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Before the
Federal Communications Commission
Washington, D.C. 20554

JUN 17 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Section 73.622(b),)
Table of Allotments, Digital Television)
Broadcast Stations)
(Bethlehem, Pennsylvania))

MB Docket No. 02-81
RM-10422

To: Chief, Video Division, Media Bureau

COMMENTS OF SONSHINE FAMILY TELEVISION, INC.

Sonshine Family Television, Inc. ("SFTI"), licensee of NTSC television broadcast station WBPH, Channel 60, Bethlehem, Pennsylvania, and permittee of digital television broadcast station WBPH-DT, Channel 59, Bethlehem, through counsel and pursuant to Sections 1.415 and 1.420 of the FCC's rules, hereby submits these comments in support of the FCC's *Notice of Proposed Rule Making*, DA 02-925, released April 26, 2002 (the "*NPRM*"), proposing substitution of Channel 9 for Channel 59 in the Table of Allotments, Digital Television Broadcast Stations (Section 73.622(b) of the Rules) at Bethlehem, Pennsylvania.

In support of the *NPRM*, SFTI restates and incorporates by reference the facts set forth in its Petition for Rule Making (Attachment A hereto). Specifically, SFTI states that, if the proposed substitution of Channel 9 for Channel 59 is adopted, it will expeditiously apply for modification of the outstanding construction permit for WBPH-DT to specify

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operation on Channel 9 and, upon a grant of that application, move diligently to construct and operate new digital television broadcast facilities on Channel 9.

In addition to the several public interest benefits described in the Petition for Rule Making, the proposed substitution will reduce the potential for public confusion during the transition to DTV: if SFTI is required to construct an interim DTV facility on Channel 59, and then move to a permanent in-core channel after the completion of the transition to DTV, the public's viewing patterns will be disrupted. On the other hand, substitution of Channel 9 for Channel 59 will permit SFTI to construct DTV facilities on a permanent channel, and promote Channel 9 to its viewers as WBPH-DT's permanent channel assignment throughout the DTV transition. In the absence of the proposed substitution, WBPH-DT will be severely handicapped vis a vis other Philadelphia market television stations as it attempts to build an identity among viewers in its service area during the DTV transition. For example, WCAU-TV, Channel 10, Philadelphia, provides digital television broadcast service on WCAU-DT, Channel 67. At the end of the transition, Channel 67 will be surrendered for use for new commercial wireless services and, presumably, WCAU-TV will continue to broadcast, in digital mode, on Channel 10, where it has operated since 1948. WFMZ-TV, Channel 69, Allentown, is operating WFMZ-DT on Channel 46; at the end of the transition, Channel 69 will be surrendered for use in the public safety radio service and WFMZ-TV will continue to broadcast, digitally, on Channel 46, as it has throughout the transition. Without the proposed substitution, however, both SFTI's NTSC allotment and its DTV allotment must be surrendered and WBPH must be relocated on a channel to be determined in the core spectrum; unlike the stations with which it must compete for viewers, WBPH will have no opportunity to create an identity in the public's mind between

its digital broadcast programming and the channel on which it operates. The proposed substitution, therefore, by providing WBPH-DT with a post-transition channel assignment well in advance of the completion of the transition, will greatly benefit both SFTI and the viewing public.

For the foregoing reasons, and for the reasons set forth in its Petition for Rule Making, the proposed substitution of Channel 9 for Channel 59 in the DTV Table of Allotments at Bethlehem, Pennsylvania, should be adopted.

Respectfully submitted,

SONSHINE FAMILY TELEVISION, INC.

By  J. Geoffrey Bentley
J. Geoffrey Bentley

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June 17, 2002

ATTACHMENT A

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Before the
Federal Communications Commission
Washington, D.C. 20554

NOV 30 2001

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Section 73.622(b),)
Table of Allotments, Digital Television)
Broadcast Stations)
(Bethlehem, Pennsylvania))

MM Docket No. 01-
RM-

To: Chief, Video Services Division

PETITION FOR RULE MAKING

Sonshine Family Television, Inc. ("SFTI"), licensee of NTSC television broadcast station WBPH, Channel 60, Bethlehem, Pennsylvania, and permittee of DTV television station WBPH-DT, Channel 59, Bethlehem, through counsel and pursuant to Sections 1.401, 1.420 and 73.623 of the Rules, hereby petitions the FCC to commence a rule-making proceeding to amend the Digital Television Table of Allotments (47 C.F.R. § 73.622(b)) to substitute Channel 9 for Channel 59 at Bethlehem, Pennsylvania, as the paired DTV allotment for WBPH.¹

Under this proposal, the DTV Table of Allotments would be amended as follows:

<u>Community</u>	<u>Present</u>	<u>Proposed</u>
Bethlehem, PA	59	9

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¹ The construction permit for WBPH-DT is File No. BPCDT-19991101AHO. Upon completion of the rulemaking, SFTI will file, promptly, an application to modify the authorization to conform to the new allotment. Assuming that the modification application is granted, SFTI will then move diligently to complete construction of new DTV facilities.

01-248

Specifically, SFTI proposes that the allotment provide for operation of WBPH-DT at 3.2 kW ERP, with a radiation center at 430 meters above mean sea level. As demonstrated in the attached engineering statement by SFTI's consulting engineer, Larry H. Will, P.E., operating as proposed WBPH-DT will comply fully with Section 73.623(c)(1) of the Rules and the principal community coverage requirements of Section 73.625(a). No NTSC or DTV station will receive incremental interference exceeding two percent of the population currently served. Neither will the proposed channel substitution result in any new interference to any station currently predicted to receive maximum DTV interference (i.e., interference in excess of ten percent of the population within its current protected service area) or cause any station to receive additional interference resulting in cumulative DTV interference to more than ten percent of the population within its protected service area. Moreover, to the extent such protection is required, there will be no impermissible interference to protected Class A television stations.²

² The only Class A station relevant to this analysis is W52CE, Clark's Summit, Pennsylvania, which has been authorized to move from Channel 52 to Channel 9. (A license application, File No. BPTVL-20010404ABQ, is pending.) As set forth in the attached Engineering Statement, a detailed interference study using terrain-shielding methods shows that no interference to W52CE (when operating on Channel 9) will result from this channel substitution. In any event, the Community Broadcasters Protection Act of 1999 directs the FCC to "make such modifications [to Class A LPTV licenses] as necessary" to preserve "a full-power station's allotted parameters or channel assignment." 47 U.S.C. § 336(f)(1)(D). The statute, therefore, effectively makes all Class A LPTV licenses conditional on successfully accommodating all out-of-core full-power DTV stations on permanent channel assignments in the core spectrum. Accordingly, representations that operation of WBPH-DT with the facilities proposed herein will not cause actual interference to W52CE operating on Channel 9 should not be interpreted as a concession that SFTI, in seeking at a future time to replicate the areas and populations currently authorized to be served by WBPH, Channel 60, would be obliged to protect a Channel 9 LPTV station at Clark's Summit.

