

Before the
Federal Communications Commission
Washington, D.C.

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JUL 16 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
Amendment of Section 73.622(b))
of the Rules)
DTV Table of Allotments/Assignments)
WCIA(TV), Champaign, Illinois)

To: Chief
Policy and Rules Division

PETITION FOR RULEMAKING

Midwest Television, Inc. ("Midwest") hereby requests that the DTV Table of Allotments/Assignments contained in Section 73.622 of the Rules be amended to substitute DTV Channel 5 for the existing DTV Channel 48 allotment/assignment to WCIA(TV), Champaign, Illinois.

Midwest submits this petition for rulemaking in accordance with guidance its counsel has received from Commission staff members who have indicated that a request to change a channel allotment/assignment in the DTV Table must be made through a petition for rulemaking. However, the staff advice on this issue has not been uniform, and there have been some indications that a channel change that satisfies the *de minimis* interference standard adopted by the Commission in the *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order*^{1/} could be requested through an application. Should the Commission determine that the latter approach is

^{1/} MM Docket No. 87-268, FCC 98-24 (adopted Feb. 17, 1998, released Feb. 23, 1998), 63 Fed. Reg. 1346 (March 20, 1998) ("MO&O on Reconsideration of the Sixth R&O").

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appropriate, Midwest respectfully requests that the Commission accept and process the attached application (Exhibit B) as a non-conforming application to construct a DTV station on DTV Channel 5, in lieu of DTV Channel 48, at Champaign. This course would certainly be faster and less cumbersome and would facilitate DTV implementation in Central Illinois.

Section 73.622(a) of the Commission's Rules provides that "[a] request to amend the DTV table to change the channel of an allotment in the DTV table will be evaluated for technical acceptability using engineering criteria set forth in § 73.623(c)." Section 73.623(c) sets forth engineering criteria which must be met in order to demonstrate satisfaction of the *de minimis* interference standard adopted by the Commission in the *MO&O on Reconsideration of the Sixth R&O*. Accordingly, because Midwest here seeks to "change the channel of [WCIA(TV)'s] allotment in the DTV table," the technical exhibit of Midwest's consulting engineer demonstrates that the proposed amendment satisfies the *de minimis* interference standard.^{2/} The technical exhibit of John Lundin of du Treil, Lundin & Rackley, Inc. is attached as Exhibit A.

Moreover, the substitution of DTV Channel 5 for DTV Channel 48 would advance the public interest by enabling Midwest to begin more quickly to operate its digital television station in Champaign. If WCIA's DTV station were permitted to operate on DTV Channel 5, according to preliminary evaluations Midwest would not have to build a new tower for its DTV antenna. On the other hand, because UHF antennas are heavier and require more wind-loading, Midwest unquestionably would

^{2/} See 47 C.F.R. §§ 73.622(a); see also *MO&O on Reconsideration of the Sixth R&O* ¶¶ 157-158.

have to construct a new tower if it were to proceed with DTV Channel 48. Avoiding the need to build a new tower would eliminate any local zoning and aeronautical controversies, avoid viewer disruption due to antenna orientation problems, and permit Midwest to invest more quickly in the other equipment and facilities needed to get the DTV station on the air. Thus, allotting/assigning DTV Channel 5 to WCIA in Champaign would facilitate the orderly transition to DTV that Congress and the Commission have found to be in the public interest.

Simultaneous with the allotment of DTV Channel 5 to Champaign, the Commission should assign the channel to WCIA as the DTV allotment/assignment paired with WCIA's NTSC Channel 3. Since it is a substitute for DTV allotment/assignment Channel 48, which is not open to competing applications, neither should DTV Channel 5 be open to competing applications. The Commission explained in the *Sixth Report and Order* that the DTV Table was developed with the goals of providing a DTV allotment/assignment to each full-service broadcaster and assuring that the assigned allotment replicates as fully as possible the broadcaster's NTSC service area.^{3/} In its *MO&O on Reconsideration of the Sixth R&O*, the Commission clarified that requests to modify channel allotments in the DTV Table would be governed by the same principles of full accommodation and service replication that guided the development of the initial DTV Table.^{4/} Therefore, any decision to modify the DTV channel allotted to

^{3/} Sixth Report and Order, MM Docket No. 87-268, FCC 97-115, 12 FCC Rcd 14588, ¶¶ 8, 11-12, 29 (adopted April 3, 1997, released April 21, 1997).

