

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

In the Matter of )  
 )  
Advanced Television Systems and ) MB Docket No. 87-268  
their Impact Upon the Existing )  
Television Broadcast Service )  
 )

**PETITION FOR RECONSIDERATION  
OF TWIN CITIES PUBLIC TELEVISION, INC.**

Twin Cities Public Television, Inc. (“TPT”), licensee of noncommercial educational television Station KTCI-TV/DT, St. Paul, Minnesota, hereby requests reconsideration of the Commission’s decision<sup>1</sup> in the above-captioned proceeding denying TPT’s request to modify the DTV Table of Allotments to specify the antenna and antenna height TPT will use after February 17, 2009, and relegating TPT to the vagaries and uncertainties of the yet undefined application process for its post-transition facilities. As explained below, forcing TPT to await the application process could seriously impair TPT’s ability to continue serving viewers who currently can receive Station KTCI-DT’s signal, contrary to the Commission’s articulated goals throughout this proceeding and in its *Third Periodic Review of the Commission’s Rules and Policies Affecting the Conversion To Digital Television* (“3<sup>rd</sup> Periodic DTV Review”).<sup>2</sup>

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<sup>1</sup> *In re Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, Seventh Report and Order and Eighth Further Notice of Proposed Rule Making, MB Docket No. 87-268, FCC 07-138, ¶¶ 83-88 (rel. Aug. 6, 2007) (“7th Report and Order”).

<sup>2</sup> *In re Third Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, Notice of Proposed Rulemaking, MB Docket No. 07-91, FCC 07-70 (rel. May 18, 2007).

## Background

In its *Seventh Further Notice of Proposed Rule Making* in this proceeding, the Commission proposed a final DTV Table of Allotments, specifying the post-transition DTV channels to be assigned to each station, the ERP, the HAAT, the latitude and longitude of the antenna site and the antenna to be employed.<sup>3</sup> In paragraph 16 of that *Notice*, the Commission invited comment on the proposed new DTV Table. Specifically, it stated that it sought

comment on whether the channel assignments in the proposed DTV Table will serve the Commission's goals of promoting overall spectrum efficiency and ensuring the best possible DTV service to the public. We ask that licensees ***review the accuracy of their information*** contained in the proposed DTV Table and Appendix B, including whether it properly reflects any conflict-resolving amendments to their certifications, and ***comment on any inaccuracies or discrepancies***. The proposed DTV Table will ultimately replace the existing DTV and NTSC Tables after the transition. We request comment on ***how best to time the adoption and effective date of the proposed DTV Table so that it is available for stations' reference and reliance in applying for construction permits or modifications needed*** to implement their post-transition facilities.<sup>4</sup>

In response to that request, TPT filed comments advising the Commission that, when it selected Channel 26 as Station KTCI-DT's post-transition DTV channel, it had done so in order to use the Channel 26 antenna currently employed by Station KMSP-DT on the same tower. TPT requested that the Commission correct the final DTV Table of Allotments ("Appendix B") to specify the proper antenna and the correct HAAT. It also requested that the Commission assure that the station would replicate the service area of its current DTV facilities with its Channel 26 facilities. TPT noted that the directional pattern of the Channel 26 antenna was materially different from the directional pattern of the Channel 16 antenna Station KTCI-DT was using pre-transition and asked that the Commission assure, in the final table, that TPT could

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<sup>3</sup> *In re Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MB Docket No. 87-268, *Seventh Further Notice of Proposed Rule Making*, 21 FCC Rcd 12,100 (2006) ("*7<sup>th</sup> Further Notice*").

<sup>4</sup> *Id.* ¶ 16 (footnote omitted) (emphasis added).

replicate Station KTCI-DT's pre-transition service area with its post-transition facilities. While TPT did not expressly so state, it sought these changes so that it could easily and efficiently migrate to its post-transition facilities, thereby responding to the Commission's request for comments on how "best to time the adoption and effective date of the proposed DTV Table so that it is available for stations' reference and reliance in applying for construction permits or modifications needed."<sup>5</sup>

In its 7<sup>th</sup> *Report and Order*, the Commission denied TPT's request, along with that of several other licensees, finding that:

We reject the premature or incomplete requests of certain stations seeking changes to their facilities as proposed in the post-transition DTV Table Appendix B when these changes pertain to speculative future events or could best be accomplished through the upcoming application process. These requests are not for modifications of the coverage area as defined by the proposed DTV Table Appendix B to match authorized or licensed coverage. Instead, these stations comment that they may be unable to serve the coverage area, which is described in the proposed DTV Table Appendix B, on their post-transition channel due to differences in station parameters on the new channel or different equipment the station would like to use. These are changes that should be requested in an application to construct or modify post-transition facilities on the new channel filed consistent with the procedures and standards for such applications adopted in the Third DTV Periodic Review proceeding, including compliance with the filing freeze and interference standard.<sup>6</sup>

TPT submits that requiring it to await Commission action on its application for a construction permit to modify Station KTCI-DT's facilities will create unnecessary uncertainty in the transition process, contrary to the Commission's stated goals throughout the transition.<sup>7</sup> Requiring TPT to wait until the application process also fails to consider adequately the extremely short period of time licensees have to complete construction of their permanent DTV

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<sup>5</sup> *Id.*

<sup>6</sup> 7<sup>th</sup> *Report and Order*, ¶ 83 (footnotes omitted).

<sup>7</sup> *See, e.g., 7<sup>th</sup> Further Notice* ¶ 14 (stating Commission goals in channel election process to provide for "informed decisions by licensees" and "clarity and transparency" in the process).

facilities, particularly licensees of stations in northern states such as Minnesota that will have to coordinate their post-transition applications with Canada.

### **Argument**

A. **The Facilities Specified in Appendix B Will Preclude Station KTCI-DT From Replicating its Current DTV Service Area**

As TPT demonstrated in its Comments submitted in the Commission's *3<sup>rd</sup> Periodic DTV Review* and as shown in the attached Engineering Statement of Kessler and Gehman Associates, Inc. ("Engineering Statement"), TPT's consulting engineers, TPT faces potentially substantial constraints on its ability to serve its existing service area if it is required to operate with facilities that conform to the service area limitations in Appendix B. As TPT noted in its earlier Comments in this proceeding, the antenna pattern of its current Channel 16 antenna -- the antenna specified in Appendix B -- is very different from the antenna pattern of its proposed post-transition Channel 26 antenna. Because of the different patterns, Station KTCI-DT will be forced to operate with an ERP of 12 kW on Channel 26 if the Commission applies the current freeze on television applications to applications filed to implement the new DTV Table, as the Commission proposed in both the *7<sup>th</sup> Report and Order*<sup>8</sup> and the *3<sup>rd</sup> Periodic DTV Review*.<sup>9</sup>

As the attached Engineering Statement shows, operation of Station KTCI-DT with an ERP of 12 kW will not permit it to serve its current DTV service area, even though TPT specified replication in its FCC Form 381. Indeed, operating with an ERP of 12 kW will also make reception of its signal difficult even within the predicted noise limited service contour

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<sup>8</sup> *7<sup>th</sup> Report and Order*, ¶¶ 83, 87.

<sup>9</sup> *3<sup>rd</sup> Periodic DTV Review*, ¶¶ 92-93. TPT has also filed comments in that proceeding requesting that the Commission lift the freeze in situations such as that facing Station KTCI-DT. However, grant of that request will not solve the problems raised here concerning the uncertainty created by the Commission's decision in the *7<sup>th</sup> Report and Order* and the time frame in which a grant of TPT's request to operate with the KMSB-DT Channel 26 antenna might be processed.

because of multipath interference from the high-rise buildings in the Twin Cities.<sup>10</sup> At a minimum, some 92,000 individuals will not be able to receive Station KTCI-DT, and many more are likely to lose service as a result of multipath interference.<sup>11</sup>

As indicated in the attached Declaration of Glenn Fischer, TPT's Vice President of Broadcast Services, Station KTCI-DT offers a variety of multicast programs that provide unique programming for children, programming to serve the needs of various underserved communities in the Twin Cities, instructional programming and weather services. Station KTCI-DT currently offers five programming streams: (1) a simulcast of Station KTCI-TV's analog programming, which is primarily the National Weather Service during the day and PBS's national programming service and other distributors' programs during primetime; (2) "TPT MN", which is a full-time program service made up of programs produced by TPT, TPT partners, public television stations in the upper-Midwest, and other independent producers; (3) "TPT Kids", which is a full-time television service for children from pre-school through early elementary school; (4) "Create TV", which is a full-time instructional program service on cooking, arts and crafts, gardening, home improvement and travel; and (5) "TPT Weather", which is the full-time National Weather service programming.<sup>12</sup> After the transition, TPT plans to take full advantage of its digital spectrum and to provide an even more diverse programming lineup.

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<sup>10</sup> It is widely accepted in the industry that the performance of receiver adaptive equalizers in response to multipath conditions requires a significant signal margin above threshold. The equalizer effectively boosts some frequencies and reduces others in order to null out the effect of multipath in urban conditions. Without adequate signal strength at the receiving antenna, the frequency ranges boosted become excess noise instead of compensating signal and the equalization process fails, resulting in a loss of decoder lock and complete loss of picture.

<sup>11</sup> TPT will not be able to solve this problem by using the Channel 16 antenna. That is a narrow-band antenna and is not usable on Channel 26, even assuming the tower owner, the licensee of Station KMSP-TV, would allow TPT to keep the Channel 16 antenna on the tower.

<sup>12</sup> See Decl. of Glenn Fisher at 1-2.

Contracting the service area of Station KTCI-DT by specifying the wrong antenna in Appendix B and then requiring it to comply with the television application freeze will deny 92,000 viewers, as well as many others affected by multipath interference, of this diversity of programming, programming not otherwise available in the Twin Cities. Moreover, loss of these viewers is likely to adversely affect TPT's revenue since, as a public television station, it is dependent on contributions from viewers for a substantial portion of its revenue.

**B. Grant of TPT's Request Is Consistent With the FCC's Rules and Will Not Harm Any Other Station**

In contrast to the adverse effect of the Commission's proposal, allowing Station KTCI-DT to operate with an ERP of 63.1 kW at the correct antenna height and with the KMSP-DT Channel 26 antenna will not have any adverse effect on any other television station. As shown in the Engineering Statement, operation of Station KTCI-DT as TPT has proposed will reduce the interference currently received by Station WHWC, Menomonee, WI, from Station KMSP-DT. Station KMSP-DT presently operates on Channel 26 at an ERP of 691 kW. TPT seeks to operate Station KTCI-DT on Channel 26 using the same antenna at 63.1 kW, far less than KMSP-DT's 691 kW facility.<sup>13</sup> Thus, as shown in the Engineering Statement, operation of Station KTCI-DT on Channel 26 at 63.1 kW using the Station KMSP-DT Channel 26 antenna will reduce interference to Station WHWC-DT by some 63,600 people, or from 22.5% to 14.9% of the population serviced by Station WHWC-DT.<sup>14</sup> Thus, TPT's proposal is consistent with the

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<sup>13</sup> See Engineering Statement at 4, Ex. 6.

