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August 17, 2022

Engineering Statement in Support of Petition to Amend

the Television Table of Assignments

The applicant, VPM Media Corporation, operators of WVPT-TV, Staunton, Virginia, a full-service public TV facility, proposes to substitute VHF channel 11 (C.P. Ch 12) with UHF channel 15. The station has experienced a substantial loss of viewers within its prescribed coverage area due to the poor propagation characteristics of the VHF channel, made worse by the area's rugged, Blue Ridge Mountains, terrain, and the fact the other licensed stations in the area are nearly all UHF. The applicant proposes that the channel be defined as "educational" and the asterisk seen in the table of assignments should be changed to channel 15*, while the existing channel 11 educational set-aside will be removed from the table.

We have performed a channel study using the Commission's procedures, set forth in OET Bulletin No. 69, "Longley-Rice Methodology for Evaluating TV Coverage and Interference". We find that the proposed facility will not cause interference, of more than 0.5%, to any other full-service licensed facility[1]. Based on the study, no interference will be caused to land mobile installations, when operating on channel 15. (See Sec. 74.709.) **Exhibit #1**, is the full print-out from the Commission's own TVStudy computer program. The proposal will meet the principal city requirements of Sec. 73.625 (a).

Proposed coordinates: 38-09-54.4 N, 79-18-50.1 W.

Any adjustment of the proposed transmission site from that proposed will not vary more than 0.1 km from the current licensed coordinates of the WVPT-1 main transmission site coordinates. The channel 15 antenna is required to have a deep null to the west-northwest to protect Green Bank Observatory and the secure Sugar Grove Naval Station area[2].

Total WVPT-TV, CH 11, population: 962,852

Total WVPT-TV, CH 15 Population: 1,102,100 (1,103,260)

CH 15 Population Gained[3]: 139,248

Loss, 1.160 without the translator, zero including the translator

Assuming the continuation of channel 11 as a translator, we have determined that when using standard noise-limited contours, two small areas of loss to PBS coverage will occur (on paper). This is due to the deep null protection of the WVPT-1 antenna pattern that is required for WVPT-1, channel 15 by the Green Bank Observatory and the Sugar Grove Naval Station. This loss area was examined and determined to be de-minimus. This area is located between the noise-limited service-contours of the proposed WVPT-1, channel 15, and the old WVPT-1 Channel 11, and WVPT-3, channel 11, and PBS

[1] The OET 69 analysis was done for a 195-kW Main facility at the licensed antenna height and for two additional DTS facilities having powers of 15 kW and 0.25 kW).
[2] For the same reason the 0.008 kW, channel 11, WVPT-3 facility, has been eliminated from the proposed DTS nexus because Green Bank Observatory and Sugar Grove will not approve a channel 15 DTS transmitter there, at any viable power. Their approval has been received for WVPT-1, WVPT-2, and WVPT-4.
[3] 2010 U.S. Census was used throughout this document to synchronize with current FCC methods.

station WBRA-TV (channel 3). It was determined using the standard, noise-limited, digital contours, and superimposing a Longley-Rice area-grid analysis of each of the relevant, channel 11, WVPT-TV transmitters. The study, displayed in exhibit #2, shows that WVPT-1 CH 11, WVPT-3 CH 11 transmitters, and PBS station, WBRA-TV have no noise-limited Longley-Rice coverage inside the loss areas. Therefore, there is no loss when using channel 15. (Without the translator, the N.L. loss would be 1,059, based on Longley-Rice.)

Exhibit #3, a and b contain service count maps for WVPT-TV when on channel 11 and on 15.

Channel 11 Service Count		Population
1	Service	180
2	Service	726
3	Service	5,656
4	Service	579
5	Service	416
6	Service	191,306
7 or more		763,589
Total		962,852

Channel 15 Service Count		Population
1	Service	0
2	Service	518
3	Service	15,856
4	Service	5,969
5	Service	8,619
6	Service	226,808
7 or more		844,330
Total		1,102,100

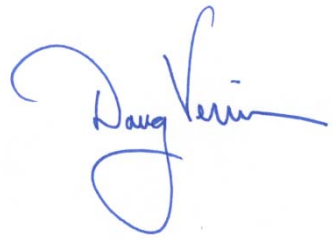
It should be noted that TVStudy predicts the incoming interference to the proposed three-transmitter DTS system be 12.41 percent, while V-Soft Communication's Probe 5 (in daily use at the FCC, and Industry Canada, Department of Innovation, Science and Economic Development Canada) shows the interference to be well less at 5.73%. The petitioner is very willing to accept this level of predicted interference by TVStudy, as it is comparable to the interference it has received on its licensed channel and the interference can be ameliorated by using the proposed UHF frequency.