^{4/} MO&O on Reconsideration of the Sixth R&O ¶¶ 157-158.

Champaign and paired with WCIA's NTSC Channel 3 should also entail the assignment of the substituted DTV channel to Midwest.^{5/}

Midwest's request to modify its DTV channel allotment -- a request that the Commission has indicated its willingness to entertain^{6/} -- should in no way jeopardize Midwest's existing Channel 48 DTV allotment/assignment. Specifically, the Commission should not entertain any other application for Channel 48 until the allotment/assignment of DTV Channel 5 to Midwest is final. Also, other applicants should not be permitted to seek use of Channel 5 for NTSC or DTV purposes during this interim period.

^{5/} In conjunction with its request that DTV Channel 5 be paired with NTSC Channel 3, Midwest attaches as Exhibit B an application that details the effective radiated power (ERP) and antenna height above average terrain (HAAT) of the DTV station that Midwest intends to construct and operate on DTV Channel 5. The application demonstrates that Midwest's proposed operation on DTV Channel 5 would basically replicate the service area of Midwest's NTSC station on Channel 3.

^{6/} See MO&O on Reconsideration of the Sixth R&O ¶ 187 ("Throughout this proceeding, we have stated that we intend to provide broadcasters with the flexibility to develop alternative allotment approaches and plans."); *id.* ¶¶ 157-158 (discussing criteria that will govern determination of requests to modify channel allotments/assignments).

CONCLUSION

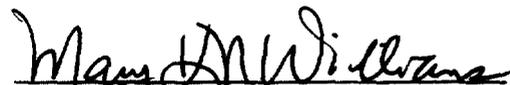
Midwest respectfully requests that the Commission amend the DTV Table of Allotments/Assignments to substitute DTV Channel 5 for the existing allotment/assignment of DTV Channel 48 to WCIA, Champaign, Illinois. The substituted allotment/assignment should not be open to competing applications.

July 16, 1998

Respectfully submitted,

MIDWEST TELEVISION, INC.

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cc: Roy Stewart, Chief, Mass Media Bureau
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TECHNICAL EXHIBIT
SUPPORTING PETITION FOR RULE MAKING
MIDWEST TELEVISION, INC.
STATION WCIA
CHAMPAIGN, ILLINOIS

Present : DTV Channel 48	1000 kW-DA	287 m
Proposed : DTV Channel 5	4.5 kW	287 m

Technical Narrative

This Technical Exhibit supports a petition from Midwest Television, Inc., licensee of television (TV) station WCIA on analog (NTSC) channel 3 at Champaign, Illinois. The petition requests The Federal Communications Commission (FCC) to change WCIA's digital television (DTV) allotment from channel 48 to channel 5. The FCC assigned channel 48 as WCIA's DTV allotment in the Memorandum, Opinion and Order (MO&O) concerning reconsideration of the 6th Report and Order in MM Docket No. 87-268.

Station WCIA is presently authorized to operate on analog channel 3 with a non-directional (ND) antenna system. The visual effective radiated power (ERP) is 100 kilowatts (kW). The antenna height above average terrain (HAAT) is 287 meters.

The FCC allotted DTV channel 48 to WCIA based on reference site coordinates the same as the WCIA analog operation (40-06-23, 88-26-59). The FCC assigned the

maximum permitted ERP of 1000 kW at an antenna HAAT of 287 meters for the channel 48 DTV allotment.

