

**W288BI
APPLICATION FOR CP MINOR MODIFICATION**

This application seeks a modification for the existing W288BI construction permit (BPFT-20121212AAG) at the same tower at a higher HAAT in order to use an existing antenna and transmission line. It will continue to serve as a fill in translator for station WTLN(AM) (facility #48731) at Orlando, FL.

Modification of *Mattoon Waiver* CP - overlap is maintained:

The CP was granted as a *Mattoon Waiver*. Exhibit E1AA shows that the required *Mattoon* overlap of the 40 dBu (50:10) interference contour to the licensed 60 dBu is maintained.

This application requests a waiver as originally granted and modified herein is in accordance with the waiver granted for W263AQ's move to Effingham, IL (DA-11-1495) and subsequent grants commonly referred to as the *Mattoon Waiver*.

It is also noted that Orlando, FL is not an LPFM spectrum limited market. Therefore, LPFM impact is not a factor.

No AM condition requested:

Since the proposed facility will use an existing facility and antenna already installed on the tower with the replacement of the antenna with an identical model tuned to 105.5, it is requested that the AM condition not be imposed on this "detuned" tower. There will, in fact, be no physical change on the tower.

Allocation discussion:

All exhibits utilize the V-Soft provided USGS three second terrain database.

- E1 Channel study
- E1A W288BI *Mattoon* interference overlap to licensed W288BI
- E1B W288BI interference plot to 2nd adjacent WOMX-FM and WOCL.
- E1C Aerial photograph of interference contour area
- E1D Antenna vertical elevation pattern
- E2 60 dBu and 2 mV/m contours plot
- E3 ASR and NADCON calculation

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A channel study is included as E1 and an interference plot as E1B (clearance to second adjacent channels) demonstrating compliance with §74.1204. A plot of the proposed 60 dBu is provided as E2 showing that it is entirely contained within the WTLN(AM) 2 mV/m and 40 km circle.

Disproval of interference to 2nd adjacent channel stations:

The W288BI facility will be located inside the protected contours of second adjacent channel stations WOMX-FM on 286C and WOCL on 290C. Therefore, an interference analysis has been conducted based on the U/D ratio of +40 dB at the proposed site. The WOCL contour at the proposed W288BI site is 83.43 dBu (E1B) resulting in an interference contour of 123.43 dBu. The WOMX-FM (50,50) contour at the proposed site is 83.1 dBu and the resulting interference contour is 123.1 dBu or 77.6 meters. When the depression angle of 59.2 degrees and the corresponding vertical F factor for the proposed antenna of 0.067 are applied a reduced ERP of 0.0011 kW results. The 123.1 dBu interfering contour for this reduced ERP is 5.1 meters which provides 125.6 meters of vertical clearance. The interference contour to WOCL is 123.43 dBu (E1B) or 74.7 meters. When the reduced ERP is determined using the 60.1 degree depression angle and the F factor of 0.062 an ERP of 0.001 kW produces an interference contour of 4.7 meters or 125.9 meters of vertical clearance. Clearly, these interference contours will not reach any populated area or major highways as is evident from the aerial photograph of the site included as E1C. Based on this showing, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

RF Exposure Calculation:

The proposed facility will be located at an existing tower (ASR#1244200) using a two bay half wave spaced ERI model 100 non-directional, circularly polarized antenna. The RF contribution of the proposed translator was calculated to be 1.0 μ Watts/cm² using the formula included below and a worst case vertical factor of 1.0. This is 0.5% of the maximum permissible 200 microwatts/cm² exposure for general population/uncontrolled exposure, and well below 5% of that limit which requires consideration.

$$S \text{ (RF in } \mu\text{Watts/cm}^2\text{)} = \frac{33.4 (F^2 \text{ Vertical Factor}) \times (H \text{ ERP} + V \text{ ERP in Watts})}{R^2 \text{ (distance to radiation center in meters} - 2 \text{ m)}}$$

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The proposed translator facility complies with Commission RF radiation limits.