Based on the excellent history of numerous TV stations, throughout the country, that have moved from VHF to UHF, we are confident that this move of channel will be a very large improvement for WVPT-TV's currently poor viewership coverage.

Exhibit #4 is documentation of my qualifications to prepare this engineering statement.

Petition Proposal: Substitute channel 15* for channel 11 (keep as educational)

Remove channel 11* from the table of assignments.



tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1, Study: BLANK0000055362 #216, Model: Longley-Rice
Start: 2022.08.26 11:33:00

Study created: 2022.08.26 11:33:00

Study build station data: LMS TV 2022-08-12 #20

```
    Proposal: WVPT D15 DD LIC STAUNTON, VA
 File number: BLANK0000055362
 Facility ID: 60111
Station data: User record
   Record ID: 218
     Country: U.S.
        Zone: I
   Ref. lat.:  38 09 54.40 N
  Ref. long.:  79 18 50.10 W
 # DTS sites: 3
```

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WXIX-TV	D15	DT	LIC	NEWPORT, KY	BLANK0000157812	466.6 km
No	W15EB-D	D15	DC	LIC	CHARLOTTE, NC	BLANK0000188950	357.9
Yes	WRAZ	D15	DT	LIC	RALEIGH, NC	BLANK0000143683	285.5
No	WEWS-TV	D15	DT	LIC	CLEVELAND, OH	BLCDT20091211ACS	411.5
Yes	WQCW	D15	DT	LIC	PORTSMOUTH, OH	BLANK0000168240	256.2
Yes	WPSU-TV	D15	DD	LIC	CLEARFIELD, PA	BLEDT20130614ACC	337.1
No	WLTX	D15	DT	LIC	COLUMBIA, SC	BLANK0000082085	470.5
No	WTNZ	D15	DT	LIC	KNOXVILLE, TN	BLANK0000081278	477.0
Yes	WFDC-DT	D15	DT	LIC	ARLINGTON, VA	BLANK0000041206	212.3
No	WXII-TV	D16	DT	LIC	WINSTON-SALEM, NC	BLANK0000157823	219.9
No	WINP-TV	D16	DT	LIC	PITTSBURGH, PA	BLANK0000098050	259.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied, DTS site # 1:

```
    Channel: D15
   Latitude:  38  9 54.40 N (NAD83)
  Longitude:  79 18 50.10 W
Height AMSL: 1333.0 m
       HAAT: 689.0 m
   Peak ERP: 195 kW
    Antenna: DIE TUL-BP2 6/12 M I 0.0 deg
Elev Pattrn: DIE
  Elec Tilt: 2.00
```

38.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	2.58 kW	680.7 m	76.8 km
45.0	123	664.5	108.9
90.0	175	779.1	116.8
135.0	84.9	711.3	107.5
180.0	175	726.4	114.7
225.0	123	615.3	106.8
270.0	2.58	655.4	76.1
315.0	0.000	604.2	24.3

Database HAAT does not agree with computed HAAT
Database HAAT: 689 m Computed HAAT: 680 m

Record parameters as studied, DTS site # 2:

```
    Channel: D15
   Latitude:  37 59  0.00 N (NAD83)
  Longitude:  78 29  1.00 W
Height AMSL: 495.1 m
       HAAT: 333.0 m
   Peak ERP: 15.0 kW
    Antenna: DIE TUL-BP2 - 1/2M-1-K 0.0 deg
Elev Pattrn: DIE
```

38.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	15.0 kW	354.2 m	74.6 km
45.0	4.20	266.9	61.6
90.0	0.114	379.1	48.0
135.0	0.060	366.8	43.7
180.0	5.56	359.0	68.8
225.0	14.2	323.8	71.9
270.0	2.04	278.0	58.4
315.0	2.75	320.1	62.5