<sup>14</sup> See Engineering Statement at 4, Ex. 4 & 5.

Commission's allocation rules since those changes will not create any new post-transition interference to a tentative channel designation of more than 0.1 percent.<sup>15</sup>

C. Requiring TPT to Await the Application Process Will Create Uncertainty, Potentially Delay Desirable DTV Service to the Twin Cities Area, and Impose Added Burdens on the Commission's Staff

While TPT recognizes that the Commission believes that the differences between what TPT plans for Station KTCI-DT and the facilities specified in Appendix B can be addressed in the application process, forcing TPT to await that process will only create uncertainty in the DTV transition, contrary to the Commission's avowed interest in making that process smooth and orderly. Modifying Appendix B now to specify the proper antenna and antenna height for Station KTCI-DT to allow it to replicate its current DTV service area will permit TPT to file an application that can be granted expeditiously, thereby reducing the burden on the Commission's staff for processing applications and the uncertainty TPT will face concerning the facilities it will have after February 17, 2009.<sup>16</sup> Expeditious treatment of any application filed by TPT will give TPT sufficient time to complete construction on Channel 26 and to commence operation on that channel on February 18, 2009.

Requiring TPT to file an application to modify its facilities and potentially to seek a waiver of the television freeze could delay its ability to achieve that goal. Those applications are not due and cannot be filed until the Commission adopts its final rules in the *3<sup>rd</sup> Periodic DTV*

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<sup>15</sup> See *7<sup>th</sup> Report and Order*, ¶ 26 (stating that proposed changes to DTV Table would be granted so long as they do not create new post-transition interference to a tentative channel designation of more than 0.1 percent).

<sup>16</sup> In the *3<sup>rd</sup> DTV Periodic Review*, the Commission proposed to expedite applications that do not seek to expand the station's facilities beyond the Appendix B facilities and that specify facilities that match or closely approximate the Appendix B facilities. *3<sup>rd</sup> DTV Periodic Review* ¶¶ 93-94. If the Commission does not grant TPT's requested changes to Appendix B, Station KTCI-DT's application for post-transition facilities would not qualify for expedited treatment under the Commission's present proposal.

*Review*,<sup>17</sup> and it is unclear when that filing window will open. The comment cycle in the 3<sup>rd</sup> *Periodic DTV Review* proceeding closed on August 30<sup>th</sup>. Given the number and complexity of the issues raised in that proceeding, a final decision could take some time before it is adopted, is published in the Federal Register and goes into effect. Applications would then have to be filed and processed. Those entitled to expedited processing will be given preference. Thus, the processing of applications not entitled to expedited processing could well be delayed for months, perhaps until mid- to late-2008. Moreover, if the Commission does not waive or lift the freeze for those applications, TPT will be faced with authority to operate with facilities that do not permit it to replicate its current DTV service area.

D. Canadian Coordination of the Appendix B Facilities May Not Permit Station KTCI-DT to Operate at 63.1 kW With the Station KMSP-DT Antenna

In Appendix D4 to the 7<sup>th</sup> *Report and Order*, the Commission stated that operation of Station KTCI-DT on Channel 26 will require coordination with Canada. As an initial matter, TPT is confused as to the need to coordinate Station KTCI-DT's operation on Channel 26. As discussed above, Station KMSP-DT is already operating on Channel 26 with the same antenna that TPT intends to use for Station KTCI-DT and at a much high power level than Station KTCI-DT will use. Thus, granting Station KTCI-DT authority to use that antenna should not result in any adverse impact on Canadian allocations. To the contrary, it will reduce the amount of RF radiation to the north and expand the opportunity to use Channel 26 and related channels in Canada.

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<sup>17</sup> 3<sup>rd</sup> *DTV Periodic Review*, ¶ 92 & n.179 (stating that stations that need to construct their post-transition facilities because they will be moving channels are expected to file after the DTV Table is adopted); 7<sup>th</sup> *Report and Order*, ¶ 87 (stating that Station KTCI-DT and other stations moving to a new channel for post-transition operations may not file an application for their post-transition facilities until the final post-transition rules and procedures are established by the Report and Order in the 3<sup>rd</sup> *DTV Periodic Review* proceeding).

In any case, the Commission has stated that it plans to coordinate the Appendix B facilities that require coordination in a group so that individual applications do not need to be coordinated.<sup>18</sup> However, Station KTCI-DT is concerned that it will not be able to benefit from this group coordination if its Appendix B facilities do not reflect the antenna and antenna pattern that the station will in fact use after the transition. As discussed above, Station KTCI's contour using the KMSP-DT Channel 26 antenna at 63.1 kW extends beyond the station's contour operating with the present Appendix B antenna at the same power level. Thus, if the Commission denies this petition, any coordination undertaken with the facilities presently specified in Appendix B will not reflect the facilities Station KTCI-DT will request in the application process and will not clear the way for TPT to construct the facilities necessary to replicate its current DTV service area. The Commission will be forced to go through the coordination process a second time when TPT files an application for its post-transition facilities that seeks authority to use the KMSP-DT antenna with an ERP of 63.1 kW.<sup>19</sup>

Not only would having to coordinate Station KTCI-DT twice further stall, if not destroy, TPT's ability to meet the February 17, 2009 transition deadline, but it would be a waste of Commission resources. It will also preclude TPT from operating with replication facilities until additional coordination is completed, which could take a year or more. Such a result will disserve the Twin Cities area and deprive many of its underserved residents of the unique services which TPT, as a public television licensee, can and does provide.

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<sup>18</sup> 7<sup>th</sup> Report and Order, ¶ 104.

<sup>19</sup> Counsel has been advised informally that the Commission may be coordinating the facilities currently licensed to Station KMSP-DT on Channel 26. If that is the case, this concern may become moot since the proposed Station KTCI-DT facilities will generate less RF toward Canada, and thus, additional coordination will not be necessary.

## Conclusion

For all of these reasons, TPT urges the Commission to reconsider its denial of TPT's request to correct Appendix B and specify that Station KTCI-DT's post-transition antenna will be the Channel 26 antenna currently employed by Station KMSP-DT, Antenna Id. 29226, correct the HAAT, and retain the ERP of 63.1 kW or such other ERP as will permit Station KTCI-DT to replicate its current noise limited service contour. Grant of that request would permit TPT to replicate its current DTV service area without causing increased interference to any other station and would further the Commission's repeated objective to "preserve the service areas of those stations that constructed and are operating in accordance with the DTV buildout schedules"<sup>20</sup> and "ensure to the extent possible that final channel allotments accommodate replicated and maximized service areas."<sup>21</sup> Grant of that request will also advance the Commission's "goal to finalize DTV channels and facilities as expeditiously as possible to provide stations with the certainty they need to complete their digital build out, consistent with the interference and other standards set forth in the 7<sup>th</sup> *Further Notice*."<sup>22</sup>

Respectfully submitted,

/s/Theodore D. Frank

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October 26 , 2007

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<sup>20</sup> *In re Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Report and Order, 19 FCC Rcd. 18279, ¶ 37 (2004).

<sup>21</sup> *Id.* ¶ 31; see also 7<sup>th</sup> *Further Notice*, ¶ 14.

<sup>22</sup> 7<sup>th</sup> *Report and Order*, ¶ 3.

**Certificate Of Service**

I, Cynthia T. Miller, hereby certify that I have on this 26<sup>th</sup> day of October, 2007, caused to be served the attached Petition For Reconsideration Of Twin Cities Public Television, Inc. on the following by e-mail and U.S. first class mail, postage prepaid:

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/s/ Cynthia T. Miller \_\_\_\_\_  
Cynthia T. Miller



*Kessler and Gehman Associates, Inc.*

Telecommunications Consulting Engineers

**ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A PETITION FOR RECONSIDERATION OF THE SEVENTH REPORT AND ORDER AND EIGHTH FURTHER NOTICE OF PROPOSED RULE MAKING WITH RESPECT TO THE TWIN CITIES PUBLIC TELEVISION (TPT) POST-TRANSITION DIGITAL TELEVISION BROADCAST FACILITY, KTCI-DT CHANNEL 26, ST. PAUL, MN.**

The firm Kessler and Gehman Associates, Inc. has been retained by Twin Cities Public Television (TPT), licensee of digital broadcast facility KTCI-DT Channel 26, to prepare an engineering analysis in support of a Petition for Reconsideration of the Seventh Report and Order and Eighth Further Notice of Proposed Rule Making (7<sup>th</sup> R&O) with respect to the operating parameters assigned to the KTCI-DT Channel 26 post-transition facility as adopted in the Final DTV Table of Allotments (TOA).

**Background**

TPT leases space on the FOX tower in the vicinity of Shoreview, MN (ASRN: 1022899). That tower is shared by TPT and FOX and is used for TPT's Station KTCI-TV/DT and FOX's Station KMSP-TV/DT. Station KTCI-DT is currently operating with a Channel 16 DTV side-mount antenna. Station KMSP-DT is currently operating on Channel 26 with a top-mount antenna, but will return to Channel 9 at the end of the transition. In order to simply operate after the transition and to reduce the loading on the tower, TPT and FOX have entered into an agreement pursuant to which TPT will cease operation on Channel 16 after the end of the transition and will switch to Channel 26 using the existing KMSP-DT Channel 26 pre-transition top-mount antenna.

Exhibit 1 depicts the KTCI-DT Channel 16 antenna azimuth pattern specified in the Final DTV TOA (Antenna ID: 74396) and Exhibit 2 depicts the proposed digital Channel 26 antenna azimuth pattern (Antenna ID: 29226). Both patterns are directional cardioids; however, the



patterns are not identical. Under the terms of its agreement with FOX, TPT is obligated to transition from its Channel 16 antenna to the KMSP antenna for post-transition operation. Accordingly TPT asked the FCC to adjust the DTV TOA to reflect the new antenna ID and antenna height. The antenna height adjustment is the result of a side-mount (CH 16) to top-mount (CH 26) change. In paragraphs 83-87 of the 7<sup>th</sup> R&O, the Commission denied KTCI-DT's request on the grounds that the changes are premature and could be accomplished during the application phase.