This proposed channel substitution will serve the public interest in a number of respects. First, WBPH is one of only 17 stations in the entire country for which the NTSC and DTV allotments are both outside the so-called "core spectrum" (channels 2-51). Without this channel substitution, WBPH would be forced to build a "throw-away" DTV facility on Channel 59 and then seek modification to, and construct new facilities on, a permanent, in-core assignment on an as-yet unknown channel at the end of the transition period. Substitution of Channel 9 for Channel 59 will substantially reduce the costs of the transition for WBPH. SFTI is a not-for-profit corporation and the programming on WBPH, with the exception of a limited number of paid religious programs, is supported by viewer donations. WBPH does not sell commercial announcements or program-length commercials. The ability to complete the transition by building a single DTV facility for WBPH-DT rather than two will permit SFTI to allocate more of its scarce resources to the acquisition of quality DTV programming and program origination equipment.

Second, making an in-core channel available for WBPH-DT will increase the likelihood that the FCC, in the Philadelphia television market, will be able to recover spectrum (Channels 59-69) reallocated for new "third generation" wireless services prior to the completion of the DTV transition. The FCC has a significant interest in the early recovery of this spectrum because it has scheduled an auction of those frequencies for June 19, 2002. *Public Notice* ("Auction of Licenses for 747-762 and 777-792 MHz Bands (Auction No. 31) Scheduled for June 19, 2002"), DA 01-2394, released October 15, 2001. The FCC has adopted policies that are intended to facilitate private spectrum-clearing agreements (and, hopefully, to increase revenue to the U.S. Treasury from the auction),

most recently in its *Order on Reconsideration* in WT Docket No. 99-168, etc., FCC 01-258, released September 17, 2001. Those policies, however, by themselves, will be insufficient to clear all of the affected channels prior to the auction. Among other reasons, this is because the FCC has been unable to provide significant relief for licensees, such as SFTI, that are burdened with two out-of-core channel assignments. Those stations must either secure an alternative channel allotment -- as SFTI proposes here -- or enter into a so-called "third party" agreement permitting use of another licensee's channel for either DTV or NTSC broadcasting throughout the remainder of the transition. "Third-party" agreements, although theoretically a means for providing licensees in SFTI's situation to relocate temporarily to an in-core channel, are unlikely to accomplish the FCC's goals in WT Docket 99-168 because (1) the need to compensate third parties for channel-sharing arrangements will diminish the economic incentive to relocate, (2) temporary sharing arrangements will only postpone the cost, dislocation and disruption of service to the public associated with building a second DTV facility; (3) the number of out-of-core allotments that must be vacated in the Philadelphia market to completely clear Channels 59-69 for wireless use probably exceeds the number of achievable third-party agreements.³ Early spectrum clearing, therefore, will require the FCC to make new channel allotments such as the one proposed here. For that reason alone, this proposed channel substitution will be in the public interest.⁴

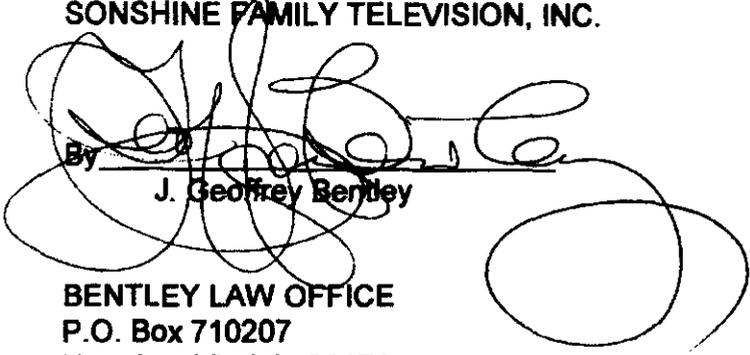
³ In the Philadelphia market, no fewer than six television stations have DTV channel allotments in the Channel 59-69 band.

⁴ In fact, because this adoption of this proposal could expedite clearance of the reallocated spectrum prior to the June 2002 auction, the FCC should "fast track" this rule making proceeding to implement the proposal prior to the auction date.

For the foregoing reasons, the FCC should initiate a rule-making proceeding to substitute DTV Channel 9 for DTV Channel 59 in the Digital Television Table of Allotments at Bethlehem, Pennsylvania.

Respectfully submitted,

SONSHINE FAMILY TELEVISION, INC.

By 

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November 30, 2001

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SONSHINE FAMILY TELEVISION, INC.

LICENSEE OF WBPH-TV

NTSC CHANNEL 60 AND

PERMITTEE OF WBPH-DT CHANNEL 59

BETHLEHEM, PENNSYLVANIA

FAC ID# 60850

**ENGINEERING EXHIBIT IN SUPPORT OF
A PETITION FOR RULEMAKING TO
AMEND SECTION 73.622(b), TABLE OF ALLOTMENTS,
DIGITAL TELEVISION BROADCAST STATIONS (BETHLEHEM, PA),
TO SUBSTITUTE DTV CH 9 FOR DTV CH 59**

**Larry H. Will, P.E.
1055 Powderhorn Drive
Glen Mills, PA 19342-9504**

SONSHINE FAMILY TELEVISION, INC.
BETHLEHEM, PENNSYLVANIA
PETITION FOR RULEMAKING
ENGINEERING EXHIBIT EE-1

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SONSHINE FAMILY TELEVISION, INC.

DECLARATION OF LARRY H. WILL

Larry H. Will declares and says:

That he prepared the attached Engineering Exhibit on behalf of Sonshine Family Television, Inc., Bethlehem, Pennsylvania, Licensee of WBPH-TV and Permittee of WBPH-DT for a Petition for Rulemaking to substitute DTV Channel 9 for DTV Channel 59 in Bethlehem, PA.

That he has been involved in radio and television broadcast engineering for over 34 years, and that his credentials are a mater of record with the Federal Communications Commission.

That he is a Registered Professional Engineer in Pennsylvania and New Jersey.

That all statements contained within this exhibit are true and accurate to the best of his knowledge and belief, and as to such statements made of belief, they are believed to be true, except for information for which the Federal Communications Commission takes official notice.



Larry H. Will
1055 Powderhorn Drive
Glen Mills, PA 19342-9504
(610) 399-1826

Date: 29 November 2001

SONSHINE FAMILY TELEVISION, INC.

BETHLEHEM, PENNSYLVANIA

PETITION FOR RULEMAKING

ENGINEERING EXHIBIT EE-1

1. INTRODUCTION

Sonshine Family Television, Inc. has a Construction Permit for DTV Channel 59 for use at Bethlehem, PA (BPCDT-19991101AHO). With this Petition, we propose to substitute DTV Channel 9 for DTV Channel 59 in Bethlehem for use by WBPH-TV for digital operation.

2. ENGINEERING DISCUSSION

WBPH is one of the few stations with both the NTSC and DTV allotments "out of core". An Engineering Study by this office using the V-Soft Sun Workstation on-line DTV program indicates that Channel 9 may be used for DTV service in Bethlehem by WBPH at a power of 3.2 kilowatts (DA), 284 meters HAAT (430 meters RCAMSL), and at 40-33-52N 075-26-24W¹.