Database HAAT does not agree with computed HAAT
Database HAAT: 333 m Computed HAAT: 331 m

Record parameters as studied, DTS site # 3:

```
    Channel: D15
   Latitude:  38 36  3.90 N (NAD83)
  Longitude:  78 37 56.80 W
Height AMSL: 962.0 m
       HAAT: 611.0 m
   Peak ERP: 0.250 kW
    Antenna: DIE TUL-C2SP-COS66 0.0 deg
Elev Pattrn: DIE
```

38.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.108 kW	652.6 m	54.5 km
45.0	0.022	641.1	44.2
90.0	0.241	667.1	60.1
135.0	0.147	500.3	53.4
180.0	0.003	655.1	31.7
225.0	0.000	540.3	0.2
270.0	0.000	619.0	0.2
315.0	0.013	621.3	40.5

Database HAAT does not agree with computed HAAT
Database HAAT: 611 m Computed HAAT: 612 m

**DTS proposal has coverage outside reference facility and distance limit

Distance to Canadian border: 438.9 km

Distance to Mexican border: 2135.0 km

Conditions at FCC monitoring station: Laurel MD
DTS site # 1 Bearing: 62.0 degrees Distance: 243.2 km
DTS site # 2 Bearing: 47.2 degrees Distance: 195.3 km
DTS site # 3 Bearing: 67.6 degrees Distance: 168.8 km

**Proposal is within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
DTS site # 1 Bearing: 283.8 degrees Distance: 2236.1 km
DTS site # 2 Bearing: 284.4 degrees Distance: 2311.5 km
DTS site # 3 Bearing: 282.8 degrees Distance: 2282.8 km

No land mobile station failures found

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLANK0000143683 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WRAZ	D15	DT	LIC	RALEIGH, NC	BLANK0000143683	
Undesireds:	WVPT	D15	DD	LIC	STAUNTON, VA	BLANK0000055362	285.5 km
	WRDC	D14	DT	LIC	DURHAM, NC	BLANK0000125503	0.0
	W15EB-D	D15	DC	LIC	CHARLOTTE, NC	BLANK0000188950	219.2
	WLTX	D15	DT	LIC	COLUMBIA, SC	BLANK0000082085	268.9
	WFDC-DT	D15	DT	LIC	ARLINGTON, VA	BLANK0000041206	384.8

	WPXU-TV	D16	DT	LIC	JACKSONVILLE, NC	BLANK0000129487	161.6
	WXII-TV	D16	DT	LIC	WINSTON-SALEM, NC	BLANK0000157823	183.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
48202.4	3,800,594	48030.7	3,797,515	47482.9	3,734,433	47140.6	3,728,684	0.72	0.15

Undesired	Total IX	Unique IX, before		Unique IX, after	
WVPT D15 DD LIC	398.2	8,652		342.3	5,749
WRDC D14 DT LIC	4.0	208	4.0	208	4.0	208
W15EB-D D15 DC LIC	40.2	2,498	8.0	73	4.0	25
WLTX D15 DT LIC	60.2	1,385	44.1	738	40.1	526
WFDC-DT D15 DT LIC	31.8	718	31.8	718	19.9	112
WPXU-TV D16 DT LIC	107.2	1,304	107.2	1,304	107.2	1,304
WXII-TV D16 DT LIC	340.5	59,632	320.4	57,616	292.5	55,941

Interference to BLANK0000168240 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WQCW	D15	DT	LIC	PORTSMOUTH, OH	BLANK0000168240	
Undesireds:	WVPT	D15	DD	LIC	STAUNTON, VA	BLANK0000055362	256.2 km
	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597	187.2
	WTTK	D15	DT	LIC	KOKOMO, IN	BLANK0000153399	375.7
	WXIX-TV	D15	DT	LIC	NEWPORT, KY	BLANK0000157812	212.8
	WEWS-TV	D15	DT	LIC	CLEVELAND, OH	BLCDT20091211ACS	321.2
	WOHL-CD	D15	DC	LIC	LIMA, OH	BLANK0000140190	299.8
	WTNZ	D15	DT	LIC	KNOXVILLE, TN	BLANK0000081278	318.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
37994.3	1,307,345	35904.9	1,236,020	35435.2	1,214,030	35431.2	1,213,911	0.01	0.01