The Commission stated that it will continue to apply the current television filing freeze for applications filed to change DTV channels after the transition and the freeze prohibits stations from increasing coverage in any azimuthal direction. Therefore, during the application phase, the KTCI-DT Channel 26 F(50,90) 40.0 dBuV/m contour (red) cannot exceed the KTCI-DT Channel 16 TOA contour (black) in any direction. Exhibit 3 pictorially demonstrates the hardship that would be placed upon the general public if TPT is prevented from replicating its current pre-transition DTV facilities on Channel 26 because of different antenna patterns. It is predicted that over 92,000 people would lose the public broadcasting service that they currently enjoy and rely on from KTCI-DT Channel 26. Referring to Exhibit 3, it can be seen that twenty cities on the outskirts of St. Paul, MN would be predicted to lose service due to the well documented "cliff effect" that goes hand in hand with digital television transmissions as well as multipath conditions. The black contour depicted in Exhibit 3 is the KTCI-DT Channel 16 F(50,90) 40.0 dBuV/m protected noise limited contour based on the parameters depicted in the Final DTV TOA and the much smaller red contour is the KTCI-DT Channel 26 F(50,90) 40.0 dBuV/m protected noise limited contour that would result because of the freeze. It was determined that the maximum ERP allowable, using the Channel 26 antenna, without exceeding the KTCI-DT Channel 16 TOA contour would only be 12 kW. An ERP greater than 12 kW would violate the freeze due to increased coverage along the 90-100 degree radials (see "limiting factor" in Exhibit 3). Dropping the ERP to 12 kW would result in a 51.1 kW decrease from the ERP specified in the TOA, which equates to a 7.2 dB reduction to an ERP that is already considered very low for a UHF full-service digital facility. In addition, an ERP of only 12 kW would not be sufficient to overcome severe multipath conditions which would



clearly be an issue due to the terrestrial buildup in and around the principal community of St. Paul, MN. The red shaded area depicted in Exhibit 3 demonstrates the area that would be lost simply because the antenna patterns are slightly different. Again, over 92,000 people living in twenty cities encompassing over nine counties around the St. Paul, MN area that currently receive KTCI-DT programming would be predicted to lose the KTCI-DT signal.

In the past twelve months, the Commission has been seeking input from any stations that may be unable to build precisely the facilities specified in the final DTV TOA. The Commission has asked if such stations are prohibited from expanding beyond their DTV Table Appendix B facilities will they instead be required to reduce their facilities so significantly that they will be unable to provide adequate service? It also asked for comments on whether the FCC should allow stations that fall into this situation to expand beyond their DTV Table Appendix B facilities to the extent necessary to address the difference between the theoretical facilities specified in the new DTV Table Appendix B and the actual facilities which they are able to build? TPT responded via recent filing comments requesting that stations be permitted to expand beyond their DTV Table Appendix B facilities when minor changes to antenna patterns are required to permit the station to replicate its current DTV facilities. In the case for TPT, the public interest would clearly be served by changing the antenna ID from 74396 to 29226 and the antenna height radiation center above average terrain from 392.9 m to 411.1 m.

## **Discussion**

As stated in paragraph 25 of the 7<sup>th</sup> R&O, the Commission received comments and reply comments in response to the Seventh Further Notice of Proposed Rule Making (7<sup>th</sup> FNPRM) and its goal was to accommodate the requests made by commenters to the extent possible consistent with the standards outlined in the 7<sup>th</sup> FNPRM, and particularly the 0.1 percent interference standard. The Commission stated in paragraph 26 of the 7<sup>th</sup> R&O that proposed changes to the DTV Table and/or Appendix B that are consistent with the standards outlined in the 7<sup>th</sup> FNPRM and do not create new post-transition interference to a tentative channel designation (TCD) of more than 0.1 percent would be granted. However, the Commission's decision in paragraph 87



of the 7<sup>th</sup> R&O stating that it will not change the azimuth pattern in the final DTV TOA for the KTCI-DT Channel 26 post-transition facility conflicts with the Commission's decision in paragraph 26. The Commission's decision is conflicting because the azimuth pattern change requested by TPT for the KTCI-DT Channel 26 post-transition facility would comply with the 0.1 percent interference standard and would be consistent with the standards outlined in the 7<sup>th</sup> FNPRM.

Since stations seeking to use a new channel for post-transition operation may not file an application to construct their post-transition facilities until the final post-transition rules and procedures are established by the Report and Order in the Third DTV Periodic Review proceeding, it is paramount that the antenna azimuth pattern be changed now without having to await the future application process. The Commission should support this request since it is consistent with the standards outlined in the 7<sup>th</sup> FNPRM, it is compliant with the 0.1 percent interference standard and it will significantly facilitate the transition of the KTCI-DT Channel 26 non-commercial education broadcast facility to post-transition operation. It should also be recognized that the currently licensed KMSP-D26 pre-transition facility is predicted to cause 22.5% interference to WHWC-D27 (Exhibit 4). The KTCI-DT Channel 26 facility, using the KMSP-DT Channel 26 antenna, would cause 7.6 percent less interference to the WHWC-D27 post-transition facility (Exhibit 5). Referring to Exhibit 6, it can be seen that the licensed KMSP-DT F(50,90) 40 dBuV/m protected noise limited contour (red) is much larger than the F(50,50) 40 dBuV/m protected noise limited contour resulting from KTCI-DT operating using the KMSP-DT Channel 26 antenna with an ERP of 63.1 kW. Therefore, changing the antenna ID from 74396 to 29226, as requested herein by TPT, would improve the overall interference landscape significantly. Accordingly, the Final DTV TOA should adopt antenna ID 29226 for the KTCI-DT Channel 26 post-transition facility now without requiring KTCI-DT to seek the correct antenna and HAAT during the future post-transition application phase since the request would not create new post-transition interference to a TCD of more than 0.1 percent.

**Certification**

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics in 1993. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

KESSLER AND GEHMAN ASSOCIATES, INC.



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WILLIAM T. GODFREY, JR.  
Telecommunications Technical Consultant

24 October, 2007

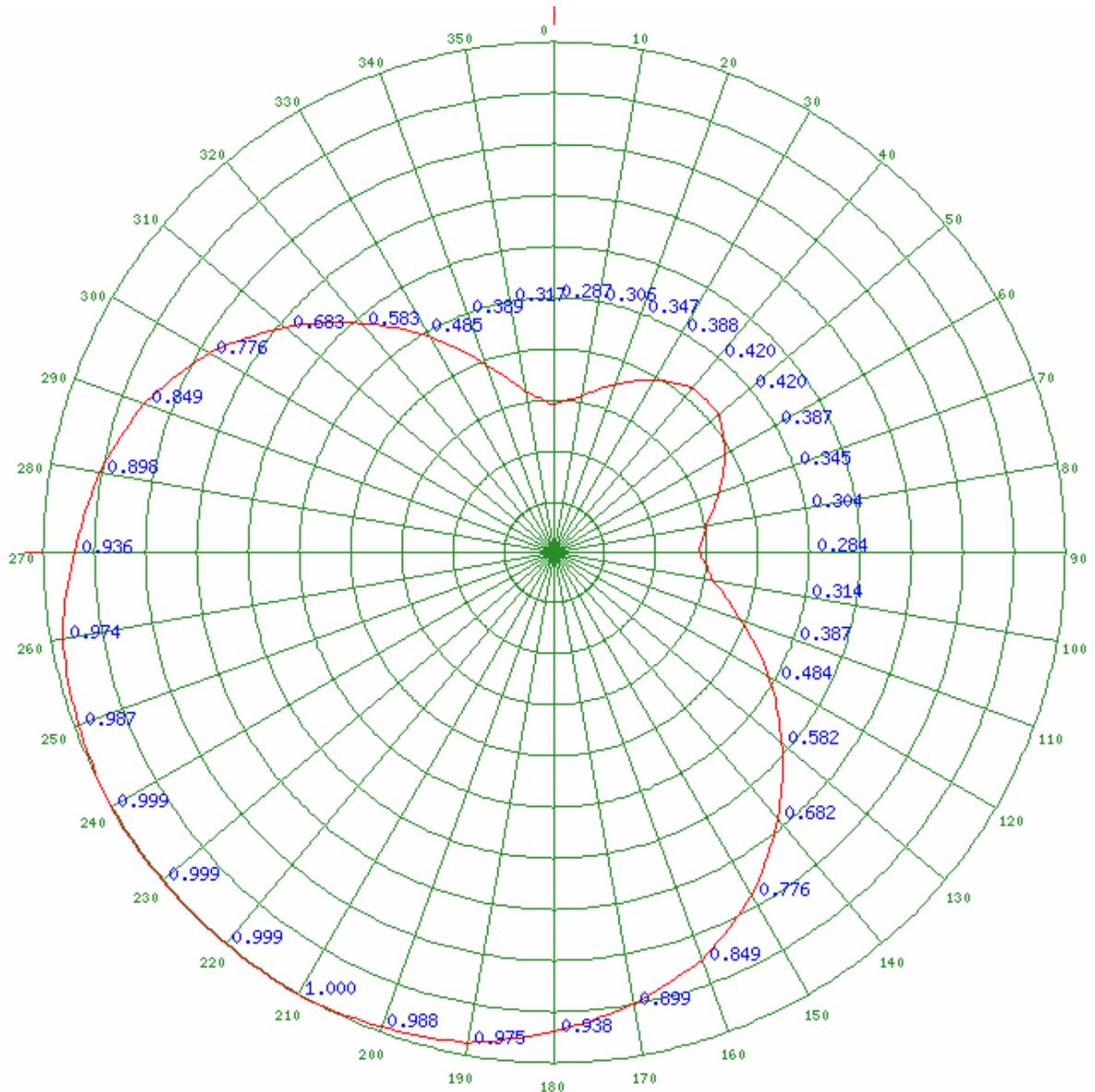
| Antenna Make | Model        | Service | Antenna Id |
|--------------|--------------|---------|------------|
| D16          | MNST_PAUL_26 | DT      | 74396      |

Antenna relative field values:

|      |       |      |       |      |       |      |       |      |       |      |       |
|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 0°   | 0.287 | 10°  | 0.306 | 20°  | 0.347 | 30°  | 0.388 | 40°  | 0.42  | 50°  | 0.42  |
| 60°  | 0.387 | 70°  | 0.345 | 80°  | 0.304 | 90°  | 0.284 | 100° | 0.314 | 110° | 0.387 |
| 120° | 0.484 | 130° | 0.582 | 140° | 0.682 | 150° | 0.776 | 160° | 0.849 | 170° | 0.899 |
| 180° | 0.938 | 190° | 0.975 | 200° | 0.988 | 210° | 1     | 220° | 0.999 | 230° | 0.999 |
| 240° | 0.999 | 250° | 0.987 | 260° | 0.974 | 270° | 0.936 | 280° | 0.898 | 290° | 0.849 |
| 300° | 0.776 | 310° | 0.683 | 320° | 0.583 | 330° | 0.485 | 340° | 0.389 | 350° | 0.317 |

Additional Azimuths:

Relative Field Polar Plot



| Antenna Make | Model         | Service | Antenna Id |
|--------------|---------------|---------|------------|
| DIE          | TUP-SP4-12S-1 | DT      | 29226      |