In order to overcome loading problems with the present WCIA tower and more quickly implement the transitional DTV operation, station WCIA proposes to change its DTV allotment from channel 48 to channel 5. The proposed DTV ERP on channel 5 is 4.5 kW with a non-directional antenna pattern. The DTV reference site and antenna HAAT remain unchanged (ie, 40-06-23, 88-26-59 and 287 meters).

The proposed WCIA channel 5 DTV allotment reference site is about 490 kilometers from the closest point of the Canadian border. The proposed WCIA channel 5 DTV allotment reference site is more than 1600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Allegan, Michigan, approximately 340 kilometers to the northeast. The proposed channel 5 DTV allotment reference site is outside the National Radio Quiet Zone (VA/WVA), the closest point being 680 kilometers to the east. The closest point of the Table Mountain Radio Quiet Zone (CO) is approximately 1420 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at North Liberty, Iowa, approximately 320 kilometers to the northwest. These separations are sufficient to not be a concern for coordination purposes.

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin¹. In accordance with FCC procedures, interference is provided in terms of population. No interference will be caused to or received from another DTV allotment. The following is a tabulation of the calculated interference caused by the proposed WCIA channel 5 DTV operation to authorized analog (NTSC) operations. Calculations were made to determine what portion of the interference caused by the proposed WCIA channel 5 DTV allotment is new or unique. In other words, the interference is not masked by calculated interference already caused by other authorized analog or DTV assignments and allotments. The FCC service population has been taken from the FCC's MO&O. The percentage that the proposed channel 5 DTV interference is of the FCC service population is given in parenthesis.

The analog stations are:

WMAQ-TV, Channel 5, Chicago, IL
KSDK(TV), Channel 5, St. Louis, MO
WLWT(TV), Channel 5, Cincinnati, OH

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures adopted by the FCC in the Sixth Report and Order and subsequent Memorandum Opinion and Order. The principals outlined in OET Bulletin No. 69 are employed except that annular sector cells are employed instead of square grid cells of 4 square kilometers in area. The annular sector cells are 1-arc degree by 1 kilometer in dimension. The annular sector cell areas vary from approximately 0.02 square kilometer close to the station transmitter site to 2 square kilometers at the greatest extent of a station's protected contour. In some instances, the resulting higher cell resolution of the DLR routine produces different results than the standard FCC 4-square-kilometer FCC grid method. However, the DLR routine results have been found to closely agree with the FCC results when the FCC uses higher resolution (i.e. - smaller grid cell area) in its program.

<u>Station</u>	<u>FCC Service Population</u>	<u>Proposed DTV Interference Population</u>	<u>Prop. Unique Interference Population</u>
WMAQ-TV	8,322,000	186,733	150,442 (1.8%)
KSDK	2,764,000	55,426	55,354 (2.0%)
WLWT	2,835,000	9,004	5,778 (0.2%)

The proposed channel 5 DTV allotment also complies with the 10% component of the Commission's 2%/10% minimum standard.

Calculations were made to determine the interference received by the proposed WCIA channel 5 DTV operation from other analog and DTV assignments. The following is a summary.

<u>Description</u>	<u>Population</u>
Within predicted noise limited contour Not affected by terrain losses	852,712
	851,692
Loss due to analog interference	58,981
Additional loss due to DTV interference	0
Resulting DTV service	792,711

The FCC's MO&O shows the channel 3 analog service for WCIA to be 724,000 people. Calculated service from WCIA's proposed channel 5 DTV operation exceeds the terrain limited, interference-free calculated service from WCIA's current analog operation.

Page 5
Champaign, Illinois

WCIA's proposed channel 5 DTV operation would also provide the FCC's required coverage of Champaign.

In summary, it is believed channel 5 complies with the FCC's DTV allotment criteria and can be allotted to station WCIA in lieu of DTV channel 48. The allotment of channel 5 will likely enable WCIA to overcome the tower loading problems it will encounter if forced to use channel 48, because the proposed channel 5 DTV operation will enable use of a smaller transmitter, antenna system, and transmission line. Use of DTV channel 5 will also enable WCIA to more quickly implement a transitional DTV service to the public. Calculated service from the proposed channel 5 DTV operation exceeds that from its current analog operation.