Undesired	Total IX	Unique IX, before		Unique IX, after	
WVPT D15 DD LIC	4.0	119		4.0	119
WLFG D14 DD LIC	15.9	639	11.9	639	11.9	639
WTTK D15 DT LIC	12.0	76	8.0	71	8.0	71
WXIX-TV D15 DT LIC	242.9	3,797	191.2	3,123	191.2	3,123
WEWS-TV D15 DT LIC	199.1	17,019	167.2	16,436	167.2	16,436
WOHL-CD D15 DC LIC	4.0	19	0.0	0	0.0	0

WTNZ D15 DT LIC	55.5	1,133	35.7	1,047	35.7	1,047					

Interference to BLEDT20130614ACC LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WPSU-TV	D15	DD	LIC	CLEARFIELD, PA	BLEDT20130614ACC	
Undesireds:	WVPT	D15	DD	LIC	STAUNTON, VA	BLANK0000055362	337.1 km
	WBNF-CD	D15	DC	LIC	BUFFALO, NY	BLDTA20111130LWW	215.3
	NEW	D15	DT	APP	SYRACUSE, NY	BLANK0000195668	269.2
	WEWS-TV	D15	DT	LIC	CLEVELAND, OH	BLCDT20091211ACS	275.2
	WFDC-DT	D15	DT	LIC	ARLINGTON, VA	BLANK0000041206	268.8
	WINP-TV	D16	DT	LIC	PITTSBURGH, PA	BLANK0000098050	148.5

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
36299.1	1,055,133	32592.1	868,013	31575.4	840,238	31563.4	840,169	0.04	0.01

Undesired	Total IX		Unique IX, before		Unique IX, after	
WVPT D15 DD LIC	12.1	69			12.1	69
WBNF-CD D15 DC LIC	12.0	105	0.0	0	0.0	0
NEW D15 DT APP	108.5	318	80.3	182	80.3	182
WEWS-TV D15 DT LIC	522.3	11,079	450.3	9,729	450.3	9,729
WFDC-DT D15 DT LIC	410.1	16,438	369.9	15,828	369.9	15,828
WINP-TV D16 DT LIC	59.9	1,290	24.0	680	24.0	680

Interference to BLANK0000041206 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WFDC-DT	D15	DT	LIC	ARLINGTON, VA	BLANK0000041206	
Undesireds:	WVPT	D15	DD	LIC	STAUNTON, VA	BLANK0000055362	212.3 km
	WPSU-TV	D15	DD	LIC	CLEARFIELD, PA	BLEDT20130614ACC	268.8

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
24894.9	8,155,998	24166.4	8,114,847	23748.8	8,078,686	23157.0	8,039,127	2.49	0.49

