant now proposes a reduction in the maximum effective radiated power to 7.8 kW to comply with the five mile provision in the Third Periodic Review. This reduction in the effective radiated power will necessarily result in a noise limited service contour that is considerably smaller in area than the authorized Grade B service contour, the allocated noise limited service contour by Appendix B, and the pre-transition licensed noise limited service contour. As described above, the applicant will submit an application to increase the maximum effective radiated power to a level that more closely replicates the existing Grade B contour once the Commission begins accepting such applications.

Exhibit E-1 depicts the proposed noise limited service contour along with the three contours described in the previous paragraph. Exhibit E-2 is a tabulation of the distances to the proposed and allocated noise limited service contours. As these two exhibits demonstrate, the proposed noise limited service contour would not extend more than five miles beyond the contour described in Appendix B.

Although the distance to the proposed noise limited service contour would be greater along certain azimuths than the contour resulting from the Appendix B facilities, the interference caused by the proposed facility would be consistent with Commission policies. Specifically, no increase in interference to any facility would result. In order to demonstrate this fact, two interference studies have been performed and are attached as Exhibit E-3 and E-4.

The first of the two interference studies, Exhibit E-3, is based on the WHOI-DT allocation facilities, with the second study in Exhibit E-4 depicting the interference resulting from the proposed facilities. As these studies demonstrate, the WHOI Appendix B facilities would cause minimal interference to WAND-DT at Decatur, Illinois, WGN-DT at Chicago, Illinois, and WMTV-DT at Madison, Wisconsin. The proposed facilities would eliminate the predicted interference to WMTV-DT and would reduce the interference to both WAND-DT and WGN-DT.

It should be noted that although the proposed facilities would be consistent with the established Commission policies, the proposed facilities would nonetheless serve a substantial portion – 95.3% – of the station's Appendix B population. The proposed noise limited contour has a resident population of 504,790 persons by the 2000 Census , and the Appendix B noise limited

service contour serves a resident population of 529,803 persons. Accordingly, Barrington respectfully requests grant of this application pursuant to the Commission's freeze waiver policy.

As described above, the station intends to apply for a facility that would avoid the loss of service to more than 13% of its current analog service area that is necessitated by the reduction in service area this application proposes. The station currently serves 583,175 persons using its analog facility, and it anticipates that its expansion application will ensure that it maintains service to a substantial portion of this population.

DTV Checklist – FCC Form 301 Section III-D

The appropriate items on Section III-D of FCC Form 301 have been answered. This application is for the post-transition facilities for WHOI-DT. As a result, items 1(a), 1(d), 1(e), and 2-5 have been answered per the form instructions. This section of the comprehensive technical exhibit will, however, provide additional information relative to these responses.

The proposed DTV facilities described in this application will operate on the DTV channel established for the station. Specifically, the proposed facilities would utilize channel 19 in the post-transition environment. This is the channel on which the applicant current operates an NTSC facility. Item 1(a) has therefore been provided with "yes" as a response.

Under item 1(d) a response of "no" has been provided. As previously discussed, the proposed facility would extend the noise limited service contour beyond the distance that would result from the parameters specified in Appendix B of MB Docket No. 87-268. The increase in contour distance is less than five miles in any direction. This expansion is therefore consistent with the procedures outlined in the Third Periodic Review.

As previously discussed and demonstrated in Exhibits E-1 and E-2, the facilities proposed in this amendment reduce the total area encompassed by the noise limited service contour relative to the facilities described in Appendix B, although along certain azimuths the distance to the noise limited contour would increase. This reduction in the land area served will correspond to a reduction in the population served. As previously provided the proposed noise limited service contour has a resident population of 504,790 persons by the 2000 US Census, while the Appendix B noise limited service contour has a resident population of 529,651 persons. The proposed facilities represent a decrease of population within the contour of 24,861 persons or 4.69 percent of the Appendix B contour population. An answer of “yes” has been provided to item 1(e) as the noise limited contour population would be reduced no more than five percent.

The proposed facility will not have a significant environmental impact. The facility, as a result, will not fall under Section 1.1307 of the Commission’s Rules. More detailed information concerning this response will be contained in section of this technical exhibit pertinent to the Tech Box portion of FCC Form 301. The response of “yes” has thus been provided for item 2.

The proposed facility will also comply with the provisions of Section 73.625 of the Commission’s Rules. Additional information concerning this response will be provided in the subsequent Tech Box section of this exhibit. A response of “yes” has therefore been provided for item 3.

The requirements of Section 73.1030 of the Commission’s Rules are not applicable in this particular case. The proposed facility would not operate in any of the zones described in the

referenced section, and is not in close proximity to any of the installations described in that section. The response of “yes” to item 4 is thus applicable.