Charles M. Anderson 2-14-2014
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270-782-0246

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E1 CHANNEL STUDY

Pennsylvania Media Associates, Inc.

REFERENCE
28 36 20.0 N.
81 25 05.0 W.

CH# 288D - 105.5 MHz, Pwr= 0.25 kw, HAAT= 130.9 M, COR= 160 M
Average Protected F(50-50)= 14.7 km
Omni-directional

DISPLAY DATES
DATA 02-11-14
SEARCH 02-12-14

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
288D Deltona	w288BI	CP DC_ FL		0.0 0.0	0.00 BPFT20121212AAG	28 36 20.0 81 25 05.0	0.250 119	49.1 145	14.6 Pennsylvania Media Associa	-64.6*	-65.7*
286C Orlando	WOMX-FM	LIC _C_ FL		94.6 274.8	33.54 BMLH20030924ABI	28 34 51.0 81 04 32.0	100.000 487	12.4 500	85.7 Cbs Radio Stations Inc.	6.1	-53.3* (1)
290C Deland	WOCL	LIC _C_ FL		15.5 195.5	36.21 BLH20070424AAM	28 55 10.0 81 19 08.0	100.000 484	12.4 494	85.6 Cbs Radio Stations Inc.	8.3	-50.4* (1)
288C1 New Port Richey	WDUV	LIC _CX FL		250.7 70.1	140.19 BLH20090715AHU	28 10 56.0 82 46 06.0	33.000 458	163.9 461	72.0 Cox Radio, Inc.	-37.8*	20.5
288D Deltona	w288BI	LIC _C_ FL		38.9 219.0	41.84 BLFT20070404ACO	28 53 54.0 81 08 54.0	0.050 62	23.3 71	6.9 Pennsylvania Media Associa	3.7	-14.9 (2)
288C3 St. Augustine Beach	WYRE-FM	LIC ZC_ FL		3.5 183.5	138.61 BLH19991223AAS	29 51 00.0 81 19 50.0	16.000 125	107.0 129	38.4 Cortona Media, Llc	16.0	49.0
288D Melbourne	w288CG	CP _C_ FL		118.0 298.4	80.07 BNPFT20130318AGB	28 15 54.0 80 41 47.0	0.099 113	36.7 115	10.8 Radio Assist Ministry, Inc	28.8	20.3
288C2 Hobe Sound	WOLL	CP NCX FL		142.8 323.3	185.05 BPH20090219ADR	27 16 29.0 80 17 11.0	37.000 147	130.7 149	49.1 Clear Channel Broadcasting	39.9	87.2

Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.
Reference station has protected zone issue:

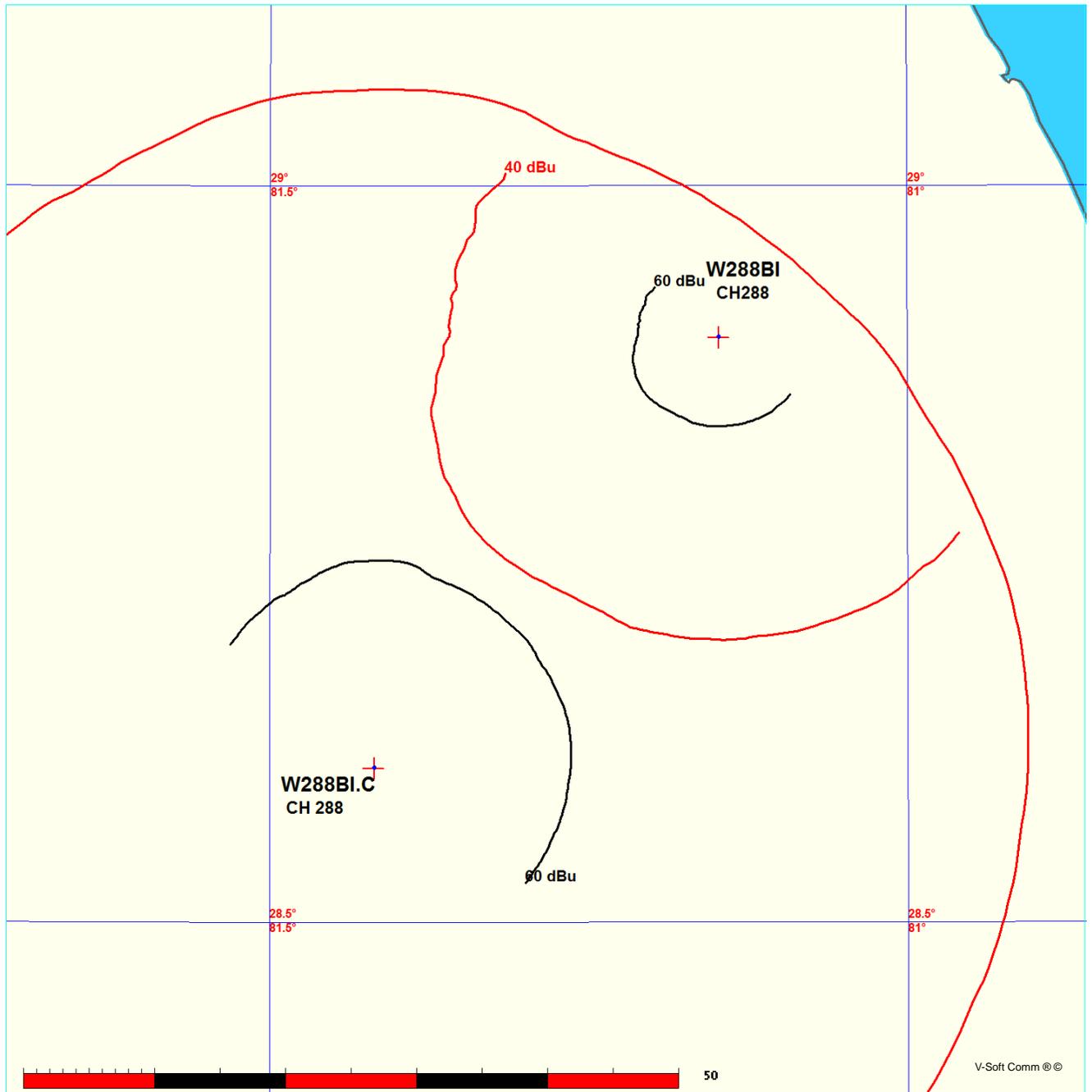
- (1) See E1B and Technical Report for disproval of interference.
- (2) Mattoon overlap maintained. This is a minor change in height at site and does not represent an additional "hop" in any form.

E1A MATTOON OVERLAP
Pennsylvania Media Associates, Inc.

FMCommander Single Allocation Study - 02-12-2014 - USGS 03 SEC
W288BI.C's Overlaps (In= 3.69 km, Out= -14.93 km)

W288BI.C CH 288 D
Lat= 28 36 20.0, Lng= 81 25 05.0
0.25 kW 130.9 M HAAT, 160 M COR
Prot.= 60 dBu, Intef.= 40 dBu

W288BI CH 288 D BLFT20070404ACO
Lat= 28 53 54.0, Lng= 81 08 54.0
0.05 kW 61.6 M HAAT, 71 M COR
Prot.= 60 dBu, Intef.= 40 dBu



W288BI

Latitude: 28-36-20 N
Longitude: 081-25-05 W
ERP: 0.0011 kW
Channel: 288
Frequency: 105.5 MHz
AMSL Height: 160.0 m
Elevation: 29.0 m

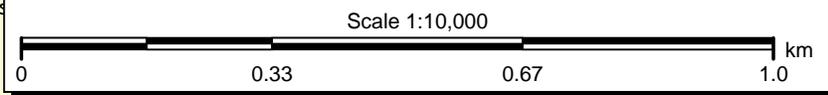
E1B 2ND ADJACENT CHANNEL INTERFERENCE

WOMX-FM 83.1 DBU

WOCL 83.43 DBU

W288BI

W288BI WORST CASE INTERFERENCE CONTOUR TO WOMX-FM = 123.1 DBU OR 77.6 METERS. AT DEPRESSION ANGLE 59.2 DEGREES (F = 0.067) = 5.1 METERS AND 125.6 METERS ABOVE GROUND. CLEARLY NO INTERFERENCE WILL OCCUR TO TO OCCUPIED BUILDINGS OR MAJOR HIGHWAYS.