Channel 9 was originally allotted to Hazelton, PA, for DTV service for NTSC Station WWLF by the Commission². WWLF has received authority to switch DTV operation to DTV Channel 45. The FCC granted WWLF's Petition for a DTV channel change in a *Report and Order* in MM Docket No. 00-113, DA 01-216, released February 1, 2001. The Commission has issued a construction permit to WWLF for DTV operation on Channel 45 (FCC File Number BPCDT-19980825KI). As a result of these Commission actions, Channel 9 is now available for use for DTV service at Bethlehem.

WBPH is concerned that it would have to invest a considerable sum of money to operate on DTV Channel 59 "out of core" when such operation would only be of a temporary nature. The substitution of Channel 9, permitting use of an "in core" channel by WBPH for the initial DTV transition, will facilitate a rapid transition to DTV without the need of further expense at the end of the transition to switch to a yet to be determined channel.

In addition, operating WBPH-DT on Channel 9 and vacating Channel 59 will serve to make the next round of broadcast spectrum reallocation easier for the Commission.

As summarized in Table 1, the Sun DTV Study shows that WBPH can operate a digital facility on Channel 9 using 3.2 kW ERP (DA) at 284 meters HAAT and meet the Commission 2% "de minimis" requirement to all existing NTSC and DTV stations and pending allotment changes. One Class A facility, W52CE (Channel 9), as shown below, will require terrain

¹ These coordinates are the same as the WBPH-DT CH 59 CP.

² The WWLF-DT Channel 9 DTV site was located 75.5 km generally north of the proposed WBPH-DTV site.

shielding to afford complete protection.³ WBPH is located at 359.1 km from the Canadian border so Canadian concurrence is required. However, the facility is at a greater distance from Canada than the original approved DTV allotment at Hazelton, so this concurrence should not be a problem.

Figure 1 is a coverage map showing the WBPH-DT allotted and CP Channel 59 48 and 41 dBu F(50,90) contours.

Figure 2 is a coverage map showing the WBPH-DT Channel 9 43 and 36 dBu (F50,90) coverage contours. The proposed use of Channel 9 by WBPH provides the required City Grade DTV signal over Bethlehem.

Table 2 is a tabulation of the proposed WBPH-DT Channel 9 directional antenna parameters used for the interference study.

Figure 3 is a plot of the proposed WBPH-DT Channel 9 azimuth pattern used for the interference study.

3. PROTECTION OF W52CE (CHANNEL 9) BY MEANS OF TERRAIN SHIELDING

The DTV study also showed that, using standard contour overlap, the proposed allotment of DTV Channel 9 at Bethlehem with the parameters outlined above is predicted to cause objectionable interference to W52CE (BPTVL-20010404ABQ), an NTSC Class A LPTV CP on Channel 9 in Clarks Summit, PA. 47 CFR 73.623(c)(5)(iii) permits the use of terrain shielding to show lack of prohibited interference to Class A facilities from DTV modifications and that method is used herein.

Table 3 attached shows the results of the Class A study. Without terrain shielding, prohibited interference is predicted between 70 and 320 degrees of the W52CE service area (344.4 through 346.9 degrees from WBPH-DT). The predicted WBPH-DT signal is from 1.0 to 2.5 dB stronger than permitted by 73.623. Figures A1 through A3 included herein show that, over the pertinent arc, a series of large mountains⁴ between WBPH-DT and the W52CE (Channel 9) service area results in excess path loss of from 23.56 to 44.54 dB resulting in the predicted signal levels from WBPH-DT, as proposed, to be completely below the receiver threshold⁵. Both transmitter and receiver antenna directivity has been taken into account in these figures. Figures A1 through A3 show the predicted signal levels from the approximate western edge of the W52CE service area and in 5 degree or less increments southward and around to the eastern edge of the W52CE service area⁶. For these figures, the W52CE (Channel 9) receive antenna is sufficiently off axis from WBPH-DT, as proposed, that its effective gain is zero dB.

3 The study used the Commission CBDS TV engineering data available for public access as of November 26, 2001.

4 3 to 4 obstacles exist in each case.

5 In each case, the fade margin is a negative value indicating no detectable signal at the receiver.

6 Figures A1 through A3, in the notes, inadvertently show the wave polarization as vertical due to a software plotting error. All calculations have been done using horizontal polarization.

4. TERRAIN SHIELDING CONCLUSIONS

Figures A1 through A3 clearly demonstrate that terrain shielding provides the necessary additional signal attenuation required to completely protect W52CE. We do not believe that a waiver of 73.623 is required in this case, but if the Commission determines that a waiver is required, we hereby request said waiver.

5. CONCLUSIONS

We believe that Channel 9 can be substituted for Channel 59 for DTV service for WBPH and that such a channel change would serve the public interest and request the Commission to initiate a Rulemaking Procedure to substitute DTV Channel 9 for DTV Channel 59 for WBPH-TV, Bethlehem, PA. Upon favorable completion of the Rulemaking Proceeding, WBPH will apply for a modification of Construction permit BPCDT-19991101AHO to specify DTV Channel 9 with the facilities outlined above.

EXHIBIT EE-1, TABLE 1

Page 1 of 2

**WBPH-DT Channel Change Analysis Summary
 WBPH-DT, CH 9, ERP = 3.20 kW
 RCAMSL 430 m (HAAT 284 m)**

#	CALL	CITY	STATE	STATUS	CH	DTV/NTSC	SCENERIOS	Baseline Interference NTSC % New IX	Proposed Interference NTSC % New IX	Change ('Limit '+2)
5	WGAL-TV	Lancaster	PA	LIC	8	NTSC	4	1.1	1.1	0.00
6	WUSA-TV	Washington	DC	MAX	9	NTSC	2	0.0	0.0	0.00
7	WMUR-TV	Manchester	NH	LIC	9	NTSC	1	0.0	0.0	0.00
8	WWOR-TV	Secaucus	NJ	LIC	9	NTSC	8	0.3	2.3	2.00