The structure utilized for the facilities described in this application has been registered with the Commission. Specifically an Antenna Structure Registration Number of 1009082 has been assigned to the tower. The response of “yes” is therefore appropriate in this instance.

Tech Box – FCC Form 301 Section III-D

This section of the technical exhibit contains additional information relative to the responses required on the Tech Box section of FCC Form 301. Responses to items numbered 1 through 9 in this section have been answered in the appropriate blanks on the form page.

The antenna that would be utilized by the proposed facility is a Harris Corporation (HAR) Model TAZ-38U “zig-zag” type. This is the same antenna that is currently in use by the WHOI NTSC facility. This antenna is a directional antenna with 0.6 degrees of electrical beam tilt and no mechanical beam tilt. Items described under Section 73.625 of the Commission’s Rules have been included in this application under Exhibit E-5.

The tower utilized by the proposed DTV facility is the same tower that is currently utilized by WHOI-DT and WHOI(TV). There are no AM facilities in close proximity, and the tower utilized by the proposed facility would not be part of an AM radiation system. The proposed facility therefore complies with Section 73.625(c) of the Commission’s Rules.

As indicated on the form pages, the proposed facility would satisfy the post-transition interference protection provisions of Section 73.616 of the Commission’s Rules. Exhibits E-3 and

E-4 contain the interference studies necessary for this application. As previously discussed, these studies demonstrate that the proposed facility would not cause any new interference relative to the interference caused by the Appendix B facilities.

The proposed WHOI-DT facilities would satisfy the principal community coverage requirements of Section 73.625 of the Commission's Rules. Exhibit E-6 is a map illustrating the predicted coverage of the proposed facility. As this map demonstrates, the entire community of license, Peoria, Illinois, would be served with a signal level of greater than 48 dBu F(50,90). For reference purposes, the 41 dBu F(50,90) contour has also been illustrated on this map.

The proposed WHOI-DT would not constitute a substantial environmental impact as previously discussed. The absence of a significant environmental impact by the proposed facility is based on two considerations. The first of these considerations is the fact that the proposed facility would utilize the existing WHOI(TV) antenna, tower, and transmission line. Since no new excavation or construction would result, no additional environmental impact to the area would ensue.

Secondly, the proposed facility would not constitute an RF exposure hazard to persons at the site. No other broadcast facilities would utilize the WHOI tower. For the proposed WHOI-DT operation, a worst case scenario was assumed utilizing the calculations contained in OET Bulletin 65. The worst case scenario assumes that all energy radiating from the WHOI-DT antenna would be directed at the ground. The predicted power density from this antenna is therefore given by the following equation:

$$S = \frac{33.4(E_{\text{ref}})^2(ERP)}{h^2}$$

Since all radiation is assumed to be directed at the ground, the relative field component is assumed to have 1.0 as a value. The effective radiated power is simply the maximum effective radiated power of the proposed facility, which is 7.8 kW. The denominator term is the height of the center of radiation minus 2 meters to accommodate the average human height. This term therefore has 179 meters as a value since the center of radiation is 181 meters. The resulting worst case power density for WHOI-DT is $8.13 \mu\text{W}/\text{cm}^2$. It is assumed that this power density occurs at all points in the vicinity of the tower.

Under the uncontrolled environment condition of the applicable safety standard, the maximum permissible power density is a function of the frequency of the channel of operation. Since the upper limit is the quotient of the frequency and 1500, the lowest frequency in the channel of operation (500 MHz) will be utilized for the frequency term. This results in a maximum permissible power density of $300 \mu\text{W}/\text{cm}^2$. Since the predicted worst-case power density is *less* than this value, it is apparent that the proposed facility would not constitute an RF exposure hazard to persons at the site.

In order to protect workers having access to the site from being exposed to levels of non-ionizing radiation which may exceed the applicable safety standards, the applicant certifies that it will coordinate with other present and future users of the site. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power or cessation of operation.