Undesired	Total IX	Unique IX, before	Unique IX, after

WVPT D15 DD LIC	898.3	66,834			591.8	39,559	
WPSU-TV D15 DD LIC	417.6	36,161	417.6	36,161	111.1	8,886	

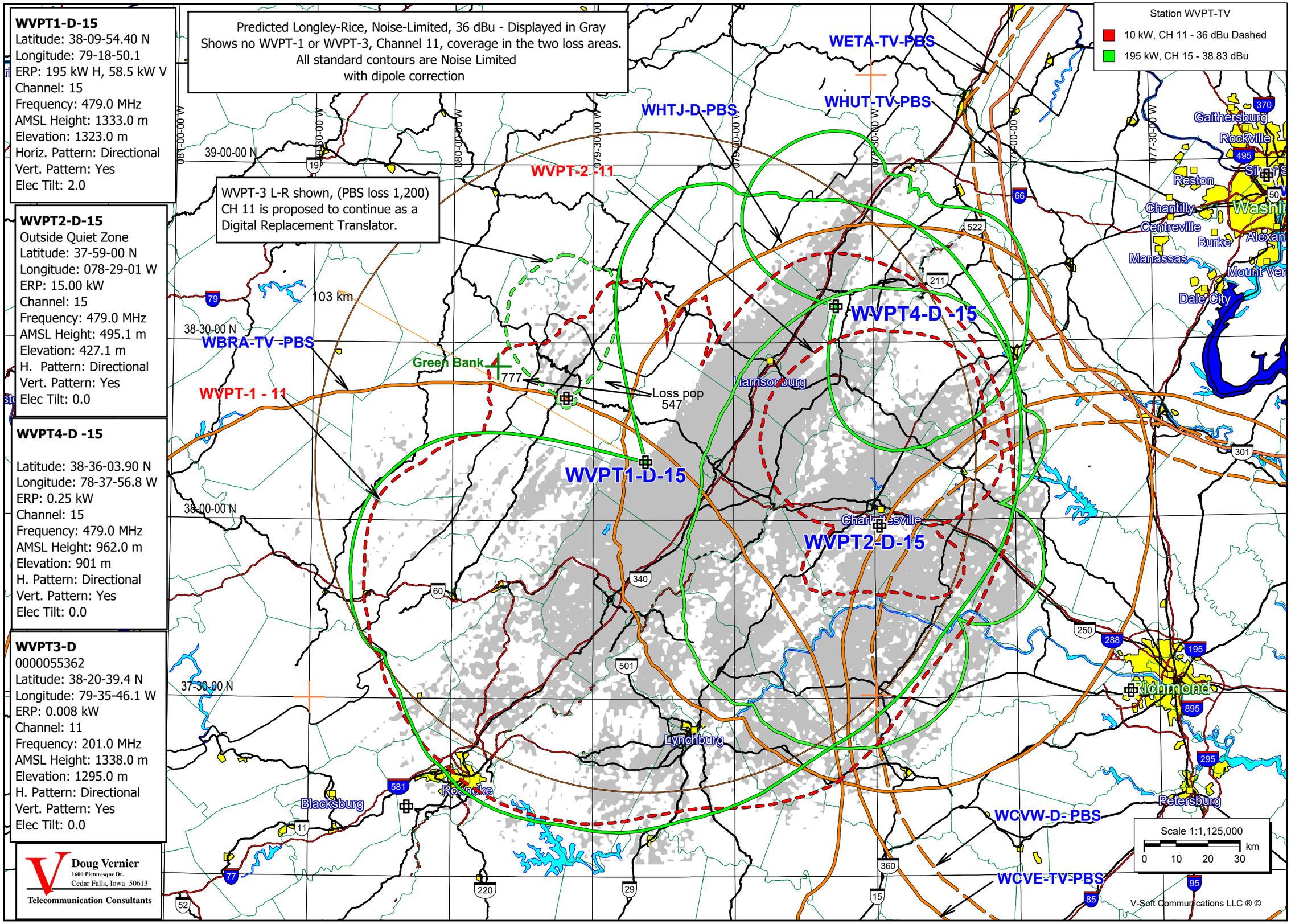
Interference to proposal scenario 1
12.88% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WVPT	D15	DD	LIC	STAUNTON, VA	BLANK0000055362	
Undesireds:	WRAZ	D15	DT	LIC	RALEIGH, NC	BLANK0000143683	285.5 km
	WQCW	D15	DT	LIC	PORTSMOUTH, OH	BLANK0000168240	256.2
	WPSU-TV	D15	DD	LIC	CLEARFIELD, PA	BLEDT20130614ACC	337.1
	WFDC-DT	D15	DT	LIC	ARLINGTON, VA	BLANK0000041206	212.3

Service area		Terrain-limited		IX-free		Percent IX	
28200.0	965,699	24456.1	861,474	21423.0	750,557	12.40	12.88

Undesired	Total IX		Unique IX		Prcnt Unique IX	
WRAZ D15 DT LIC	1315.0	62,373	649.7	26,537	2.66	3.08
WQCW D15 DT LIC	87.6	546	63.6	403	0.26	0.05
WPSU-TV D15 DD LIC	112.3	200	44.1	83	0.18	0.01
WFDC-DT D15 DT LIC	2267.7	83,864	1534.2	47,907	6.27	5.56