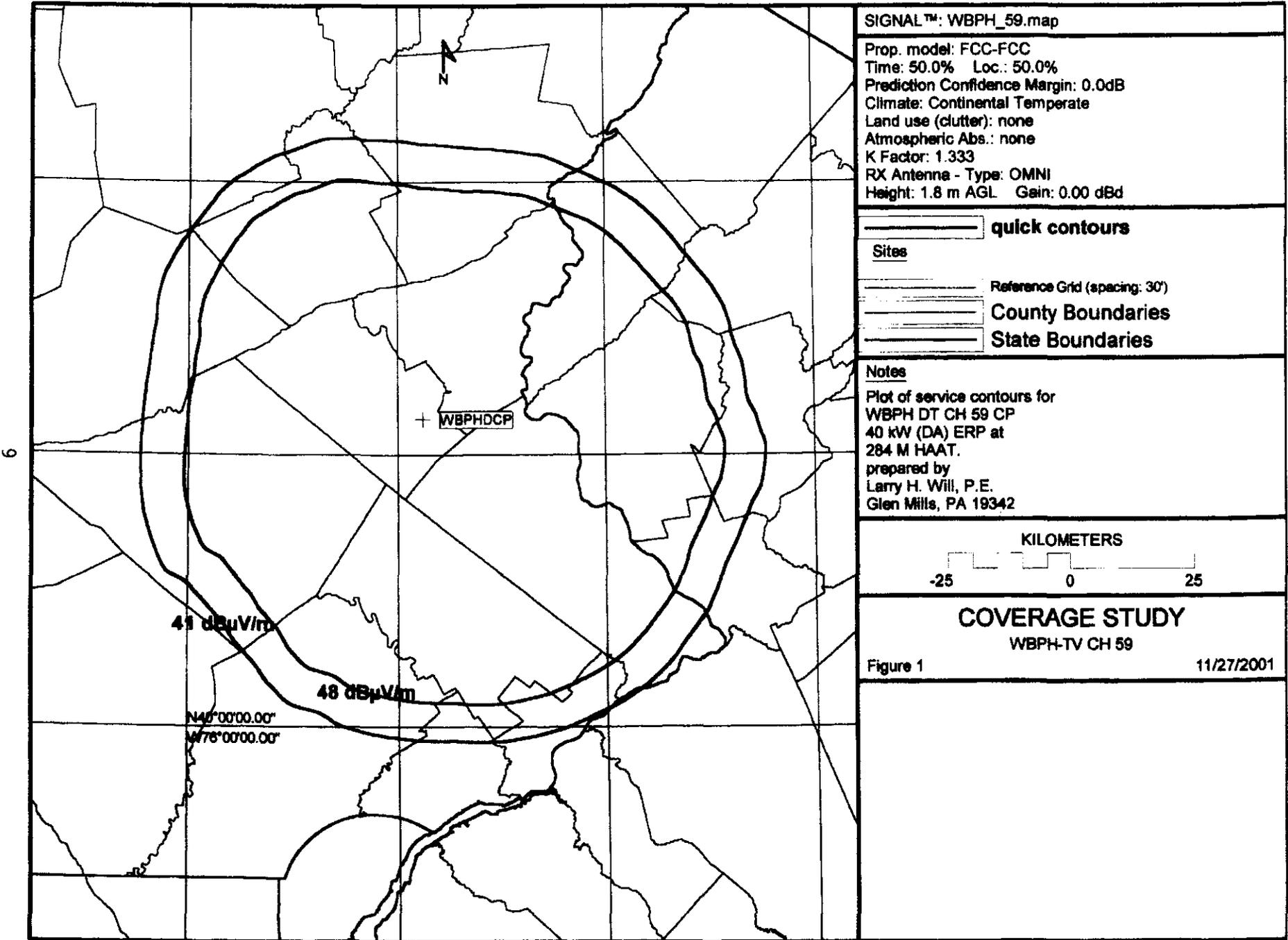
EXHIBIT EE-1, TABLE 1

Page 2 of 2

**WBPH-DT Channel Change Analysis Summary
WBPH-DT, CH 9, ERP = 3.20 kW
RCAMSL 430 m (HAAT 284 m)**

							DTV Service Population Before	DTV Service Population After	Change	
1	WNJB-DT	N. Brunswick	NJ	CP MOD	8	DTV	4	17,883,258	17,804,036	-0.44
2	WMBC-DT	Newton	NJ	PLN	8	DTV	4	12,163,825	12,163,825	0.00
3	WCIZ-DT	Binghamton	NY	ALLOT	8	DTV	1	620,087	620,087	0.00
4	WCIZ-DT	Binghamton	NY	CP	8	DTV	1	620,087	620,087	0.00
10	WHTM-DT	Harrisburg	PA	PROP	10	DTV	3	1,068,275	1,068,275	0.00
11	WBPH-DT (requires Canadian approval)	Bethlehem	PA	PROP	9	DTV	3	3,323,000	3,127,683	-5.88

Extracted from an analysis by:
Larry H. Will, P.E.
Glen Mills, PA 19342-9504
11/27/2001

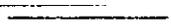


SIGNAL™: WBPH_59.map

Prop. model: FCC-FCC
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333
 RX Antenna - Type: OMNI
 Height: 1.8 m AGL Gain: 0.00 dBd

 quick contours

 Sites

 Reference Grid (spacing: 30')

 County Boundaries

 State Boundaries

Notes

Plot of service contours for
 WBPH DT CH 59 CP
 40 kW (DA) ERP at
 284 M HAAT.
 prepared by
 Larry H. Will, P.E.
 Glen Mills, PA 19342