Affidavit

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2009

Jeremy D. Ruck, PE
March 27, 2008

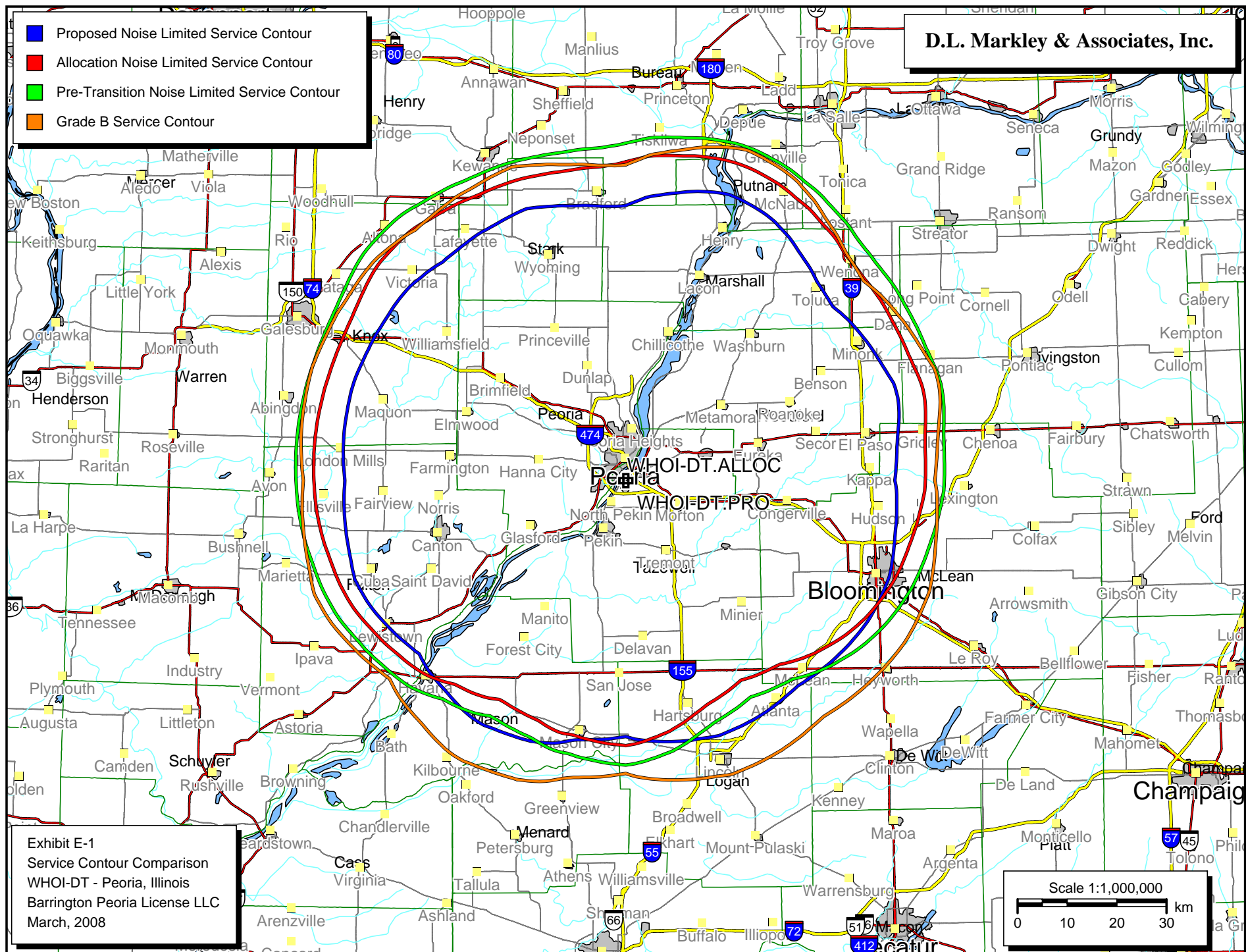


Exhibit E-2 - Comparison of Proposed and Allocated Noise Limited Contours

Azimuth	COR Height Above Average Terrain in meters		Contour Distances in kilometers		Contour Difference Proposed to Allocation	
	Allocation	Proposed	Allocation	Proposed	kilometers	miles
0	153.7	196.5	64.0	55.2	-8.8	-5.5
10	186.0	228.8	66.2	58.7	-7.5	-4.7
20	206.6	249.4	67.6	61.1	-6.5	-4.0
30	190.6	233.4	66.5	60.0	-6.5	-4.0
40	161.7	204.5	64.6	56.8	-7.8	-4.8
50	139.8	182.6	62.8	54.4	-8.4	-5.2
60	138.6	181.4	62.4	55.9	-6.5	-4.0
70	145.8	188.6	62.4	57.3	-5.1	-3.2
80	137.3	180.2	61.1	55.6	-5.5	-3.4
90	135.5	178.4	60.2	54.1	-6.1	-3.8
100	130.1	172.9	58.9	55.1	-3.8	-2.4
110	130.1	172.9	57.6	56.4	-1.2	-0.7
120	130.4	173.2	55.5	56.3	0.8	0.5
130	130.4	173.2	52.2	55.2	3.0	1.9
140	127.8	170.6	48.2	53.9	5.7	3.5
150	128.4	171.3	46.3	54.4	8.1	5.0
160	127.6	170.5	47.9	54.6	6.7	4.2
170	138.2	181.0	51.1	53.3	2.2	1.4
180	152.0	194.8	53.3	51.4	-1.9	-1.2
190	156.4	199.2	52.4	52.9	0.5	0.3
200	178.6	221.4	51.4	55.8	4.4	2.7
210	198.1	240.9	50.8	56.8	6.0	3.7
220	208.5	251.3	53.5	55.7	2.2	1.4
230	201.2	244.0	57.0	54.2	-2.8	-1.7
240	183.6	226.5	59.3	56.4	-2.9	-1.8
250	178.9	221.7	61.1	57.9	-3.2	-2.0
260	173.7	216.5	62.1	57.1	-5.0	-3.1
270	169.2	212.1	62.7	56.4	-6.3	-3.9
280	164.0	206.9	63.1	57.5	-5.6	-3.5
290	158.0	200.8	63.3	58.1	-5.2	-3.2
300	159.9	202.7	64.0	58.2	-5.8	-3.6
310	182.9	225.7	65.9	58.3	-7.6	-4.7
320	184.8	227.6	66.1	57.3	-8.8	-5.5
330	166.4	209.2	64.9	57.7	-7.2	-4.5
340	156.4	199.2	64.2	58.1	-6.1	-3.8
350	144.4	187.2	63.3	56.1	-7.2	-4.5