E1C
AERIAL VIEW OF PROPOSED SITE AND
INTERFERENCE CONTOURS



TABULATED DATA FOR ELEVATION PATTERN

Type: 1002H

Polarization: Circular

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.984	-0.14	-6.75	0.971	-0.25	-27.00	0.621	-4.14	-50.50	0.165	-15.63	-74.00	0.009	-40.92
4.75	0.986	-0.13	-7.00	0.969	-0.27	-27.50	0.609	-4.30	-51.00	0.159	-15.98	-74.50	0.008	-41.76
4.50	0.987	-0.11	-7.25	0.967	-0.29	-28.00	0.598	-4.46	-51.50	0.152	-16.34	-75.00	0.007	-42.63
4.25	0.989	-0.10	-7.50	0.965	-0.31	-28.50	0.587	-4.63	-52.00	0.146	-16.70	-75.50	0.007	-43.52
4.00	0.990	-0.09	-7.75	0.962	-0.33	-29.00	0.576	-4.80	-52.50	0.140	-17.07	-76.00	0.006	-44.43
3.75	0.991	-0.08	-8.00	0.960	-0.36	-29.50	0.564	-4.97	-53.00	0.134	-17.44	-76.50	0.005	-45.37
3.50	0.992	-0.07	-8.25	0.957	-0.38	-30.00	0.553	-5.15	-53.50	0.129	-17.82	-77.00	0.005	-46.33
3.25	0.993	-0.06	-8.50	0.955	-0.40	-30.50	0.542	-5.33	-54.00	0.123	-18.21	-77.50	0.004	-47.32
3.00	0.994	-0.05	-8.75	0.952	-0.43	-31.00	0.530	-5.51	-54.50	0.117	-18.60	-78.00	0.004	-48.33
2.75	0.995	-0.04	-9.00	0.949	-0.45	-31.50	0.519	-5.69	-55.00	0.112	-19.00	-78.50	0.003	-49.38
2.50	0.996	-0.03	-9.25	0.947	-0.48	-32.00	0.508	-5.88	-55.50	0.107	-19.40	-79.00	0.003	-50.45
2.25	0.997	-0.03	-9.50	0.944	-0.50	-32.50	0.497	-6.07	-56.00	0.102	-19.81	-79.50	0.003	-51.56
2.00	0.997	-0.02	-9.75	0.941	-0.53	-33.00	0.486	-6.27	-56.50	0.097	-20.23	-80.00	0.002	-52.70
1.75	0.998	-0.02	-10.00	0.938	-0.56	-33.50	0.475	-6.47	-57.00	0.093	-20.66	-80.50	0.002	-53.87
1.50	0.999	-0.01	-10.50	0.932	-0.61	-34.00	0.464	-6.67	-57.50	0.088	-21.09	-81.00	0.002	-55.08
1.25	0.999	-0.01	-11.00	0.925	-0.67	-34.50	0.453	-6.88	-58.00	0.084	-21.53	-81.50	0.002	-56.32
1.00	0.999	-0.01	-11.50	0.919	-0.74	-35.00	0.442	-7.09	-58.50	0.080	-21.98	-82.00	0.001	-57.60
0.75	1.000	0.00	-12.00	0.912	-0.80	-35.50	0.431	-7.30	-59.00	0.076	-22.43	-82.50	0.001	-58.91
0.50	1.000	0.00	-12.50	0.905	-0.87	-36.00	0.421	-7.52	-59.50	0.072	-22.89	-83.00	0.001	-60.26
0.25	1.000	0.00	-13.00	0.897	-0.94	-36.50	0.410	-7.74	-60.00	0.068	-23.36	-83.50	0.001	-61.65