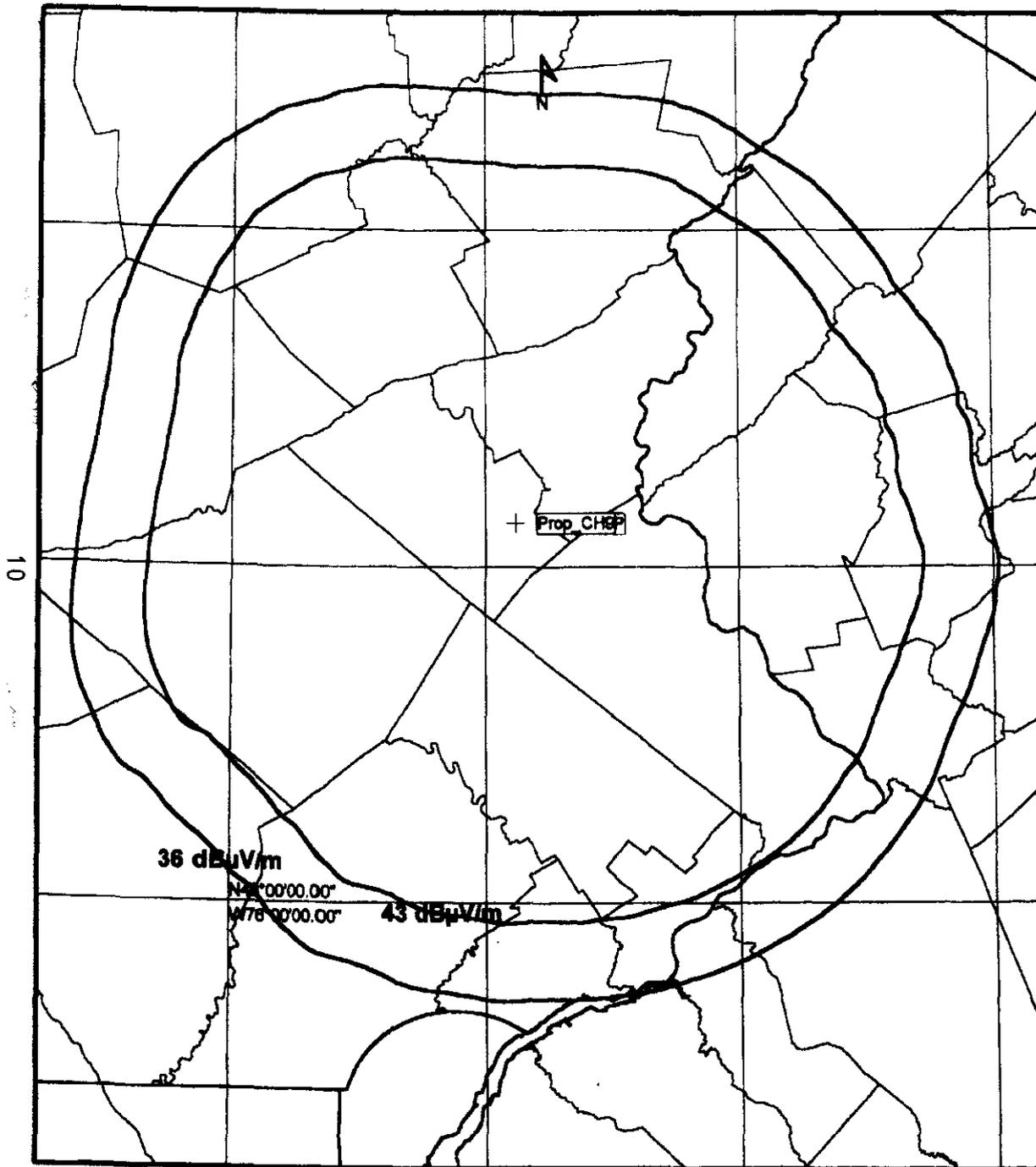


COVERAGE STUDY

WBPH-TV CH 59

Figure 1

11/27/2001



SIGNAL™: WBPH_9.map

Prop. model: FCC-FCC
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333
 RX Antenna - Type: OMNI
 Height: 1.8 m AGL Gain: 0.00 dBd

quick contours

Sites

Reference Grid (spacing: 30')

County Boundaries

State Boundaries

Notes

Plot of service contours for
 WBPH DT CH 9 with
 3.2 kW (DA) ERP at
 284 M HAAT.
 prepared by
 Larry H. Will, P.E.
 Glen Mills, PA 19342

KILOMETERS

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COVERAGE STUDY

WBPH-TV CH 9

Figure 2

11/27/2001

36 dBuV/m

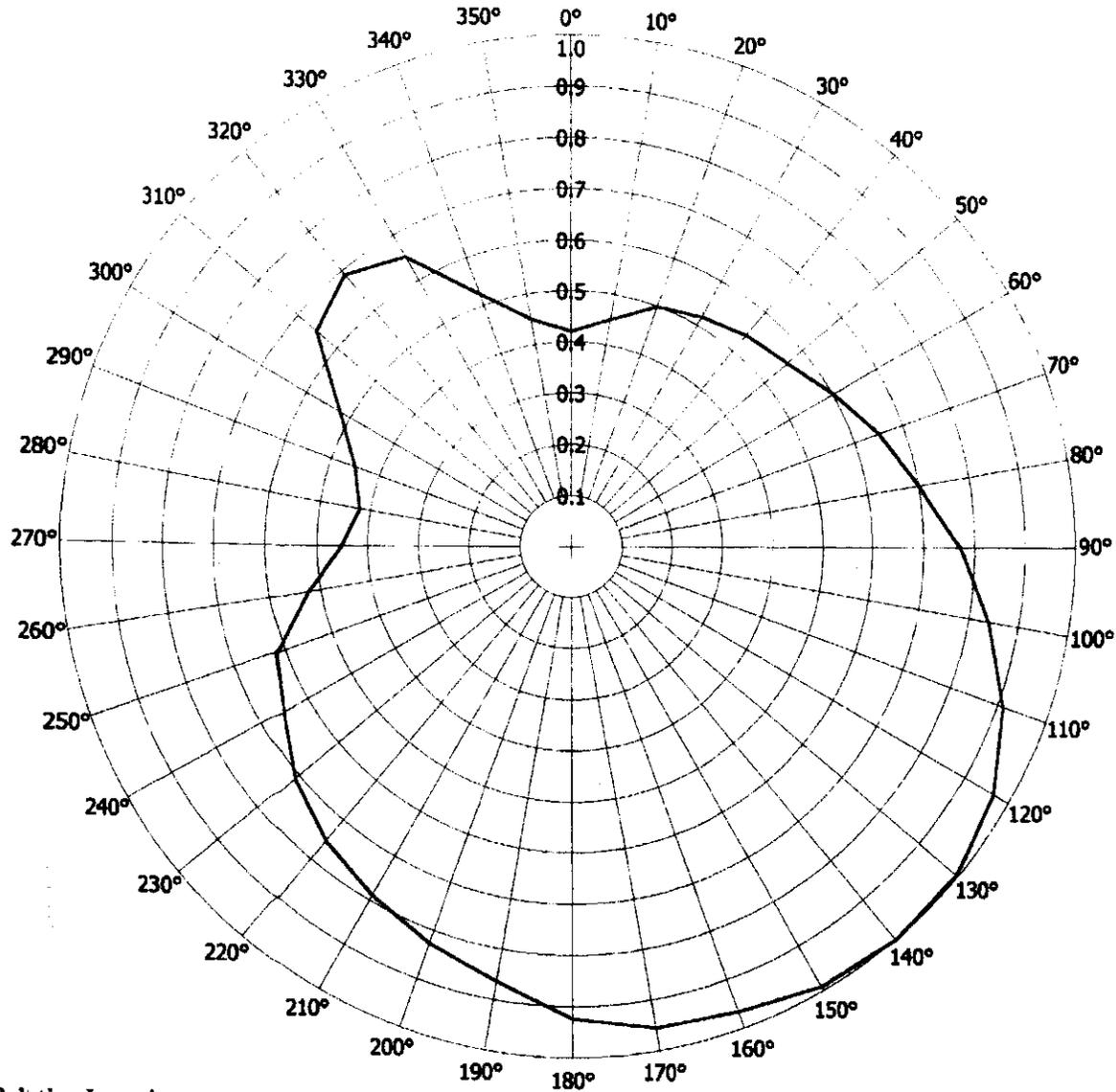
N 4° 00'00.00"

W 76° 00'00.00"

43 dBuV/m

10

HORIZONTAL PLANE PATTERN



Relative Intensity

FIGURE 3

WBPH-DT, Bethlehem, PA.

CHANNEL 9

PATTERN MAX: 140 Degrees True
PATTERN MIN: 0, 280 Degrees True

Larry H. Will, P.E.
Glen Mills, PA 19342-9504

Figure 3

11/27/2001

Pattern file: rep_PABETHLEHEM_9.pat

SONSHINE FAMILY TELEVISION, Inc.

WBPH-DT BETHLEHEM, PA

EXHIBIT EE-1 - TABLE 2

**PROPOSED CHANNEL 9 ALLOTMENT
AZIMUTH PATTERN**

10 Degree

Angle	Field	ERP (kW)	ERP (dBk)
0	0.422	0.57	-2.442
10	0.452	0.65	-1.846
20	0.5	0.80	-0.969
30	0.525	0.88	-0.545
40	0.540	0.93	-0.301
50	0.560	1.00	0.015
60	0.6	1.15	0.615
70	0.650	1.35	1.310
80	0.7	1.57	1.953
90	0.770	1.90	2.781
100	0.84	2.26	3.537
110	0.910	2.65	4.232
120	0.965	2.98	4.742
130	0.995	3.17	5.008
140	1.000	3.20	5.051
150	0.990	3.14	4.984
160	0.965	2.98	4.742
170	0.953	2.91	4.633
180	0.922	2.72	4.346
190	0.862	2.38	3.762
200	0.825	2.18	3.381
210	0.788	1.99	2.982
220	0.753	1.81	2.587
230	0.711	1.62	2.089
240	0.654	1.37	1.363
250	0.617	1.22	0.857
260	0.525	0.88	-0.545
270	0.452	0.65	-1.846
280	0.422	0.57	-2.442
290	0.452	0.65	-1.846
300	0.525	0.88	-0.545
310	0.653	1.36	1.350
320	0.692	1.53	1.854
330	0.653	1.36	1.350
340	0.525	0.88	-0.545
350	0.452	0.65	-1.846