Note: Azimuths between 140 and 160 degrees true were also checked on one degree increments. The distance to the proposed noise limited contour along these bearings is less than five miles greater than the distance to the allocation noise limited contour.

D.L. Markley & Associates, Inc.
Consulting Engineers
2104 West Moss Avenue
Peoria, Illinois 61604

WHOI-DT.ALLOC**ALLOCATION**

Latitude: 40-39-11 N
Longitude: 089-35-14 W
ERP: 52.70 kW
Channel: 19
Frequency: 503.0 MHz
AMSL Height: 344.88 m
Elevation: 186.042 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.6
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 10.0 m
Receiver Gain: 0 dB
Time Variability: 10.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

Peoria-Bloomington, IL DMA

WHOI-DT.ALLOC

WAND-DT

D.L. Markley & Associates, Inc.

- ☒ WHOI-DT.ALLOC
- ☐ KCPT-DT
- ☐ KNLJ-DT
- ☐ KSPR-DT
- ☐ KYIN-DT
- ☐ WAND-DT
- ☐ WGN-DT
- ☐ WHA-DT
- ☐ WISE-DT
- ☐ WMTV-DT
- ☐ WOTV-DT
- ☐ WUSI-DT
- ☐ WXMI-DT
- ☐ WVTV-DT.APP

Exhibit E-3
Outgoing Interference Study
WHOI-DT - Peoria, Illinois
Barrington Peoria License LLC
March, 2008

Note: Map illustrates predicted interference from WHOI-DT in the post-transition environment based on allocated facilities.

Scale 1:2,000,000

0 20 40 60 km

Exhibit E-3
 Outgoing Interference Population Report
 Based on WHOI Appendix B Allocation Facilities

WHOI-DT.ALLOC (19) Peoria, IL - ALLOCATION
 Broadcast Type: Digital Service: T
 Lat: 40-39-11 N Lng: 089-35-14 W ERP: 52.7 kW AMSL: 344.88 m
 TV Outgoing Interference Study
 Signal Resolution: 1.0 km
 Consider NTSC Taboo: Yes
 KWX error points are considered to
 be interference free coverage.
 # of radials computed for contours: 72
 Contours calculated using 8 radial HAAT.
 LR Profile Spacing Increment: 0.1 km
 Masked interference points are being counted
 as interference free.
 Pop Centroid DB: 2000 US Census (SF1)

Study Date: 3/26/2008
 TV Database Date: 3/26/2008

Primary Terrain: V-Soft 30 Second US Database
 Secondary Terrain: V-Soft 3 Second US Terrain

Population Database: 2000 US Census (SF1)

 Stations Considered:

Call Letters	City	State	Dist	Bear
KCPT-DT (18)	Kansas City	MO	453.3	249.0
KNLJ-DT (20)	Jefferson City	MO	304.7	225.6
KSPR-DT (19)	Springfield	MO	479.7	218.5
KYIN-DT (18)	Mason City	IA	406.1	321.5
WAND-DT (18)	Decatur	IL	100.9	140.2
WGN-DT (19)	Chicago	IL	212.7	49.6
WHA-DT (20)	Madison	WI	266.9	0.9
WISE-DT (19)	Fort Wayne	IN	374.9	81.1
WMTV-DT (19)	Madison	WI	266.4	1.8
WOTV-DT (20)	Battle Creek	MI	403.9	56.8
WUSI-DT (19)	Olney	IL	237.0	147.7
WXMI-DT (19)	Grand Rapids	MI	406.2	54.9
WVTV-DT.APP (18)	Milwaukee	WI	305.1	26.7