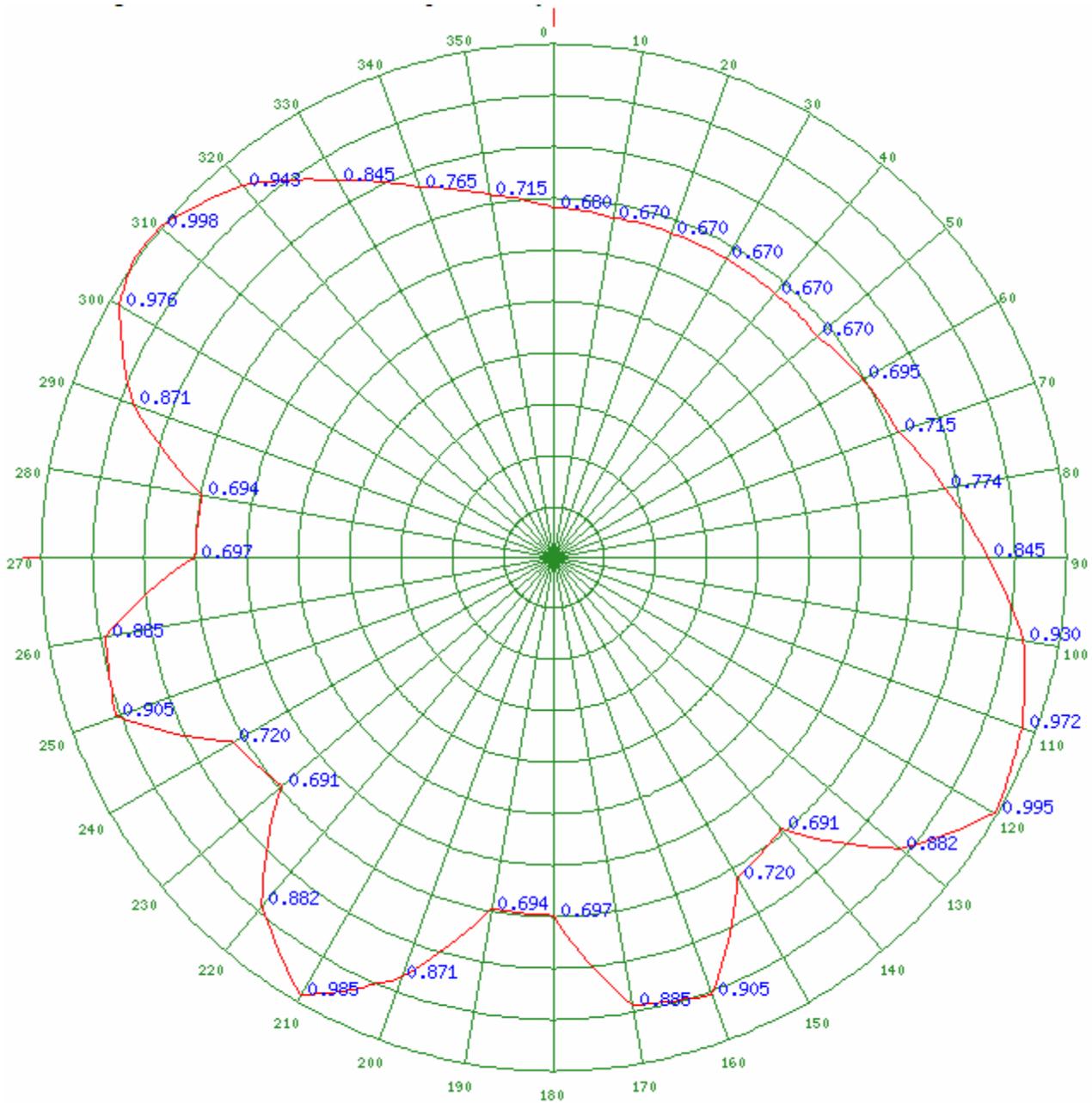
Antenna relative field values:

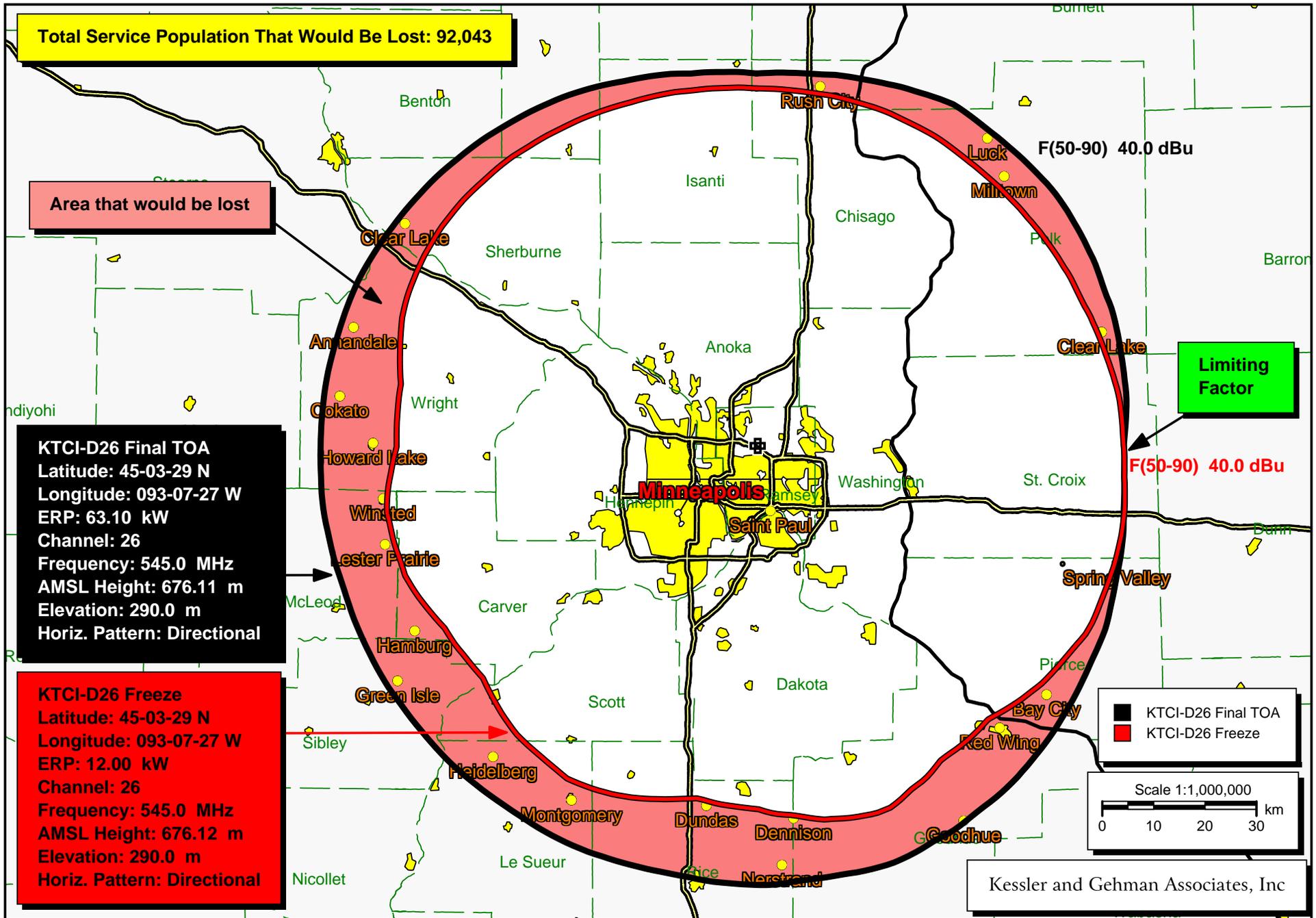
|            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| 0° 0.68    | 10° 0.67   | 20° 0.67   | 30° 0.67   | 40° 0.67   | 50° 0.67   |
| 60° 0.695  | 70° 0.715  | 80° 0.774  | 90° 0.845  | 100° 0.93  | 110° 0.972 |
| 120° 0.995 | 130° 0.882 | 140° 0.691 | 150° 0.72  | 160° 0.905 | 170° 0.885 |
| 180° 0.697 | 190° 0.694 | 200° 0.871 | 210° 0.985 | 220° 0.882 | 230° 0.691 |
| 240° 0.72  | 250° 0.905 | 260° 0.885 | 270° 0.697 | 280° 0.694 | 290° 0.871 |
| 300° 0.976 | 310° 0.998 | 320° 0.943 | 330° 0.845 | 340° 0.765 | 350° 0.715 |

Additional Azimuths:

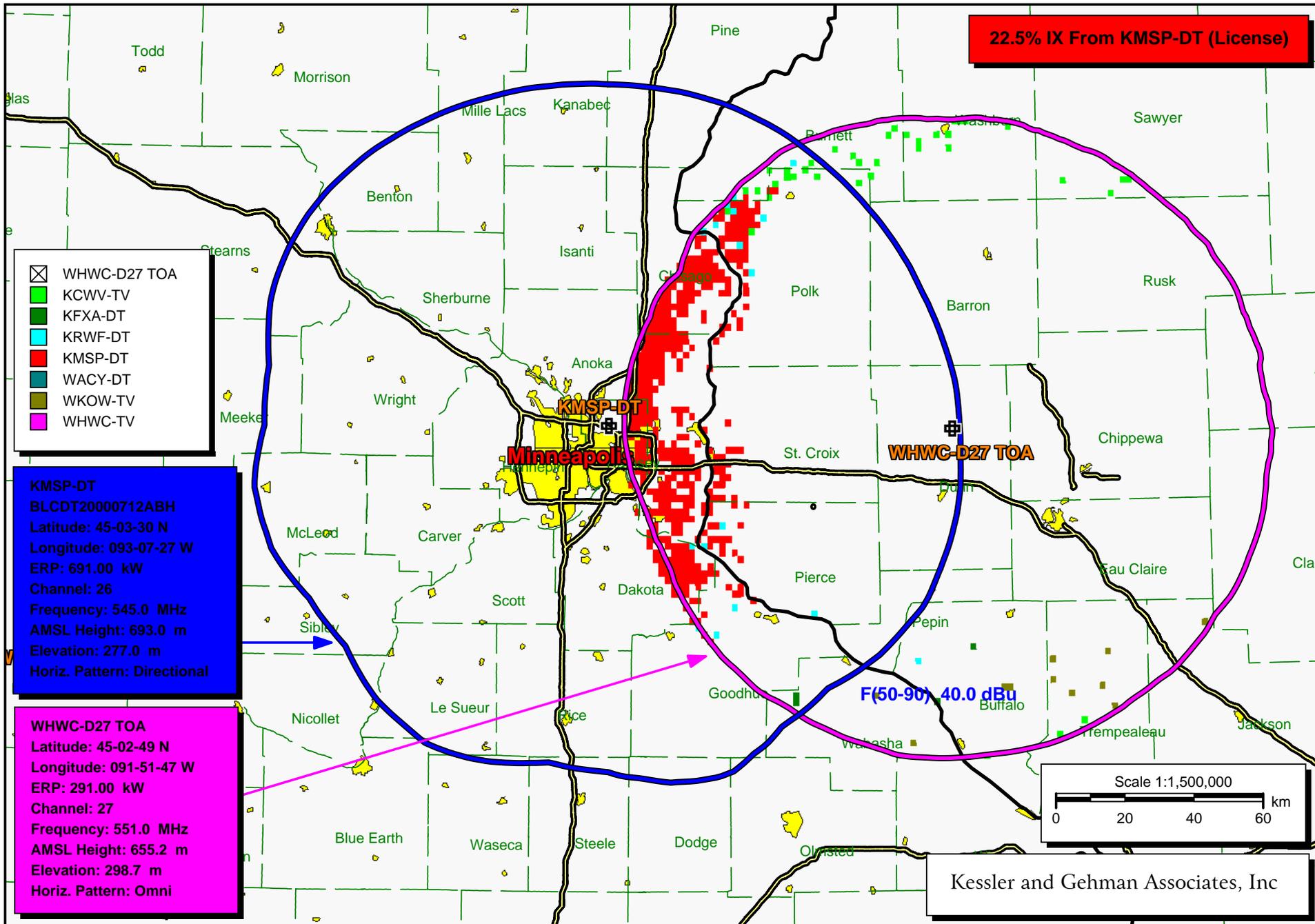
|        |
|--------|
| 305° 1 |
|--------|