Cardinal

Angle	Field	ERP (kW)	ERP (dBk)
0	0.55	0.97	-0.141
45	0.988	3.12	4.947
90	0.770	1.90	2.781
135	0.997	3.18	5.025
180	0.922	2.72	4.346
225	0.733	1.72	2.354
270	0.452	0.65	-1.846
315	0.673	1.45	1.612

Maxima

Angle	Field	ERP (kW)	ERP (dBk)
140	1.000	3.20	5.051

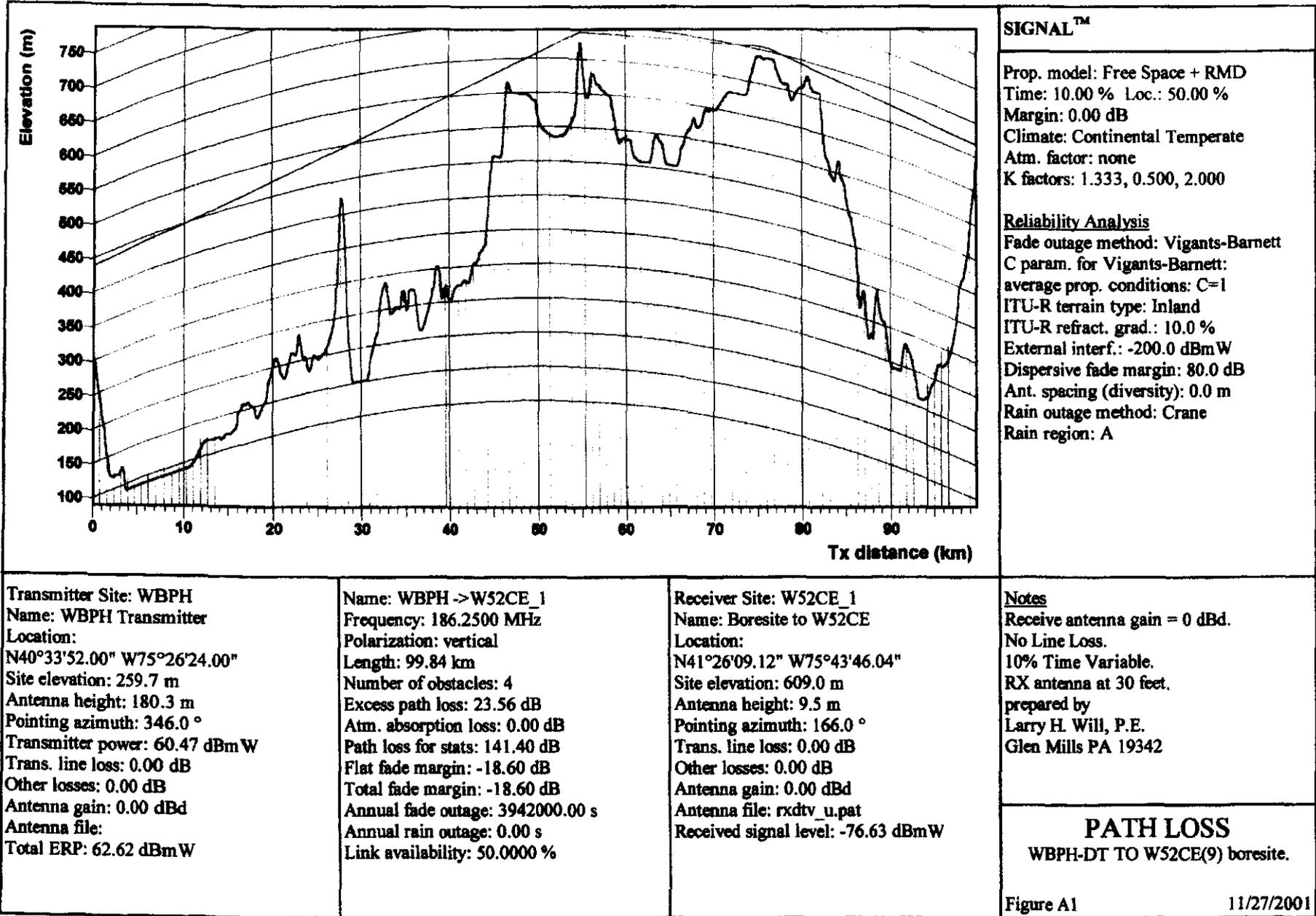
Minima

Angle	Field	ERP (kW)	ERP (dBk)
0	0.422	0.57	-2.442
280	0.422	0.57	-2.442

prepared by
Larry H. Will, P.E.
Glen Mills, PA 19342-9504

ERP= 3.2 kW
CALL WBPH-DT

13



SIGNAL™

Prop. model: Free Space + RMD
 Time: 10.00 % Loc.: 50.00 %
 Margin: 0.00 dB
 Climate: Continental Temperate
 Atm. factor: none
 K factors: 1.333, 0.500, 2.000

Reliability Analysis
 Fade outage method: Vigants-Barnett
 C param. for Vigants-Barnett:
 average prop. conditions: C=1
 ITU-R terrain type: Inland
 ITU-R refract. grad.: 10.0 %
 External interf.: -200.0 dBm W
 Dispersive fade margin: 80.0 dB
 Ant. spacing (diversity): 0.0 m
 Rain outage method: Crane
 Rain region: A

Transmitter Site: WBPH
 Name: WBPH Transmitter
 Location:
 N40°33'52.00" W75°26'24.00"
 Site elevation: 259.7 m
 Antenna height: 180.3 m
 Pointing azimuth: 346.0 °
 Transmitter power: 60.47 dBm W
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file:
 Total ERP: 62.62 dBmW