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



John A. Lundin

du Treil, Lundin & Rackley, Inc.
240 North Washington Boulevard
Suite 700
Sarasota, Florida 34236
(941) 366-2611

July 14, 1998

SECTION V-D - DTV BROADCAST ENGINEERING DATA	FOR COMMISSION USE ONLY File No. _____ SSB Referral Date _____ Referred By _____
Name of Applicant Midwest Television, Inc.	Call Letters (if issued) WCIA-DT

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Items 1-22, below. If an item is not applicable, enter N/A.

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Sections 73.622 and 73.623 in the following respects:
 - (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. Yes No
 - (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. Yes No
 - (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. Yes No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Yes No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. Yes No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. Yes No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. Yes No

Application Data:

1. Channel
(a) DTV Channel No. 5

2. Principal community to be served:

(b) Associated analog TV station channel no., if any 3

City or Town Champaign	State IL
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3. Effective radiated power (average power): *(in the main lobe of radiation, if directional)* _____ 4.5 kw

4. Height of antenna radiation center above average terrain (HAAT): *(to the nearest meter)* _____ 287 meters

Section V-D -D TV BROADCAST ENGINEERING DATA (Page 2)

5. Purpose of Application: *(check appropriate boxes)*

- | | |
|---|---|
| <input checked="" type="checkbox"/> Construct a new (main) facility | <input type="checkbox"/> Construct a new auxiliary facility |
| <input type="checkbox"/> Modify construction permit for main facility | <input type="checkbox"/> Modify construction permit for auxiliary antenna |
| <input type="checkbox"/> Modify licensed main facility | <input type="checkbox"/> Modify licensed auxiliary antenna |

If purpose is to modify, indicate the nature of change(s) by checking appropriate box(es) and specify the file number(s) of the authorizations affected.

- | | |
|---|---|
| <input type="checkbox"/> Antenna supporting structure height | <input type="checkbox"/> Effective radiated power |
| <input type="checkbox"/> Antenna height above average terrain | <input type="checkbox"/> Channel |
| <input type="checkbox"/> Antenna location | <input type="checkbox"/> Antenna system |
| <input type="checkbox"/> Other (summarize) | |

File Number(s) _____

6. Exact location of transmitting antenna..

- (a) Give address, city/state or if no address, specify distance and bearing relative to the nearest town or landmark.
State Highway 10, approx. 16 km W of Champaign, Champaign County, IL
- (b) Geographical coordinates *(to nearest second)*. If mounted on element of an AM array, specify coordinates or center of array. Otherwise, specify tower location. Specify South Latitude and East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed. *(The Commission requires coordinates based on NAD 27.)*

Latitude	40 °	06'	21 "	Longitude	88 °	27'	00 "
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7. (a) Elevation *(to the nearest meter)*

- | | |
|---|------------------|
| (1) of site above mean sea level; | _____ 220 meters |
| (2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and | _____ 300 meters |
| (3) of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. | _____ 520 meters |

(b) Height of radiation center: *(to the nearest meter)*

- | | |
|---|------------------|
| (1) above ground; and | _____ 281 meters |
| (2) above mean sea level [(a)(1) + (b)(1)]; | _____ 501 meters |

8. Attach as an Exhibit sketch(es) of the supporting structure, labeling all elevations required in item 7 above. If mounted on an AM directional array element, specify heights and orientations of all array towers, as well as location of any FM radiator.