Call	Area	HUnits	Contour	Masked Ix	Unmasked Ix	%
KCPT-DT (18)	0.0	0	2,034,097	0	0	0.0
KNLJ-DT (20)	0.0	0	542,287	0	0	0.0
KSPR-DT (19)	0.0	0	954,574	0	0	0.0

KYIN-DT (18)	0.0	0	481,615	0	0	0.0
WAND-DT (18)	2.8	102	913,754	0	283	0.0
WGN-DT (19)	58.3	538	9,557,703	0	1,364	0.0
WHA-DT (20)	0.0	0	1,268,126	0	0	0.0
WISE-DT (19)	0.0	0	1,057,545	0	0	0.0
WMTV-DT (19)	17.2	754	1,072,738	0	1,533	0.1
WOTV-DT (20)	0.0	0	2,140,182	0	0	0.0
WUSI-DT (19)	0.0	0	304,621	0	0	0.0
WXMI-DT (19)	0.0	0	1,905,446	0	0	0.0
WVTV-DT.APP (18)	0.0	0	2,618,159	0	0	0.0















	Housing Units	Population
Illinois		
Boone County		
Total	15,414	41,786
WGN-DT (19)	12	22
DeKalb County		
Total	32,988	88,969
WGN-DT (19)	147	375
La Salle County		
Total	46,438	111,509
WGN-DT (19)	260	642
McHenry County		
Total	92,908	260,077
WGN-DT (19)	97	270
Stephenson County		
Total	21,713	48,979
WMTV-DT (19)	609	1,138
Tazewell County		
Total	52,973	128,485
WAND-DT (18)	102	283
Winnebago County		
Total	114,404	278,418
WMTV-DT (19)	145	395
Wisconsin		
Walworth County		
Total	43,783	93,759
WGN-DT (19)	22	55

WHOI-DT.PRO

BPCDT20080317AHQ
Latitude: 40-39-11 N
Longitude: 089-35-14 W
ERP: 7.80 kW
Channel: 19
Frequency: 503.0 MHz
AMSL Height: 387.7 m
Elevation: 186.042 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.6
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 10.0 m
Receiver Gain: 0 dB
Time Variability: 10.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

D.L. Markley & Associates, Inc.

Peoria-Bloomington, IL DMA

-  WHOI-DT.PRO
-  KCPT-DT
-  KNLJ-DT
-  KSPR-DT
-  KYIN-DT
-  WAND-DT
-  WGN-DT
-  WHA-DT
-  WISE-DT
-  WMTV-DT
-  WOTV-DT
-  WUSI-DT
-  WXMI-DT
-  WVTM-DT.APP

WHOI-DT.PRO

WAND-DT

Exhibit E-4
Outgoing Interference Study
WHOI-DT - Peoria, Illinois
Barrington Peoria License LLC
March, 2008

Note: Map illustrates predicted
interference from WHOI-DT in
the post-transition environment
based on proposed facilities.

Scale 1:2,000,000

0 20 40 60 km

Exhibit E-4
 Outgoing Interference Population Report
 Based on WHOI Amended Proposed Facilities

WHOI-DT.PRO (19) Peoria, IL - BPCDT20080317AHQ
 Broadcast Type: Digital Service: T
 Lat: 40-39-11 N Lng: 089-35-14 W ERP: 7.8 kW AMSL: 387.7 m
 TV Outgoing Interference Study
 Signal Resolution: 1.0 km
 Consider NTSC Taboo: Yes
 KWX error points are considered to
 be interference free coverage.
 # of radials computed for contours: 72
 Contours calculated using 8 radial HAAT.
 LR Profile Spacing Increment: 0.1 km
 Masked interference points are being counted
 as interference free.
 Pop Centroid DB: 2000 US Census (SF1)

Study Date: 3/26/2008
 TV Database Date: 3/26/2008

Primary Terrain: V-Soft 30 Second US Database
 Secondary Terrain: V-Soft 3 Second US Terrain

Population Database: 2000 US Census (SF1)

 Stations Considered:

Call Letters	City	State	Dist	Bear
KCPT-DT (18)	Kansas City	MO	453.3	249.0
KNLJ-DT (20)	Jefferson City	MO	304.7	225.6
KSPR-DT (19)	Springfield	MO	479.7	218.5
KYIN-DT (18)	Mason City	IA	406.1	321.5
WAND-DT (18)	Decatur	IL	100.9	140.2
WGN-DT (19)	Chicago	IL	212.7	49.6
WHA-DT (20)	Madison	WI	266.9	0.9
WISE-DT (19)	Fort Wayne	IN	374.9	81.1
WMTV-DT (19)	Madison	WI	266.4	1.8
WOTV-DT (20)	Battle Creek	MI	403.9	56.8
WUSI-DT (19)	Olney	IL	237.0	147.7
WXMI-DT (19)	Grand Rapids	MI	406.2	54.9
WVTV-DT.APP (18)	Milwaukee	WI	305.1	26.7