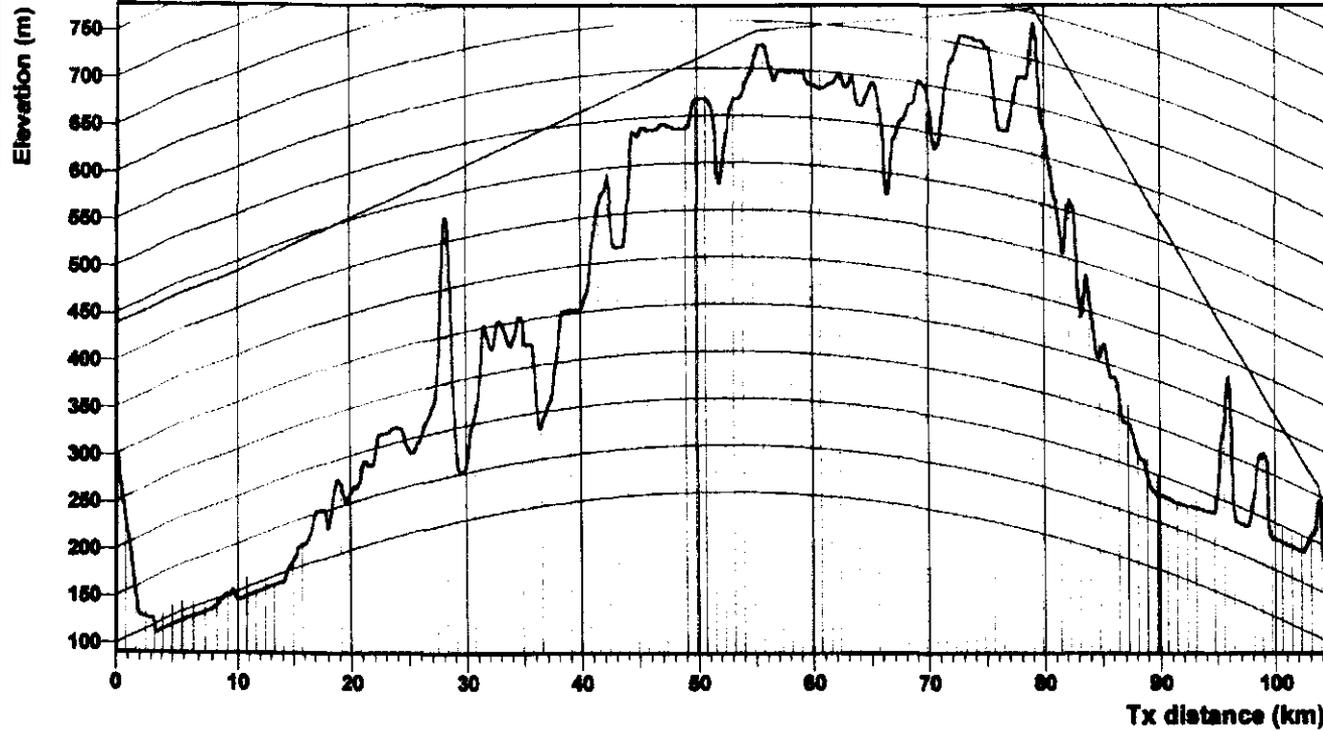
Name: WBPH ->W52CE_1
 Frequency: 186.2500 MHz
 Polarization: vertical
 Length: 99.84 km
 Number of obstacles: 4
 Excess path loss: 23.56 dB
 Atm. absorption loss: 0.00 dB
 Path loss for stats: 141.40 dB
 Flat fade margin: -18.60 dB
 Total fade margin: -18.60 dB
 Annual fade outage: 3942000.00 s
 Annual rain outage: 0.00 s
 Link availability: 50.0000 %

Receiver Site: W52CE_1
 Name: Boresite to W52CE
 Location:
 N41°26'09.12" W75°43'46.04"
 Site elevation: 609.0 m
 Antenna height: 9.5 m
 Pointing azimuth: 166.0 °
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file: rxdtv_u.pat
 Received signal level: -76.63 dBmW

Notes
 Receive antenna gain = 0 dBd.
 No Line Loss.
 10% Time Variable.
 RX antenna at 30 feet.
 prepared by
 Larry H. Will, P.E.
 Glen Mills PA 19342

PATH LOSS
 WBPH-DT TO W52CE(9) boresite.

Figure A1 11/27/2001



SIGNAL™

Prop. model: Free Space + RMD
 Time: 10.00 % Loc.: 50.00 %
 Margin: 0.00 dB
 Climate: Continental Temperate
 Atm. factor: none
 K factors: 1.333, 0.500, 2.000

Reliability Analysis
 Fade outage method: Vigants-Barnett
 C param. for Vigants-Barnett:
 average prop. conditions: C=1
 ITU-R terrain type: Inland
 ITU-R refract. grad.: 10.0 %
 External interf.: -200.0 dBmW
 Dispersive fade margin: 80.0 dB
 Ant. spacing (diversity): 0.0 m
 Rain outage method: Crane
 Rain region: A

Transmitter Site: WBPH
 Name: WBPH Transmitter
 Location:
 N40°33'52.00" W75°26'24.00"
 Site elevation: 259.7 m
 Antenna height: 180.3 m
 Pointing azimuth: 341.0 °
 Transmitter power: 58.49 dBmW
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file:
 Total ERP: 60.64 dBmW

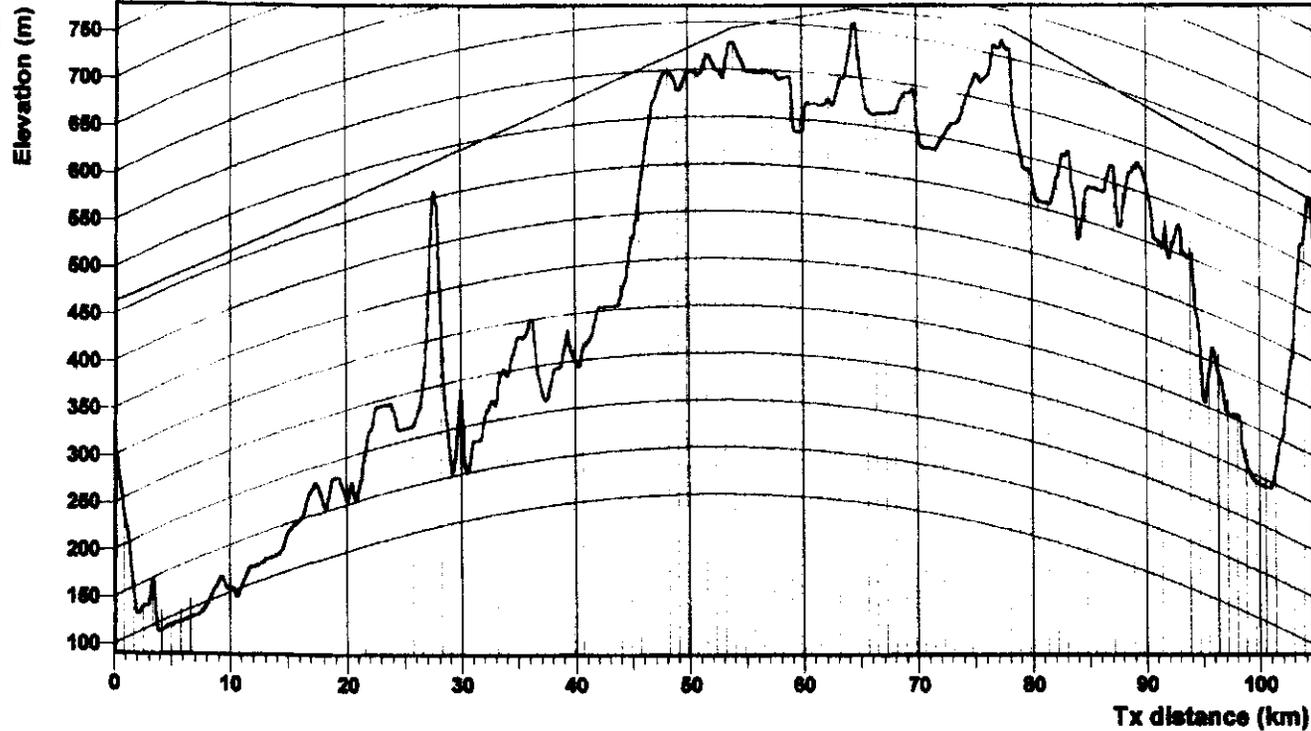
Name: WBPH ->W52CE_2
 Frequency: 186.2500 MHz
 Polarization: vertical
 Length: 104.84 km
 Number of obstacles: 3
 Excess path loss: 44.54 dB
 Atm. absorption loss: 0.00 dB
 Path loss for stats: 162.81 dB
 Flat fade margin: -41.98 dB
 Total fade margin: -41.98 dB
 Annual fade outage: 3942000.00 s
 Annual rain outage: 0.00 s
 Link availability: 50.0000 %