Exhibit No. Fig. 1

Section V-D -D TV BROADCAST ENGINEERING DATA (Page 3)

9. Antenna

(a) Manufacturer Dielectric (b) Model No. TF-6-3/5 Special

(c) Is a directional antenna proposed? Yes No

If Yes, specify major lobe azimuth(s) N/A degrees True and attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No.
N/A

(d) Is electrical beam tilt proposed? Yes No

If Yes, specify N/A degrees electrical beam tilt and attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No.
N/A

(e) Is mechanical beam tilt proposed? Yes No

If Yes, specify N/A degrees mechanical beam tilt toward azimuth N/A True and attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No.
N/A

(f) The proposed antenna is: (check only one box)

Horizontally polarized Circularly polarized Elliptically polarized Other: _____

Effective July 1, 1996, the Commission adopted rules which require Antenna Structure owners to apply for a registration number whenever antenna structures meet FAA notification criteria. As owners register these structures they are required to provide licensees with a copy of FCC Form 854R which provides the antenna structure registration number. (If you need additional information contact the FCC's Consumer Assistance Branch at 1-800-322-1117 for a copy of FACT SHEET #15, Antenna Structure Registration.)

10. Will the antenna be mounted on an antenna structure which has been registered with the Commission, to include the proposed antenna installation? Yes No

If Yes, provide the seven digit registration number and, unless item 11 also applies, proceed to item 15. 1016057

11. Has the owner of the antenna structure filed an application for registration with the Commission that will include the proposed facility? Yes No

If yes, provide the date FCC Form 854 was filed and proceed to item 15. N/A

12. (If applicable) If the antenna structure is not yet registered but will be under the Commission's phased registration plan, has the FAA previously determined that the structure would not adversely affect safety in air navigation? Yes No

If Yes, proceed to item 15. N/A

13. Antenna structure will be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town or settlement where it is evident beyond all reasonable doubt that the structure is so shielded that it will not adversely affect safety in air navigation, and therefore does not require registration. Yes No

If yes, submit as an Exhibit a detailed explanation and/or diagram to support your claim and skip to item 15. N/A

Section V-D -D TV BROADCAST ENGINEERING DATA (Page 4)

14. Antenna structure does not otherwise meet FAA Notification as defined under 47 C.F.R. Section 17.7 and therefore does not require registration. Yes No
N/A

If Yes, give reason below.

15. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? Yes No

If Yes, give the call letter(s) or file number(s) or both. WCIA (NTSC TV Operation)

16. Does the application propose to correct previous site coordinates? Yes No

If Yes, list old coordinates.

Latitude	40°	06'	23"	Longitude	88°	26'	59"
----------	-----	-----	-----	-----------	-----	-----	-----

17. Attach as an Exhibit a topographic map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the provisions of 47 C.F.R. Section 73.625(b). The map must further display clearly and legibly the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.
Fig. 2

18. Attach as an Exhibit a map (*Sectional Aeronautical Chart or equivalent*) which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
Fig. 3

- (a) the proposed transmitting location, and the radials along which profile graphs have been prepared;
- (b) the DTV coverage contour as established in 47 C.F.R. Section 73.625(b); and
- (c) the legal boundaries of the principal community to be served.

19. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.625(b))

Source of terrain data: (*check only one box below*)

- Linearly interpolated 30-second database (Source: NGDC)
- Linearly interpolated 3-second database (Source: _____)
- 7.5 minute topographic map
- Other (*briefly summarize*)

Section V-D -D TV BROADCAST ENGINEERING DATA (Page 5)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted distance to the DTV Coverage Contour (kilometers)
*		
0	280.5	97.8
45	276.2	97.4
90	282.4	98.0
135	291.2	98.7
180	294.8	99.0
225	292.3	98.8
270	294.1	98.9
315	287.4	98.4

*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

20. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)?
(Applicable only if **Certification Checklist** items 1(a), (b), or (c) are answered "No.")

Yes No

If No, attach as an Exhibit justification therefore, including a summary of any related previously granted waivers.

Exhibit No.
N/A

21. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if **Certification Checklist** item 3 is answered "No.")

Exhibit No.
N/A

22. Environmental Statement. (See 47 C.F.R. Section 1.1301 et seq.)

- (a) If a Commission grant of this application comes within 47 C.F.R. Section 1.1307, such that it may have a significant environmental impact, submit as an Exhibit an Environmental Assessment required by 47 C.F.R. Section 1.1311.