Call	Area	HUnits	Contour	Masked Ix	Unmasked Ix	%
KCPT-DT (18)	0.0	0	2,034,097	0	0	0.0
KNLJ-DT (20)	0.0	0	542,287	0	0	0.0
KSPR-DT (19)	0.0	0	954,574	0	0	0.0

KYIN-DT (18)	0.0	0	481,615	0	0	0.0
WAND-DT (18)	0.9	97	913,754	0	274	0.0
WGN-DT (19)	3.6	4	9,557,703	0	12	0.0
WHA-DT (20)	0.0	0	1,268,126	0	0	0.0
WISE-DT (19)	0.0	0	1,057,545	0	0	0.0
WMTV-DT (19)	0.0	0	1,072,738	0	0	0.0
WOTV-DT (20)	0.0	0	2,140,182	0	0	0.0
WUSI-DT (19)	0.0	0	304,621	0	0	0.0
WXMI-DT (19)	0.0	0	1,905,446	0	0	0.0
WVTV-DT.APP (18)	0.0	0	2,618,159	0	0	0.0

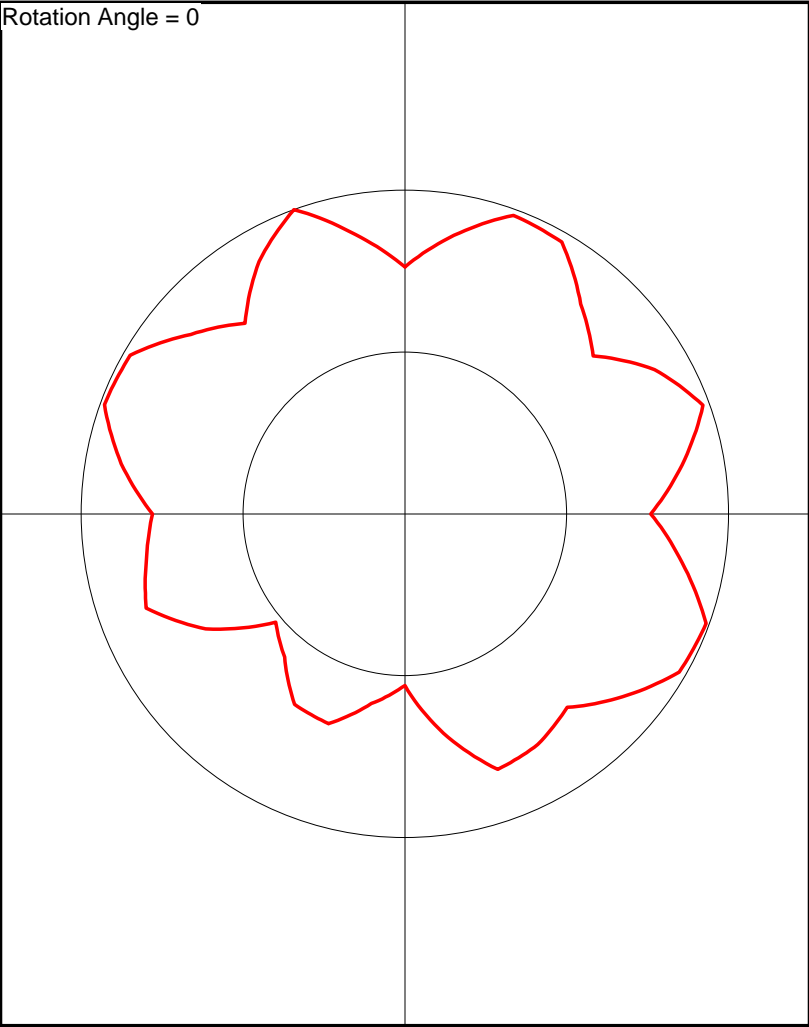
	Housing Units	Population
Illinois		
DeKalb County		
Total	32,988	88,969
WGN-DT (19)	4	12
Tazewell County		
Total	52,973	128,485
WAND-DT (18)	97	274

Exhibit E-5

This exhibit consists of this page of text and the following three pages. Together, they provide information required under Section 73.625(c) of the Commission's Rules.

Exhibit E-5 - Proposed Horizontal Plane Pattern
Pre-Rotation Antenna Pattern....