Predicted Longley-Rice,Channel 11, Noise-Limited, 36 dBu - Displayed in Gray

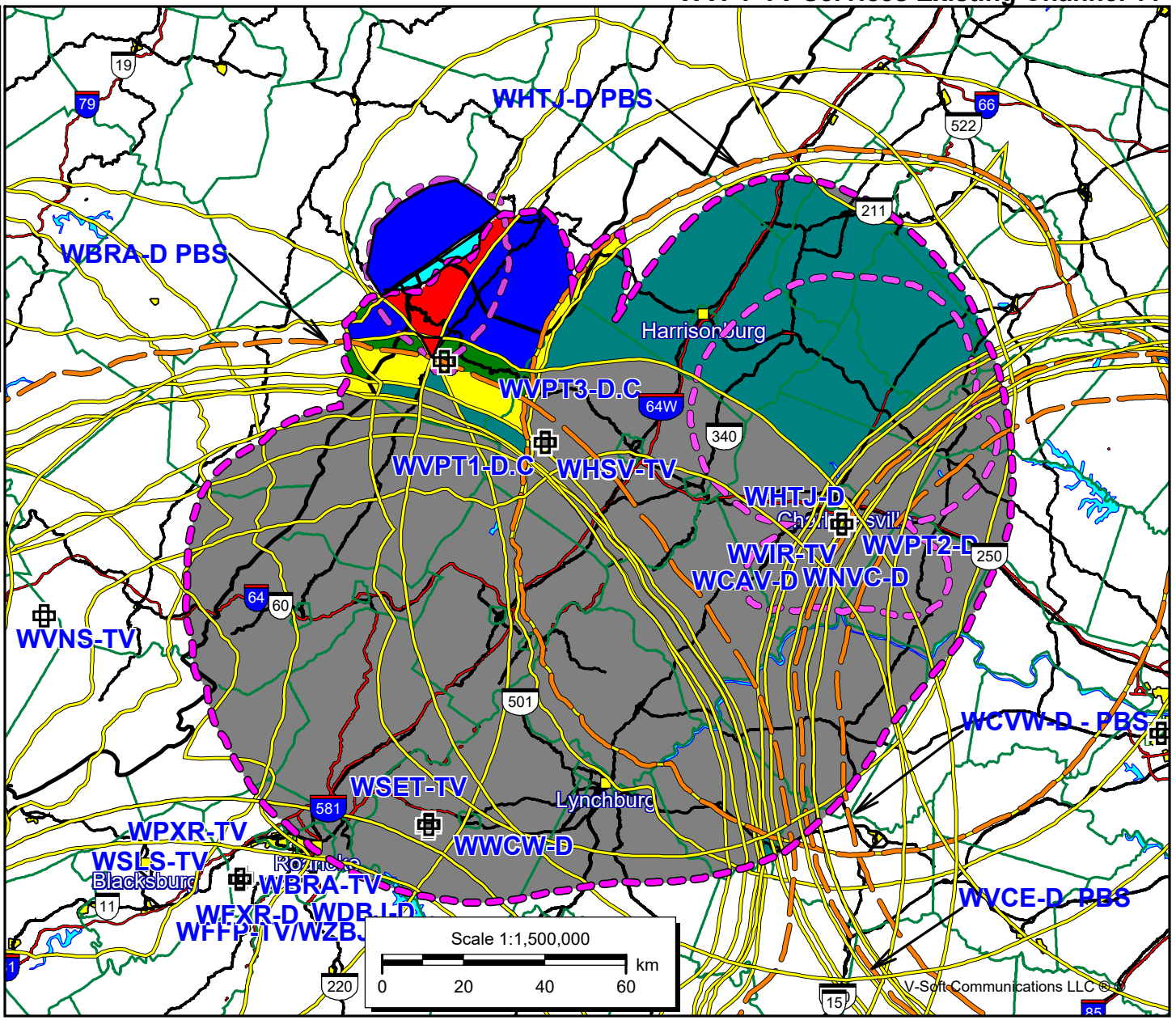


WVPT-TV Services Existing Channel 11

WVPT1-D.C
0000028448
Latitude: 38-09-54.40 N
Longitude: 079-18-50.10 W
ERP: 10.00 kW
Channel: 11
Frequency: 207.0 MHz
AMSL Height: 1333.0 m
Elevation: 1323.0 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 1.0
Prop Model: None