Exhibit No.
N/A

- (b) If No, explain briefly why not.

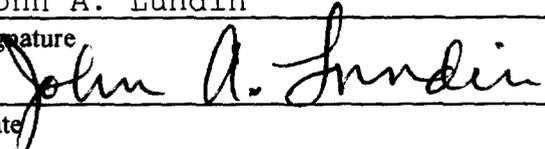
Proposal appears to be categorically excluded. No RF energy to workers or general public in excess of FCC standards.

- (c) Pursuant to OST Bulletin No. 65, the applicant must explain in an Exhibit what steps will be taken to limit the RF radiation exposure to the public and to persons authorized access to the tower site. In addition, where there are multiple contributors to radio frequency radiation, you must certify that the established RF radiation exposure procedures will be coordinated with all stations.

See Text

CERTIFICATION

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

Name (Typed or Printed) John A. Lundin	Relationship to Applicant (e.g., Consulting Engineer) Technical Consultant
Signature 	Address (include ZIP Code) du Treil, Lundin & Rackley, Inc., 240 N. Washington Blvd., #700, Sarasota, FL 34236
Date July 14, 1998	Telephone No. (include Area Code) (941) 366-2611

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
MIDWEST TELEVISION, INC.
STATION WCIA
CHAMPAIGN, ILLINOIS

July 14, 1998

CH 5 4.5 KW 287 M

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
MIDWEST TELEVISION, INC.
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CHAMPAIGN, ILLINOIS
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TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
MIDWEST TELEVISION, INC.
STATION WCIA
CHAMPAIGN, ILLINOIS
CH 5 4.5 KW 287 M

Technical Narrative

This Technical Exhibit supports an application from Midwest Television, Inc., licensee of television (TV) station WCIA on analog channel 3 at Champaign, Illinois. This application requests a construction permit (CP) for digital television (DTV) on channel 5 at Champaign, Illinois. The Federal Communications Commission (FCC) assigned channel 48 as WCIA's DTV allotment in the Memorandum, Opinion and Order (MO&O) concerning reconsideration of the 6th Report and Order in MM Docket No. 87-268. In order for WCIA to avoid tower loading problems and provide DTV service to the public in a more timely fashion, station WCIA requests DTV use of channel 5 instead of 48.

Station WCIA is presently licensed to operate on analog channel 3 with a non-directional antenna system. The visual effective radiated power (ERP) is 100 kilowatts (kW). The antenna height above average terrain (HAAT) is 287 meters.

The FCC allotted DTV channel 48 to WCIA. The FCC assigned an ERP of 1000 kW at an antenna HAAT of 287 meters for the channel 48 DTV allotment.

Station WCIA proposes to operate DTV channel 5 at the current analog site (40-06-21, 88-27-00, coordinates slightly changed due to tower registration). A dual channel non-directional antenna system is proposed to accommodate the WCIA analog (Ch.3) and proposed DTV (Ch.5) operations. It is proposed to operate with a DTV ERP of 4.5 kW. The antenna HAAT for the channel 5 DTV operation will be 287 meters.

A sketch of the WCIA DTV antenna is submitted as Figure 1.

Figure 2 is the map of WCIA's transmitter site.

The FAA is not being notified of the proposed DTV operation since there is no change in the overall height of the existing structure. The FAA determination was made in FAA Aeronautical Study No. 96-AGL-4357-OE. The FCC antenna registration number for the structure is 1016057.

There are no known authorized full service AM stations within 5 kilometers (3 miles) of the proposed DTV transmitter site. The following is a list of known authorized full service FM and TV stations within 16 kilometers (10 miles) of the proposed DTV site.