Relative Field Polar Plot





KTCI-D26 Final DTV TOA (black contour) & KTCI-D26 Freeze (red contour)



WHWC-DT Channel 27 (Final DTV TOA) Inbound Longley-Rice Interference Study with licensed KMSp-DT Facility

## Inbound Longley-Rice Interference Population Report

Kessler and Gehman Population Report

WHWC-D27 TOA (27) Menomonie, WI - BLEDT20040824AAF  
 Broadcast Type: Digital Service: T  
 Lat: 45-02-49 N Lng: 091-51-47 W ERP: 291.0 kW AMSL: 655.2 m  
 TV Incoming Interference Study  
 Interference Considered Within: Noise Limited FCC Contour  
 Signal Resolution: 2.0 km  
 LR Profile Spacing Increment: 1.0 km  
 # of radials computed for contours: 72  
 Threshold for reception: 40.0455  
 Pop Centroid DB: 2000 US Census (SF1,Housing)

Primary Terrain: 3 Second US Terrain

Population Database: 2000 US Census (SF1)

Percentages calculated using a baseline population of 830,949.

Stations which cause interference:

| Call Letters  | H Units | Population | %      | Area (sq. km) |
|---------------|---------|------------|--------|---------------|
| KCWV-TV (27-) | 1339    | 2628       | 0.316  | 171.44        |
| KFXA-DT (27)  | 68      | 185        | 0.022  | 34.98         |
| KRWF-DT (27)  | 31604   | 82444      | 9.922  | 262.59        |
| KMSP-DT (26)  | 101013  | 268073     | 32.261 | 1496.25       |
| WACY-DT (27)  | 3       | 6          | 0.001  | 3.49          |
| WKOW-TV (27+) | 208     | 520        | 0.063  | 41.98         |

Masking Summary:

| Call Letters        | Total Interference |               | Unique Interference |               |
|---------------------|--------------------|---------------|---------------------|---------------|
|                     | Population         | %             | Population          | %             |
| KCWV-TV (27-)       | 2628               | 0.316         | 2233                | 0.269         |
| KFXA-DT (27)        | 185                | 0.022         | 57                  | 0.007         |
| KRWF-DT (27)        | 82444              | 9.922         | 1386                | 0.167         |
| <b>KMSP-DT (26)</b> | <b>268073</b>      | <b>32.261</b> | <b>187312</b>       | <b>22.542</b> |
| WACY-DT (27)        | 6                  | 0.001         | 0                   | 0.000         |
| WKOW-TV (27+)       | 520                | 0.063         | 434                 | 0.052         |

Stations considered which do not cause interference:

WHWC-TV (28-)

| Call Letters  | City                | State | Dist  | Bear  |
|---------------|---------------------|-------|-------|-------|
| KCWV-TV (27-) | Duluth              | MN    | 194.5 | 354.2 |
| KFXA-DT (27)  | Cedar Rapids        | IA    | 329.0 | 183.2 |
| KRWF-DT (27)  | Redwood Falls       | MN    | 293.9 | 259.0 |
| KMSP-DT (26)  | Minneapolis/st. Pau | MN    | 99.4  | 271.2 |
| WACY-DT (27)  | Appleton            | WI    | 317.1 | 102.6 |
| WKOW-TV (27+) | Madison             | WI    | 289.4 | 139.0 |
| WHWC-TV (28-) | Menomonie           | WI    | 0.0   | 0.0   |

Totals for WHWC-D27 TOA (27)

## Inbound Longley-Rice Interference Population Report

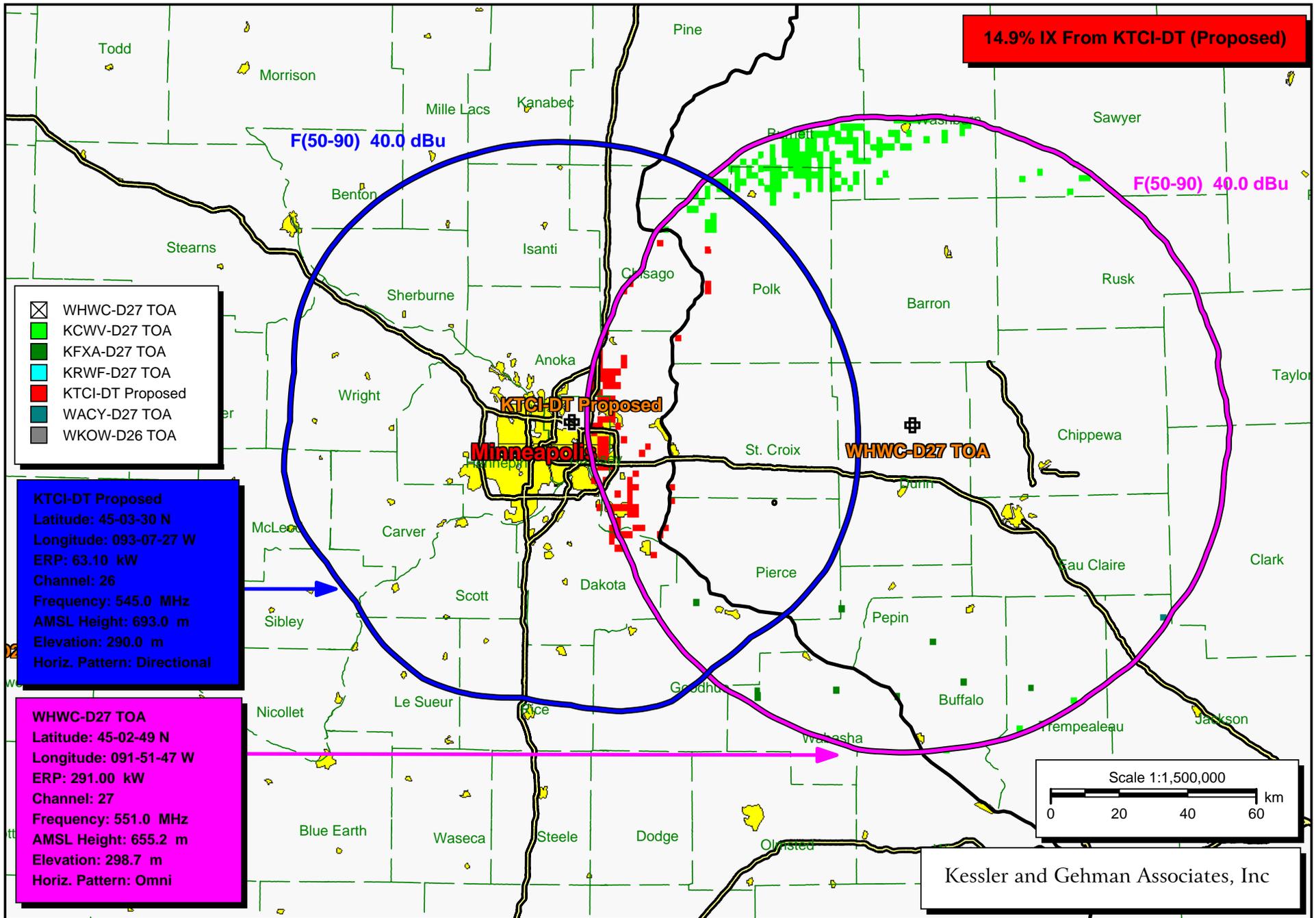
|                               |         |                    |
|-------------------------------|---------|--------------------|
| Calculation Area Population:  | 875,264 | ( 27057.4 sq. km ) |
| Not Affected by Terrain Loss: | 830,949 | ( 26401.3 sq. km ) |
| Total NTSC Interference:      | 3,107   | ( 202.9 sq. km )   |
| DTV Only Interference:        | 269,466 | ( 1524.2 sq. km )  |
| Total DTV Interference:       | 269,892 | ( 1596.6 sq. km )  |
| Interfered Population:        | 272,573 | ( 1727.2 sq. km )  |
| Interference Free:            | 558,376 | ( 24674.2 sq. km ) |
| Percent Interference:         | 32.80   |                    |
| Terrain Blocked Population:   | 44,315  | ( 656.1 sq. km )   |
| Contour Area Population:      | 880,984 |                    |

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### Interference Free Breakdown:

|                   |         |           |
|-------------------|---------|-----------|
| White:            | 534,016 | ( 95.6% ) |
| Black:            | 3,675   | ( 0.7% )  |
| Hispanic:         | 5,763   | ( 1.0% )  |
| Native American:  | 2,942   | ( 0.5% )  |
| Asian:            | 7,241   | ( 1.3% )  |
| Pacific Islander: | 133     | ( 0.0% )  |
| Mixed Race:       | 4,307   | ( 0.8% )  |
| Other:            | 299     | ( 0.1% )  |
| Total:            | 558,376 |           |

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WHWC-DT Channel 27 (Final DTV TOA) Inbound Longley-Rice Interference Study with KTCI-DT Proposed Facility

# Inbound Longley-Rice Interference Population Report

Kessler and Gehman Population Report

WHWC-D27 TOA (27) Menomonie, WI - BLEDT20040824AAF  
 Broadcast Type: Digital Service: T  
 Lat: 45-02-49 N Lng: 091-51-47 W ERP: 291.0 kW AMSL: 655.2 m  
 TV Incoming Interference Study  
 Interference Considered Within: Noise Limited FCC Contour  
 Signal Resolution: 2.0 km  
 LR Profile Spacing Increment: 1.0 km  
 # of radials computed for contours: 72  
 Threshold for reception: 40.0455  
 Pop Centroid DB: 2000 US Census (SF1,Housing)

Primary Terrain: 3 Second US Terrain

Population Database: 2000 US Census (SF1)

Percentages calculated using a baseline population of 830,949.