Service Count: WVPT1-D.C (11)

- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more



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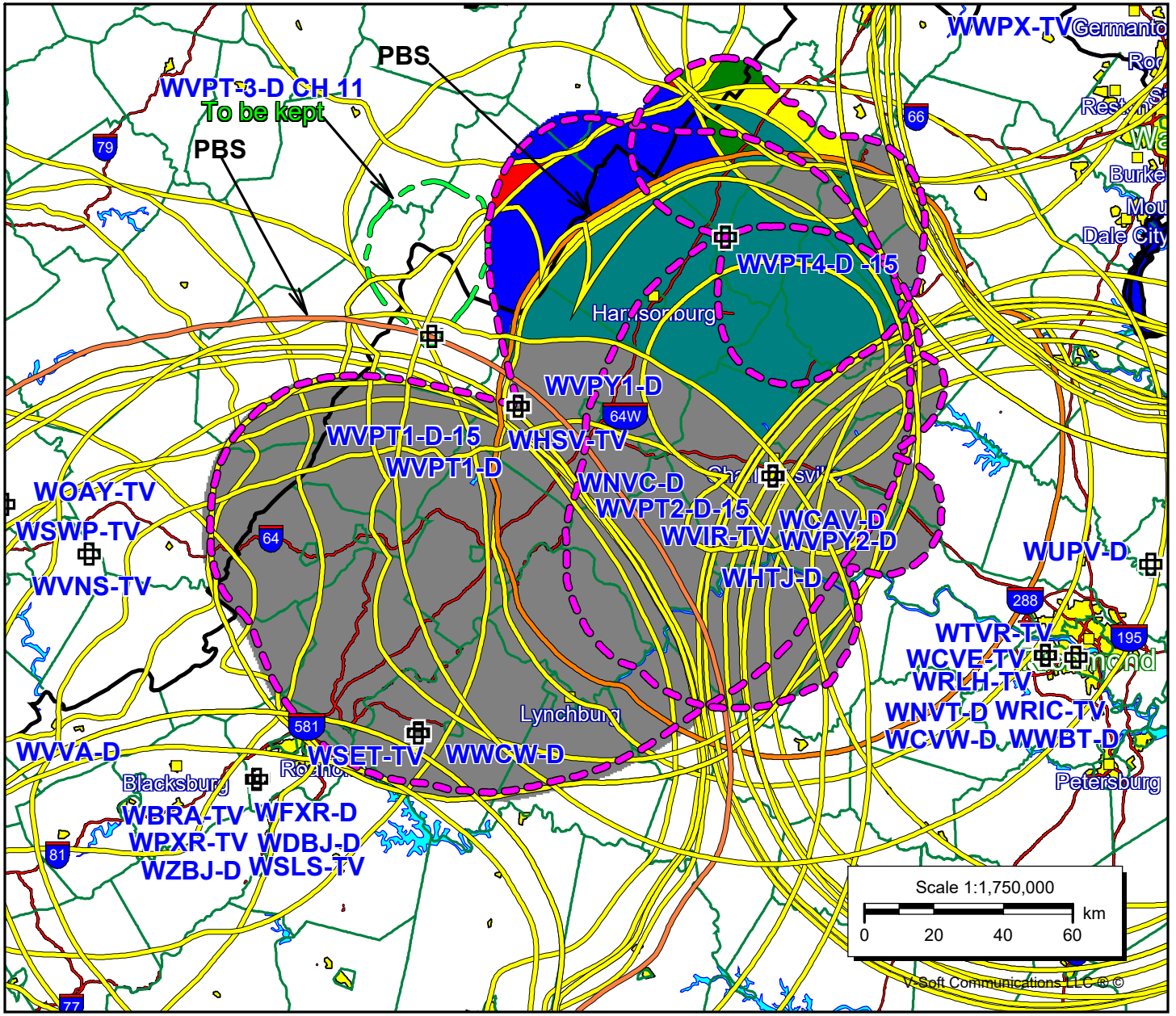
WVPT-TV Service Count Map - Proposed Channel

REF
WVPT1-D-15
WVPT2-D-15
WVPT4-D -15

Service Count:
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more



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