<u>Station</u>	<u>Chan.</u>	<u>Bearing</u>	<u>Distance</u>
WCZQ(FM), Monticello, IL	288A	238 deg.	12.4 km
WPCD(FM), Champaign, IL	204B1	81	13.7

<u>Station</u>	<u>Chan.</u>	<u>Bearing</u>	<u>Distance</u>
WLRW(FM), Champaign, IL	233B	81	13.7
WEFT(FM), Champaign, IL	211B1	54	14.0
KSFI(FM), Salt Lake City, UT	262C	2	0.7
WCIA(TV), Champaign, IL	3	0	0.0

Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems which are a result of its proposed DTV operation.

The proposed DTV transmitter site is about 490 kilometers from the closest point of the Canadian border. The proposed DTV site is more than 1600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Allegan, Michigan, approximately 347 kilometers to the northeast. The proposed DTV site is outside the National Radio Quiet Zone (VA/WVA), the closest point being 685 kilometers to the east. The closest point of the Table Mountain Radio Quiet Zone (CO) is approximately 1420 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at North Liberty, Iowa, approximately 320 kilometers to the northwest. These separations are sufficient to not be a concern for coordination purposes.

Figure 3 is a map showing the DTV predicted coverage contour. The map provides the predicted 28 dBu f(50,90) noise limited contour. The extent of the contour has been calculated using the normal FCC prediction method. The Champaign city limits were derived from information contained in the 1990 U.S. Census for Illinois. The population within the predicted 28 dBu contour is based on 1990 Census information. The US land area within the

predicted 28 dBu contour is based on the use of a computer algorithm.

Figure 4 is the separation study for DTV channel 5 at the WCIA site. The study is simply used to identify stations for which interference calculations should be made. Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin¹. Interference is calculated to occur to 3 analog stations. The service population for the 3 analog stations is based on the numbers given in Appendix B of the FCC's 6th MO&O in MM Docket 87-268. The amount of unique or new interference caused by the proposed WCIA DTV operation on channel 5 is provided along with the percentage of the analog station's service population.

<u>Station</u>	<u>NTSC Chan.</u>	<u>FCC Service Population</u>	<u>Prop. Unique Interference Population</u>
WMAQ-TV, Chicago, IL	5	8,322,000	150,442 (1.8%)
KSDK, St. Louis, MO	5	2,764,000	55,354 (2.0%)
WLWT, Cincinnati, OH	5	2,835,000	9,004 (0.2%)

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures adopted by the FCC in the Sixth Report and Order and subsequent Memorandum Opinion and Order. The principals outlined in OET Bulletin No. 69 are employed except that annular sector cells are employed instead of square grid cells of 4 square kilometers in area. The annular sector cells are 1-arc degree by 1 kilometer in dimension. The annular sector cell areas vary from approximately 0.02 square kilometer close to the station transmitter site to 2 square kilometers at the greatest extent of a station's protected contour. In some instances, the resulting higher cell resolution of the DLR routine produces different results than the standard FCC 4-square-kilometer FCC grid method. However, the DLR routine results have been found to closely agree with the FCC results when the FCC uses higher resolution (i.e. - smaller grid cell area) in its program.

As shown, the WCIA channel 5 DTV proposal complies with the FCC's interference policy for DTV stations(2%/10%).

Calculations have been made to determine the interference received by the proposed WCIA channel 5 DTV operations from other analog and DTV assignments. The following is a summary.

<u>Description</u>	<u>Population</u>
Within predicted noise limited contour	852,712
Not affected by terrain loss	851,692
Loss due to analog interference	58,981
Additional loss due to DTV interference	0
Resulting DTV service	792,711

Appendix B of the FCC's 6th MO&O shows the WCIA analog service population to be 724,000 people.

The proposed WCIA channel 5 DTV facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the WCIA DTV antenna is located 281 meters above ground level. The maximum DTV ERP is 4.5 kW. A relative field value of 0.3 is assumed for the antenna's downward radiation. The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0002 mW/cm². This is about 0.02% of the FCC's recommended limit of 1.0 mW/cm² for channel 5 for a "controlled" environment. The