Stations which cause interference:

| Call Letters          | H Units | Population | %      | Area (sq. km) |
|-----------------------|---------|------------|--------|---------------|
| KCWV-D27 TOA (27)     | 3085    | 5979       | 0.720  | 550.65        |
| KFXA-D27 TOA (27)     | 68      | 185        | 0.022  | 38.47         |
| KRWF-D27 TOA (27)     | 65      | 210        | 0.025  | 3.47          |
| KTCI-DT Proposed (26) | 46567   | 123893     | 14.910 | 307.99        |
| WACY-D27 TOA (27)     | 3       | 6          | 0.001  | 3.49          |

Masking Summary:

| Call Letters                 | Total Interference |               | Unique Interference |               |
|------------------------------|--------------------|---------------|---------------------|---------------|
|                              | Population         | %             | Population          | %             |
| KCWV-D27 TOA (27)            | 5979               | 0.720         | 5910                | 0.711         |
| KFXA-D27 TOA (27)            | 185                | 0.022         | 143                 | 0.017         |
| KRWF-D27 TOA (27)            | 210                | 0.025         | 0                   | 0.000         |
| <b>KTCI-DT Proposed (26)</b> | <b>123893</b>      | <b>14.910</b> | <b>123656</b>       | <b>14.881</b> |
| WACY-D27 TOA (27)            | 6                  | 0.001         | 0                   | 0.000         |

Stations considered which do not cause interference:

WKOW-D26 TOA (26)

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| Call Letters      | City          | State | Dist  | Bear  |
|-------------------|---------------|-------|-------|-------|
| KCWV-D27 TOA (27) | Duluth        | MN    | 194.5 | 354.2 |
| KFXA-D27 TOA (27) | Cedar Rapids  | IA    | 329.0 | 183.2 |
| KRWF-D27 TOA (27) | REDWOOD FALLS | MN    | 293.9 | 259.0 |
| KTCI-DT Prop (26) | St. Paul      | MN    | 99.4  | 271.2 |
| WACY-D27 TOA (27) | Appleton      | WI    | 317.1 | 102.6 |
| WKOW-D26 TOA (26) | Madison       | WI    | 289.4 | 139.0 |

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Totals for WHWC-D27 TOA (27)

|                               |         |   |                  |
|-------------------------------|---------|---|------------------|
| Calculation Area Population:  | 875,264 | ( | 27057.4 sq. km ) |
| Not Affected by Terrain Loss: | 830,949 | ( | 26401.3 sq. km ) |

## Inbound Longley-Rice Interference Population Report

|                             |         |   |                  |
|-----------------------------|---------|---|------------------|
| Total NTSC Interference:    | 0       | ( | 0.0 sq. km )     |
| DTV Only Interference:      | 129,988 | ( | 883.2 sq. km )   |
| Total DTV Interference:     | 129,988 | ( | 883.2 sq. km )   |
| Interfered Population:      | 129,988 | ( | 883.2 sq. km )   |
| Interference Free:          | 700,961 | ( | 25518.2 sq. km ) |
| Percent Interference:       | 15.64   |   |                  |
| Terrain Blocked Population: | 44,315  | ( | 656.1 sq. km)    |
| Contour Area Population:    | 880,984 |   |                  |

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### Interference Free Breakdown:

|                   |         |   |         |
|-------------------|---------|---|---------|
| White:            | 668,382 | ( | 95.4% ) |
| Black:            | 5,694   | ( | 0.8% )  |
| Hispanic:         | 7,788   | ( | 1.1% )  |
| Native American:  | 3,289   | ( | 0.5% )  |
| Asian:            | 9,447   | ( | 1.3% )  |
| Pacific Islander: | 161     | ( | 0.0% )  |
| Mixed Race:       | 5,809   | ( | 0.8% )  |
| Other:            | 391     | ( | 0.1% )  |
| Total:            | 700,961 |   |         |

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## DECLARATION OF GLENN FISHER

1. My name is Glenn Fisher. I am Vice President of Broadcast Services for Twin Cities Public Television, Inc. ("TPT").
2. TPT is the licensee of two public television stations licensed to the Minneapolis-St. Paul, MN area, Station KTCA-TV/DT and Station KTCI-TV/DT. TPT uses the two stations to provide distinct services to its service area, and has taken advantage of the programming diversity made possible by digital technology to expand on its current analog services. Currently, Station KTCA-DT and Station KTCI-DT provide multicast programming streams that offer unique content for each station. After the digital transition is complete, TPT plans to continue to offer diverse program lineups on the two stations, to explore new ways to take full advantage of our digital spectrum, and to pursue new programming options that serve the needs and interests of viewers in the Twin Cities area.
3. Station KTCA-DT has two programming streams. The first channel is a simulcast of Station KTCA-TV's analog programming. This features primarily PBS Kids and PBS's national programming service. The second channel features "TPT HD", which is a full-time service devoted to sharing the best that Public Television has to offer in the High Definition format. TPT HD includes history, nature, documentary, lifestyle and children's programs that significantly enhance the viewing and learning experience through greater picture depth and clarity. Additionally, TPT HD brings a more realistic sound experience through 5.1 surround sound.
4. Station KTCI-DT offers five programming streams: analog Station KTCI programming, "TPT MN," "TPT Kids," "Create TV" and "TPT Weather."
5. The first of KTCI-DT's channels simulcasts Station KTCI-TV's analog programming, which is primarily the National Weather Service during the day and PBS's national programming service and other distributors' programs during primetime.
6. The second channel, TPT MN, is a full-time programming service designed to specifically serve our local community in ways no other media can. From very narrowly focused programs that are created by and for non-English speaking communities to programs created in partnership with other community non-profit organizations and government agencies to regionally focused programs from Minnesota's neighboring public television stations, TPT MN explores issues, celebrates our diversity and shares our cultures.
7. Station KTCI-DT's third channel, TPT Kids, is a full-time television service that features PBS's award-winning children's programs and educational interstitial material. Designed for children from pre-school through early elementary school age children, TPT Kids provides

the highest quality non-commercial content and learning environment available. Programs are scheduled at age-appropriate times and with our diverse audience in mind.

8. Create TV, Station KTCI-DT's fourth channel, is an instructional programming channel that provides expert advice on cooking, arts and crafts, gardening, home improvement and travel. Designed to inspire and encourage viewers to explore and live more fully, Create is a full-time channel that features many of television's most popular how-to, cooking and travel programs.
9. Station KTCI-DT's fifth channel, TPT Weather, features the full-time National Weather service programming.
10. I hereby declare under penalty of perjury that the facts in the attached Petition for Reconsideration regarding the programming offered on Station KTCA-DT and Station KTCI-DT are true and correct to the best of my knowledge and belief.

Executed on October <sup>24</sup> \_\_, 2007.

Signed:

A handwritten signature in cursive script, appearing to read "Glenn Fisher", written over a horizontal line.

Glenn Fisher  
Vice President, Broadcast Services  
Twin Cities Public Television, Inc.

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

|                               |   |                      |
|-------------------------------|---|----------------------|
| In the Matter of              | ) |                      |
|                               | ) |                      |
| Advanced Television Systems   | ) |                      |
| and Their Impact upon the     | ) | MB Docket No. 87-268 |
| Existing Television Broadcast | ) |                      |
| Service                       | ) |                      |
|                               | ) |                      |

**COMMENTS OF TWIN CITIES PUBLIC TELEVISION, INC.**

Twin Cities Public Television, Inc., licensee of noncommercial educational television Stations KTCA-TV/DT and KTCI-TV/DT, St. Paul, Minnesota (“TPT”), hereby submits these Comments pursuant to paragraph 16 of the Commission’s *Seventh Further Notice of Proposed Rule Making (“Seventh Further Notice”)*<sup>1</sup> in the above-captioned proceeding. These Comments correct certain data concerning Stations KTCA-DT and KTCI-DT contained in Exhibit B to the *Notice* and seek clarification as to TPT’s ability to modify the facilities of Station KTCI-DT when it commences operations on its permanent DTV channel. The corrections for each station are set forth below.

**Station KTCA-DT:** Exhibit B indicates that Station KTCA-DT will operate on DTV Channel 34 with an ERP of 1000 kW at a HAAT of 399 meters using an antenna with an Antenna ID of 74786. The information as to Station KTCA-DT’s ERP and HAAT is incorrect,

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<sup>1</sup> *In re Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, MM Docket No. 87-268, Seventh Further Notice of Proposed Rule Making, FCC 06-150, (rel. Oct. 20, 2006).

and the antenna listed in Exhibit B is different than the antenna TPT will deploy after the transition and has a different antenna pattern.

As the enclosed copy of Station KTCA-DT's license indicates, the station is currently authorized to operate on Channel 34 with an ERP of 662 kW at a HAAT of 411.1 meters.<sup>2</sup> While TPT originally indicated in its FCC Form 381 that it intended to operate Station KTCA-DT with DTV facilities that replicated its initial DTV allotment, it notified the Commission by e-mail on November 5, 2004, one day after filing its Form 381, that it would operate with an ERP of 700 kW, rather than 1000 kW, as originally assigned in the Commission's *Sixth Report and Order* in this proceeding.<sup>3</sup> A copy of that e-mail is attached as Exhibit 2. TPT subsequently sought and obtained a construction permit to reduce Station KTCA-DT's ERP further to 662 kW. (FCC File Nos. BMPEDT-20060718ACE) As the attached license indicates, the station has been licensed at that power. (FCC File No. BLEDT-20060802AGD).

In its Form 381, TPT advised the Commission that some of the data concerning Station KTCA-DT's antenna site was incorrect and stated that it would file an application to correct that information once the survey required to verify the data was completed. The application to correct the Commission's database was filed on March 22, 2005 (FCC File No. BMPEDT-20050322AGE) and was granted on April 22, 2005. That application corrected the elevation of Station KTCA-DT's antenna to 413.8 m AGL, 690.8 m AMSL, and 411.1 m HAAT. Accordingly, TPT requests that the Commission correct Exhibit B to reflect that the ERP for Station KTCA-DT is 662 kW and that its HAAT is 411.1 meters.

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<sup>2</sup> See Exhibit 1.

<sup>3</sup> *In re Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, MM Docket. No 87-268, Sixth Report and Order, 12 FCC Rcd. 14599 (1997).