Azimuth (deg)	Effective Field
0.0	0.762
10.0	0.873
20.0	0.981
30.0	0.969
40.0	0.845
50.0	0.759
60.0	0.891
70.0	0.980
80.0	0.869
90.0	0.759
100.0	0.869
110.0	0.990
120.0	0.978
130.0	0.878
140.0	0.780
150.0	0.822
160.0	0.840
170.0	0.688
180.0	0.530
190.0	0.595
200.0	0.689
210.0	0.680
220.0	0.577
230.0	0.520
240.0	0.710
250.0	0.850
260.0	0.810
270.0	0.779
280.0	0.889
290.0	0.987
300.0	0.979
310.0	0.862
320.0	0.768
330.0	0.900
340.0	1.000
350.0	0.875



Proposed Television Directional Antenna System

Station: WHOI-DT

Maximum ERP: 7.8 kw

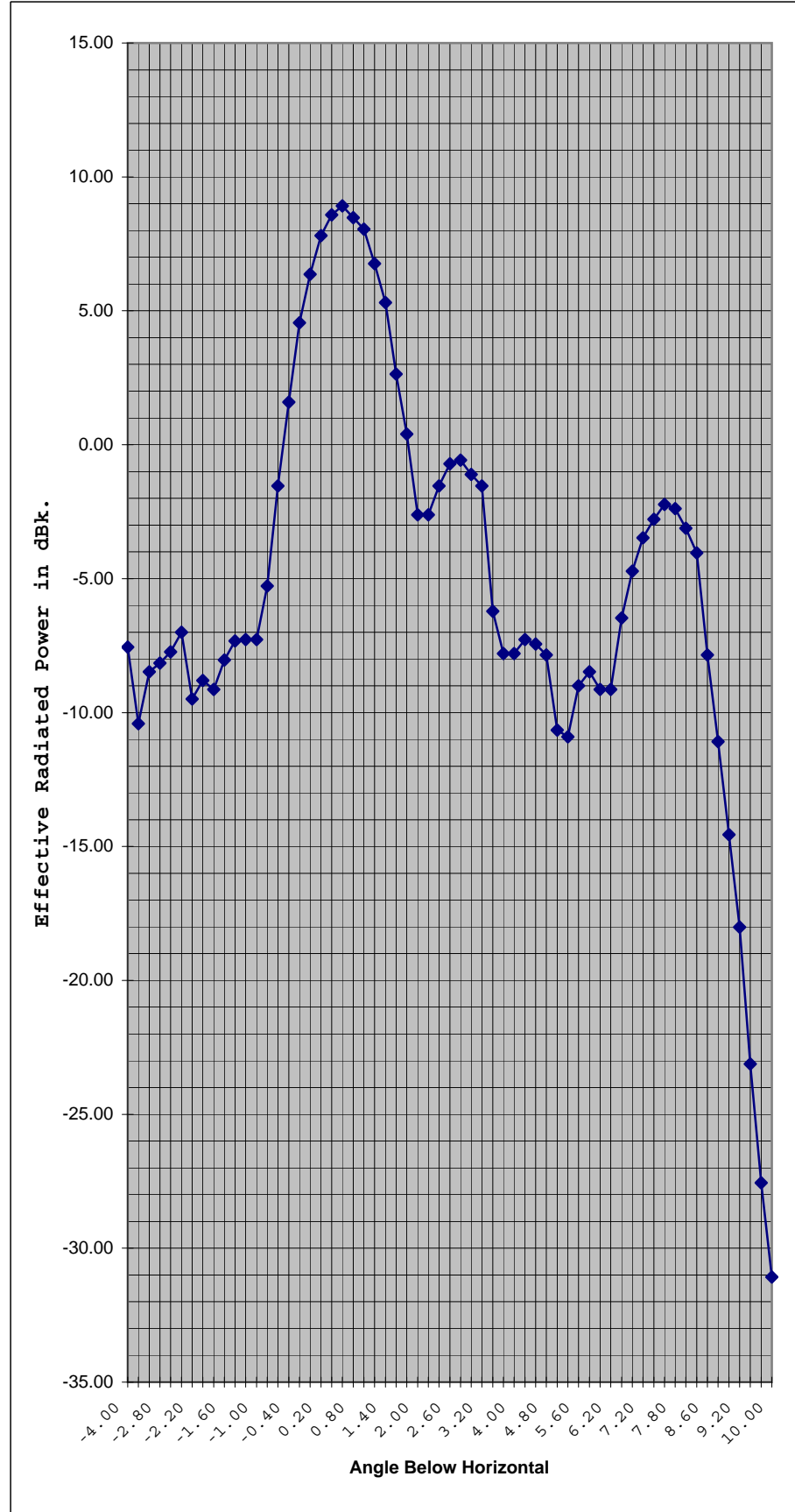
Azimuth	Relative Field	Relative Power	ERP (kW)	ERP (dBk)
000	0.762	0.5806	4.53	6.56
010	0.873	0.7621	5.94	7.74
020	0.981	0.9624	7.51	8.75
030	0.969	0.9390	7.32	8.65
040	0.845	0.7140	5.57	7.46
050	0.759	0.5761	4.49	6.53
060	0.891	0.7939	6.19	7.92
070	0.980	0.9604	7.49	8.75
080	0.869	0.7552	5.89	7.70
090	0.759	0.5761	4.49	6.53
100	0.869	0.7552	5.89	7.70
110	0.990	0.9801	7.64	8.83
120	0.978	0.9565	7.46	8.73
130	0.878	0.7709	6.01	7.79
140	0.780	0.6084	4.75	6.76
150	0.822	0.6757	5.27	7.22
160	0.840	0.7056	5.50	7.41
170	0.688	0.4733	3.69	5.67
180	0.530	0.2809	2.19	3.41
190	0.595	0.3540	2.76	4.41
200	0.689	0.4747	3.70	5.69
210	0.680	0.4624	3.61	5.57
220	0.577	0.3329	2.60	4.14
230	0.520	0.2704	2.11	3.24
240	0.710	0.5041	3.93	5.95
250	0.850	0.7225	5.64	7.51
260	0.810	0.6561	5.12	7.09
270	0.779	0.6068	4.73	6.75
280	0.889	0.7903	6.16	7.90
290	0.987	0.9742	7.60	8.81
300	0.979	0.9584	7.48	8.74
310	0.862	0.7430	5.80	7.63
320	0.768	0.5898	4.60	6.63
330	0.900	0.8100	6.32	8.01
340	1.000	1.0000	7.80	8.92
350	0.875	0.7656	5.97	7.76