Receiver Site: W52CE_2
 Name: 5 Degrees left of bore
 Location:
 N41°27'20.95" W75°50'57.66"
 Site elevation: 183.0 m
 Antenna height: 9.5 m
 Pointing azimuth: 161.0 °
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file: rxdtv_u.pat
 Received signal level: -100.02 dBmW

Notes
 Receive antenna gain = 0 dBd.
 No Line Loss.
 10% Time Variable.
 RX antenna at 30 feet.
 prepared by
 Larry H. Will, P.E.
 Glen Mills PA 19342

PATH LOSS
 WBPH-DT TO W52CE(9) 5 deg left

15



SIGNAL™

Prop. model: Free Space + RMD
 Time: 10.00 % Loc.: 50.00 %
 Margin: 0.00 dB
 Climate: Continental Temperate
 Atm. factor: none
 K factors: 1.333, 0.500, 2.000

Reliability Analysis
 Fade outage method: Vigants-Barnett
 C param. for Vigants-Barnett:
 average prop. conditions: C=1
 ITU-R terrain type: Inland
 ITU-R refract. grad.: 10.0 %
 External interf.: -200.0 dBmW
 Dispersive fade margin: 80.0 dB
 Ant. spacing (diversity): 0.0 m
 Rain outage method: Crane
 Rain region: A

Transmitter Site: WBPH
 Name: WBPH Transmitter
 Location:
 N40°33'54.00" W75°26'24.00"
 Site elevation: 283.0 m
 Antenna height: 180.3 m
 Pointing azimuth: 351.0 °
 Transmitter power: 58.12 dBm W
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file:
 Total ERP: 60.27 dBm W

Name: WBPH ->W52CE_3
 Frequency: 186.2500 MHz
 Polarization: vertical
 Length: 104.78 km
 Number of obstacles: 4
 Excess path loss: 42.94 dB
 Atm. absorption loss: 0.00 dB
 Path loss for stats: 161.20 dB
 Flat fade margin: -40.75 dB
 Total fade margin: -40.75 dB
 Annual fade outage: 3942000.00 s
 Annual rain outage: 0.00 s
 Link availability: 50.0000 %

Receiver Site: W52CE_3
 Name: WBPH 5 degrees right
 Location:
 N41°29'45.94" W75°38'11.86"
 Site elevation: 510.8 m
 Antenna height: 9.5 m
 Pointing azimuth: 171.0 °
 Trans. line loss: 0.00 dB
 Other losses: 0.00 dB
 Antenna gain: 0.00 dBd
 Antenna file:
 Received signal level: -98.78 dBm W

Notes
 Receive antenna gain = 0 dBd.
 No Line Loss.
 10% Time Variable.
 RX antenna at 30 feet.
 prepared by
 Larry H. Will, P.E.
 Glen Mills PA 19342

PATH LOSS
 WBPH-DT TO W52CE(9) 5 deg rt.

Figure A3 11/27/2001

SONSHINE FAMILY TELEVISION, INC
WBPH-DT
Bethlehem, PA

TABLE 3

Evaluation toward Class A Stations

Contour overlap to Class A station
W52CE 9 CLARKS SUMMIT PA BPTVL 20010404ABQ
D/U ratio at contour 33.0 dB
Offset Proposed Offset Class A Z Required D/U ratio: 34.0

Radial 70.0 degrees
Bearing to point on contour 346.9 degrees
D/U ratio at contour 33.0 dB
Radial 80.0 degrees
Bearing to point on contour 346.9 degrees
D/U ratio at contour 32.9 dB
Radial 90.0 degrees
Bearing to point on contour 346.9 degrees
D/U ratio at contour 32.8 dB
Radial 100.0 degrees
Bearing to point on contour 346.8 degrees
D/U ratio at contour 32.7 dB
Radial 110.0 degrees
Bearing to point on contour 346.8 degrees
D/U ratio at contour 32.6 dB
Radial 120.0 degrees
Bearing to point on contour 346.7 degrees
D/U ratio at contour 32.5 dB
Radial 130.0 degrees
Bearing to point on contour 346.5 degrees
D/U ratio at contour 32.5 dB
Radial 140.0 degrees
Bearing to point on contour 346.4 degrees
D/U ratio at contour 32.1 dB
Radial 150.0 degrees
Bearing to point on contour 346.5 degrees
D/U ratio at contour 31.6 dB
Radial 160.0 degrees
Bearing to point on contour 346.3 degrees
D/U ratio at contour 31.5 dB
Radial 170.0 degrees
Bearing to point on contour 345.8 degrees
D/U ratio at contour 31.5 dB
Radial 180.0 degrees
Bearing to point on contour 345.4 degrees
D/U ratio at contour 31.6 dB
Radial 190.0 degrees
Bearing to point on contour 345.1 degrees
D/U ratio at contour 31.6 dB
Radial 200.0 degrees

Bearing to point on contour 344.7 degrees
D/U ratio at contour 31.7 dB

Class A Evaluation, cont.

Radial 210.0 degrees
Bearing to point on contour 344.4 degrees
D/U ratio at contour 32.0 dB
Radial 220.0 degrees
Bearing to point on contour 344.5 degrees
D/U ratio at contour 32.4 dB
Radial 230.0 degrees
Bearing to point on contour 344.9 degrees
D/U ratio at contour 32.6 dB
Radial 240.0 degrees
Bearing to point on contour 345.2 degrees
D/U ratio at contour 32.7 dB
Radial 250.0 degrees
Bearing to point on contour 345.1 degrees
D/U ratio at contour 32.8 dB
Radial 260.0 degrees
Bearing to point on contour 345.1 degrees
D/U ratio at contour 32.9 dB
Radial 270.0 degrees
Bearing to point on contour 345.2 degrees
D/U ratio at contour 33.0 dB
Radial 280.0 degrees
Bearing to point on contour 345.2 degrees
D/U ratio at contour 33.0 dB
Radial 290.0 degrees
Bearing to point on contour 345.3 degrees
D/U ratio at contour 33.1 dB
Radial 300.0 degrees
Bearing to point on contour 345.4 degrees
D/U ratio at contour 33.2 dB
Radial 310.0 degrees
Bearing to point on contour 345.5 degrees
D/U ratio at contour 33.9 dB
Radial 320.0 degrees
Bearing to point on contour 345.1 degrees

Class A Evaluation Complete