TPT also notes that the antenna pattern for the antenna listed in Exhibit B, 74876, does not correspond to the antenna pattern of the antenna TPT is currently using and plans to continue using after the end of the transition. TPT plans to use the same panel antenna for Station KTCA-DT and for Station KTCI-DT after the transition. That antenna is currently used by Station KMSP-DT and Station KTCA-DT. The pattern for 74876 is omnidirectional, whereas the DIE TUP-SP4-12S-1 antenna used by Station KTCA-DT is a directional antenna, as indicated in the attached Exhibit 3. Accordingly, TPT requests that the Commission amend Exhibit B to specify the correct antenna for Station KTCA-DT.<sup>4</sup>

**Station KTCI-DT:** Exhibit B correctly indicates that TPT selected Channel 26 as its permanent DTV channel for Station KTCI-DT and that it will operate from a antenna site with coordinates of 45 03 29 N, 93 07 27 W with a HAAT of 396 meters. The latitude of the antenna site is incorrect; it should be 45 03 30 N, as the license for station provides.<sup>5</sup> In addition, the HAAT is incorrect; it should be 393 meters, as is also shown on the station's license.

Exhibit B also indicates that Station KTCI-DT will operate with an ERP of 63.1 kW, while, as the attached license of Station KTCI-DT shows, it is currently licensed on DTV Channel 17 with an ERP of 50 kW. TPT assumes that the Commission increased Station KTCI-DT's power to 63.1 kW to compensate for the different propagation characteristics Channel 26 as compared with Channel 17. However, TPT will not be operating on Channel 26 from the same antenna height as its Channel 17 antenna. Rather, TPT has entered into an agreement with Fox Television Stations, Inc., licensee of Station KMSP-DT, which is currently operating on

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<sup>4</sup> After the transition, TPT plans to use the antenna currently used by Stations KMSP-DT and KTCA-DT for both Station KTCA-DT and Station KTCI-DT. The Antenna ID for that antenna is 29226.

<sup>5</sup> See Exhibit 4

DTV channel 26, to use Station KMSP-DT's antenna after the transition. That antenna has a center of radiation of 413.8 meters AGL and a HAAT 411.1 meters.<sup>6</sup> Since TPT requested authority to replicate the service area allocated in the original DTV Table of Allotments, TPT urges the Commission to assure that operation with an ERP of 63.1 kW at the correct HAAT will permit Station KTCI-DT to replicate that service area on Channel 26 from an HAAT of 411.1 meters. To the extent that those facilities will not permit it to replicate the original DTV service area, TPT requests that the Commission amend Exhibit B to specify the appropriate power levels to achieve that goal on Channel 26 from the antenna currently used by Station KMSP-DT.

### **Conclusion**

Accordingly, TPT requests that the Commission correct Exhibit B to the *Seventh Further Notice* to reflect the fact that TPT plans to operate both Station KTCA-DT and Station KTCI-DT from the same antenna and to indicate that (a) Station KTCA-DT will operate on Channel 34 with an ERP of 662 kW from an HAAT of 411.1 meters and (b) Station KTCI-DT will operate on Channel 26 from a site with coordinates of 45 03 30 N, 93 07 27 W and a HAAT of 411.1 meters. In addition, TPT requests that the Commission assure that Station KTCI-DT will be able

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<sup>6</sup> TPT is aware that the license for Station KMSP-DT specifies a HAAT of 415 meters and that that station is using a common antenna with Station KTCA-DT. When the antenna was installed, it was installed slightly below the level originally intended and, as indicated in Station KTCA-DT's license, the center of radiation is 413.8 m AGL rather 416 m as indicated in Station KMSP-DT's license. That reduced the HAAT from 415 meter to 411.1 meters.



**EXHIBIT 1**

**LICENSE FOR STATION KTCA-DT**

**United States of America**  
**FEDERAL COMMUNICATIONS COMMISSION**  
**DIGITAL/TELEVISION BROADCAST STATION LICENSE**

Authorizing Official:

Official Mailing Address:

TWIN CITIES PUBLIC TELEVISION, INC.  
172 EAST 4TH STREET  
ST. PAUL MN 55101

Clay C. Pendarvis  
Associate Chief  
Video Division  
Mass Bureau

Facility Id: 68594

Grant Date: August 11, 2006

This license expires 3:00 a.m.  
local time, April 01, 2014.

Analog Call Sign: KTCA-TV

Digital Call Sign: KTCA-DT

Analog License File Number: BMLET-20050322AGD

Digital License File Number: BLEDT-20060802AAO

This license covers Analog Permit No.: BLET-291

This license covers Digital Permit No.: BMPEDT-20060718ACE

Subject to the provisions of the Communications Act of 1934, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this license, the licensee is hereby authorized to use and operate the radio transmitting apparatus herein described.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve the public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by Section 606 of the Communications Act of 1934.

ANALOG TELEVISION ENGINEERING DATA

Callsign: KTCA-DT

License No.: BLEDT-20060802AAO

Name of Licensee: TWIN CITIES PUBLIC TELEVISION, INC.

Station Location: MN-ST. PAUL

Frequency (MHz): 54 - 60

Carrier Frequency (MHz): 55.24 Visual 59.74 Aural

Channel: 2

Hours of Operation: Unlimited

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Antenna type: (directional or non-directional): Non-Directional

Description: HAR, TAD-4L-3/12

Major lobe directions (degrees true): Not Applicable

Antenna Coordinates: North Latitude: 45 deg 03 min 30 sec

West Longitude: 93 deg 07 min 27 sec

Transmitter output power: 30.97 kW  
14.91 DBK

Maximum effective radiated power (Peak): 100 kW  
20 DBK

Height of radiation center above ground: 395.6 Meters

Height of radiation center above mean sea level: 673.2 Meters

Height of radiation center above average terrain: 393.1 Meters

Antenna structure registration number: 1022899

Overall height of antenna structure above ground (including obstruction lighting if any) see the registration for this antenna structure.

#### DIGITAL TELEVISION DATA

Name of Licensee: TWIN CITIES PUBLIC TELEVISION, INC.

Station Location: MN-SAINT PAUL

Frequency (MHz): 590 - 596

Channel: 34

Hours of Operation: Unlimited

Callsign: KTCA-DT

License No.: BLEDT-20060802AAO

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Antenna type: (directional or non-directional): Directional

Description: DIE, TUP-SP4-12S-1

Beam Tilt: 0.75 Degrees Electrical

Major lobe directions 305  
(degrees true):

Antenna Coordinates: North Latitude: 45 deg 03 min 30 sec

West Longitude: 93 deg 07 min 27 sec

Transmitter output power: 25.3 kW  
14 DBK

Maximum effective radiated power (Average): 662 kW  
28.21 DBK

Height of radiation center above ground: 413.8 Meters

Height of radiation center above mean sea level: 690.8 Meters

Height of radiation center above average terrain: 411.1 Meters

Antenna structure registration number: 1022899

Overall height of antenna structure above ground (including obstruction lighting if any) see the registration for this antenna structure.

Special operating conditions or restrictions:

- 1 This is to notify you that your application for license is subject to the condition that on February 17, 2009, or by such other date as the Commission may establish in the future under Section 309(j)(14)(a) and (b) of the Communications Act, the licensee shall surrender either its analog or digital television channel for reallocation or reassignment pursuant to Commission regulations. The Channel retained by the licensee will be used to broadcast digital television only after this date.

\*\*\* END OF AUTHORIZATION \*\*\*

**EXHIBIT 2**

**TPT's E-Mail Revising Its FCC Form 381**



"Randy Lebedoff"  
<RLebedoff@tpt.org>

11/05/2004 04:04 PM

To: <form381@fcc.gov>

cc: "Bruce Jacobs" <bjacobs@tpt.org>, Theodore  
Frank/Atty/DC/ArnoldAndPorter@APORTER

Subject:

I am writing to provide some additional information with respect to the submission by Twin Cities Public Television, Inc. ("TPT") of Form 381 on behalf of its station KTCA-TV. KTCA-TV is a non-commercial television station which is licensed to operate at 924 KW, and currently operates at 350KW under an STA. It is the intention of TPT to operate the post-transition station, KTCA-DT, at 700KW. This will nearly replicate, but not fully replicate, its allotted power.

Randy M. Lebedoff  
Vice President and General Counsel  
Twin Cities Public Television  
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e-mail [rlebedoff@tpt.org](mailto:rlebedoff@tpt.org)