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Consulting Engineers
2104 West Moss Avenue
Peoria, Illinois 61604

Exhibit E-5 - VERTICAL RADIATION PATTERN

Angle	Relative Field	ERP dBk.
-4.00	0.150	-7.56
-3.50	0.108	-10.41
-3.00	0.135	-8.47
-2.80	0.140	-8.16
-2.60	0.147	-7.73
-2.40	0.160	-7.00
-2.20	0.120	-9.50
-2.00	0.130	-8.80
-1.80	0.125	-9.14
-1.60	0.142	-8.03
-1.40	0.154	-7.33
-1.20	0.155	-7.27
-1.00	0.155	-7.27
-0.80	0.195	-5.28
-0.60	0.300	-1.54
-0.40	0.430	1.59
-0.20	0.605	4.56
0.00	0.745	6.36
0.20	0.880	7.81
0.40	0.962	8.58
0.60	1.000	8.92
0.80	0.950	8.48
1.00	0.905	8.05
1.20	0.780	6.76
1.40	0.660	5.31
1.60	0.485	2.64
1.80	0.375	0.40
2.00	0.265	-2.61
2.20	0.265	-2.61
2.40	0.300	-1.54
2.60	0.330	-0.71
2.80	0.335	-0.58
3.00	0.315	-1.11
3.20	0.300	-1.54
3.60	0.175	-6.22
3.80	0.146	-7.79
4.00	0.146	-7.79
4.20	0.155	-7.27
4.40	0.152	-7.44
4.80	0.145	-7.85
5.00	0.105	-10.66
5.20	0.102	-10.91
5.60	0.127	-9.00
5.80	0.135	-8.47
6.00	0.125	-9.14
6.20	0.125	-9.14
6.80	0.170	-6.47
7.00	0.208	-4.72
7.20	0.240	-3.47
7.40	0.260	-2.78
7.60	0.277	-2.23
7.80	0.272	-2.39
8.00	0.250	-3.12
8.20	0.225	-4.04
8.60	0.145	-7.85
8.80	0.100	-11.08
9.00	0.067	-14.56
9.20	0.045	-18.01
9.60	0.025	-23.12
9.80	0.015	-27.56
10.00	0.010	-31.08

Note: Relative field same for all azimuths.
ERP in dBk based on maximum ERP azimuths.



WHOI-DT.PRO

BPCDT20080317AHQ

Latitude: 40-39-11 N

Longitude: 089-35-14 W

ERP: 7.80 kW

Channel: 19

Frequency: 503.0 MHz

AMSL Height: 387.7 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.6

Prop Model: FCC Method

D.L. Markley & Associates, Inc.

■ Proposed 48 dBu F(50,90) Contour

■ Proposed 41 dBu F(50,90) Contour