**EXHIBIT 3**

**Polar Plots of Station KTCA-DT's Existing DTV Antenna and  
the Antenna Specified in Exhibit B**



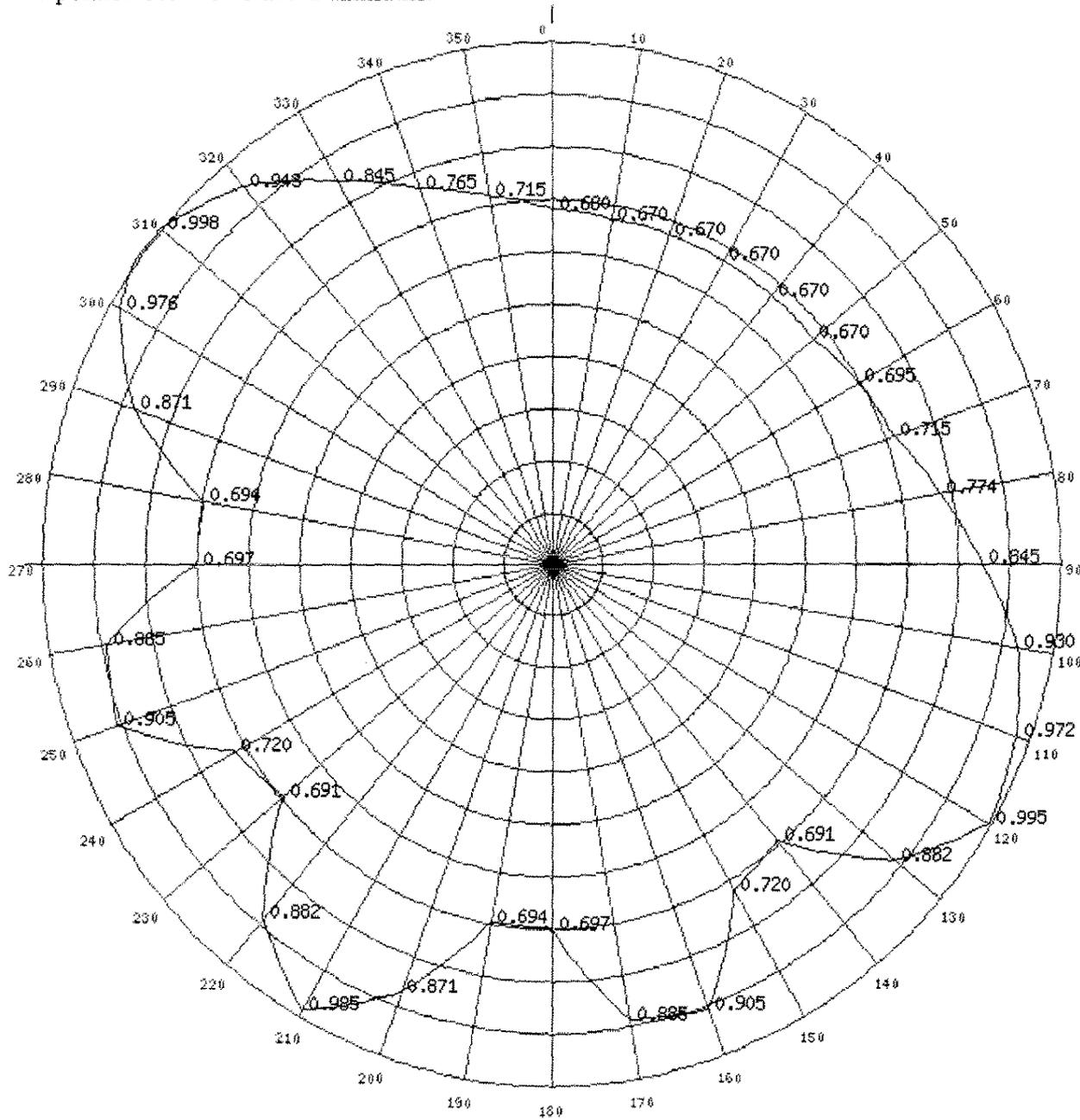
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| Antenna Make                   |       | Model         |       | Service |       | Antenna Id |       |      |       |      |       |
|--------------------------------|-------|---------------|-------|---------|-------|------------|-------|------|-------|------|-------|
| DIE                            |       | TUP-SP4-12S-1 |       | DT      |       | 29226      |       |      |       |      |       |
| Antenna relative field values: |       |               |       |         |       |            |       |      |       |      |       |
| 0°                             | 0.68  | 10°           | 0.67  | 20°     | 0.67  | 30°        | 0.67  | 40°  | 0.67  | 50°  | 0.67  |
| 60°                            | 0.695 | 70°           | 0.715 | 80°     | 0.774 | 90°        | 0.845 | 100° | 0.93  | 110° | 0.972 |
| 120°                           | 0.995 | 130°          | 0.882 | 140°    | 0.691 | 150°       | 0.72  | 160° | 0.905 | 170° | 0.885 |
| 180°                           | 0.697 | 190°          | 0.694 | 200°    | 0.871 | 210°       | 0.985 | 220° | 0.882 | 230° | 0.691 |
| 240°                           | 0.72  | 250°          | 0.905 | 260°    | 0.885 | 270°       | 0.697 | 280° | 0.694 | 290° | 0.871 |
| 300°                           | 0.976 | 310°          | 0.998 | 320°    | 0.943 | 330°       | 0.845 | 340° | 0.765 | 350° | 0.715 |
| Additional Azimuths:           |       |               |       |         |       |            |       |      |       |      |       |
| 305°                           | 1     |               |       |         |       |            |       |      |       |      |       |

[Relative Field Polar Plot](#)

Any specified rotation has already been applied to the plotted pattern.  
Field strength values shown on a rotated pattern may differ from the listed values because intermediate azimuths are interpolated between entered azimuths.





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| Antenna Make | Model        | Service | Antenna Id |
|--------------|--------------|---------|------------|
| rep          | MNST_PAUL_34 | DT      | 74876      |

**Antenna relative field values:**

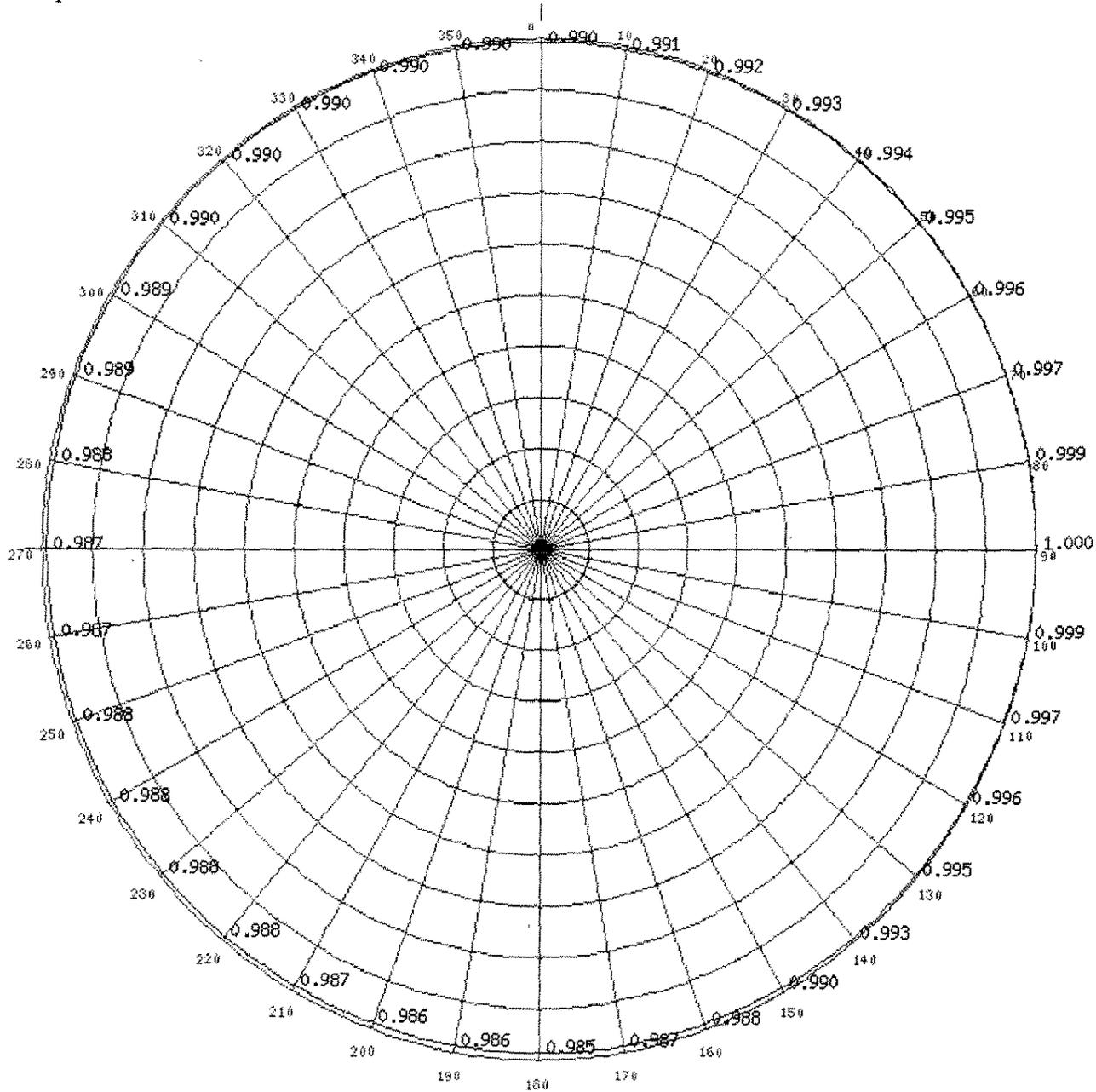
|      |       |      |       |      |       |      |       |      |       |      |       |
|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 0°   | 0.99  | 10°  | 0.991 | 20°  | 0.992 | 30°  | 0.993 | 40°  | 0.994 | 50°  | 0.995 |
| 60°  | 0.996 | 70°  | 0.997 | 80°  | 0.999 | 90°  | 1     | 100° | 0.999 | 110° | 0.997 |
| 120° | 0.996 | 130° | 0.995 | 140° | 0.993 | 150° | 0.99  | 160° | 0.988 | 170° | 0.987 |
| 180° | 0.985 | 190° | 0.986 | 200° | 0.986 | 210° | 0.987 | 220° | 0.988 | 230° | 0.988 |
| 240° | 0.988 | 250° | 0.988 | 260° | 0.987 | 270° | 0.987 | 280° | 0.988 | 290° | 0.989 |
| 300° | 0.989 | 310° | 0.99  | 320° | 0.99  | 330° | 0.99  | 340° | 0.99  | 350° | 0.99  |

**Additional Azimuths:**

Relative Field Polar Plot

Any specified rotation has already been applied to the plotted pattern.

Field strength values shown on a rotated pattern may differ from the listed values because intermediate azimuths are interpolated between entered azimuths.



**EXHIBIT 4**

**License for Station KTCI-DT**

United States of America  
**FEDERAL COMMUNICATIONS COMMISSION**  
**DIGITAL/TELEVISION BROADCAST STATION LICENSE**

Authorizing Official:

Official Mailing Address:

TWIN CITIES PUBLIC TELEVISION, INC.  
172 EAST 4TH STREET  
ST PAUL MN 55101

Clay C. Pendarvis  
Associate Chief  
Video Division  
Media Bureau

Facility Id: 68597

Grant Date: January 10, 2006

This license expires 3:00 a.m.  
local time, April 01, 2006.

Analog Call Sign: KTCI-TV

Digital Call Sign: KTCI-DT

Analog License File Number: BMLET-20050322AGC

Digital License File Number: BMLEDT-20050322AGB

This license covers Analog Permit No.: BLET-19910809KE

This license covers Digital Permit No.: BLEDT-19990920AAW

Subject to the provisions of the Communications Act of 1934, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this license, the licensee is hereby authorized to use and operate the radio transmitting apparatus herein described.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve the public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by Section 606 of the Communications Act of 1934.

ANALOG TELEVISION ENGINEERING DATA

Callsign: KTCI-DT

License No.: BMLET-20050322AGC

Name of Licensee: TWIN CITIES PUBLIC TELEVISION, INC.

Station Location: MN-ST. PAUL

Frequency (MHz): 488 - 494

Carrier Frequency (MHz): 489.25 Visual 493.75 Aural

Channel: 17

Hours of Operation: Unlimited

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Antenna type: (directional or non-directional): Directional

Description: AND, ATW 30H

Beam Tilt: 1 Degrees Electrical

Major lobe directions 225  
(degrees true):

Antenna Coordinates: North Latitude: 45 deg 03 min 30 sec

West Longitude: 93 deg 07 min 27 sec

Transmitter output power: 9.87 kW  
9.95 DBK

Maximum effective radiated power (Peak): 331 kW  
25.2 DBK

Height of radiation center above ground: 396 Meters

Height of radiation center above mean sea level: 673 Meters

Height of radiation center above average terrain: 393 Meters

Antenna structure registration number: 1022899

Overall height of antenna structure above ground (including obstruction lighting if any) see the registration for this antenna structure.

#### DIGITAL TELEVISION DATA

Name of Licensee: TWIN CITIES PUBLIC TELEVISION, INC.

Station Location: MN-ST. PAUL

Frequency (MHz): 482 - 488

Channel: 16

Hours of Operation: Unlimited