0.00	1.000	0.00	-13.50	0.889	-1.02	-37.00	0.400	-7.97	-60.50	0.064	-23.84	-84.00	0.001	-63.08
-0.25	1.000	0.00	-14.00	0.882	-1.09	-37.50	0.389	-8.20	-61.00	0.061	-24.33	-84.50	0.001	-64.53
-0.50	1.000	0.00	-14.50	0.874	-1.17	-38.00	0.379	-8.43	-61.50	0.057	-24.82	-85.00	0.001	-66.02
-0.75	1.000	0.00	-15.00	0.865	-1.26	-38.50	0.369	-8.67	-62.00	0.054	-25.33	-85.50	0.000	-67.53
-1.00	0.999	-0.01	-15.50	0.857	-1.34	-39.00	0.359	-8.91	-62.50	0.051	-25.84	-86.00	0.000	-69.05
-1.25	0.999	-0.01	-16.00	0.848	-1.43	-39.50	0.349	-9.15	-63.00	0.048	-26.36	-86.50	0.000	-70.57
-1.50	0.999	-0.01	-16.50	0.839	-1.52	-40.00	0.339	-9.40	-63.50	0.045	-26.89	-87.00	0.000	-72.09
-1.75	0.998	-0.02	-17.00	0.830	-1.62	-40.50	0.329	-9.65	-64.00	0.042	-27.44	-87.50	0.000	-73.58
-2.00	0.997	-0.02	-17.50	0.821	-1.72	-41.00	0.320	-9.91	-64.50	0.040	-27.99	-88.00	0.000	-75.03
-2.25	0.997	-0.03	-18.00	0.811	-1.82	-41.50	0.310	-10.17	-65.00	0.037	-28.55	-88.50	0.000	-76.41
-2.50	0.996	-0.03	-18.50	0.802	-1.92	-42.00	0.301	-10.43	-65.50	0.035	-29.12	-89.00	0.000	-77.71
-2.75	0.995	-0.04	-19.00	0.792	-2.03	-42.50	0.292	-10.70	-66.00	0.033	-29.71	-89.50	0.000	-78.92
-3.00	0.994	-0.05	-19.50	0.782	-2.14	-43.00	0.283	-10.97	-66.50	0.031	-30.30	-90.00	0.000	-80.02
-3.25	0.993	-0.06	-20.00	0.772	-2.25	-43.50	0.274	-11.25	-67.00	0.028	-30.91			
-3.50	0.992	-0.07	-20.50	0.762	-2.36	-44.00	0.265	-11.53	-67.50	0.027	-31.53			
-3.75	0.991	-0.08	-21.00	0.751	-2.48	-44.50	0.256	-11.82	-68.00	0.025	-32.16			
-4.00	0.990	-0.09	-21.50	0.741	-2.60	-45.00	0.248	-12.11	-68.50	0.023	-32.81			
-4.25	0.989	-0.10	-22.00	0.730	-2.73	-45.50	0.240	-12.41	-69.00	0.021	-33.47			
-4.50	0.987	-0.11	-22.50	0.720	-2.86	-46.00	0.232	-12.71	-69.50	0.020	-34.14			
-4.75	0.986	-0.13	-23.00	0.709	-2.99	-46.50	0.224	-13.01	-70.00	0.018	-34.83			
-5.00	0.984	-0.14	-23.50	0.698	-3.12	-47.00	0.216	-13.32	-70.50	0.017	-35.53			
-5.25	0.983	-0.15	-24.00	0.687	-3.26	-47.50	0.208	-13.64	-71.00	0.015	-36.25			
-5.50	0.981	-0.17	-24.50	0.676	-3.40	-48.00	0.201	-13.96	-71.50	0.014	-36.98			
-5.75	0.979	-0.18	-25.00	0.665	-3.54	-48.50	0.193	-14.28	-72.00	0.013	-37.73			
-6.00	0.977	-0.20	-25.50	0.654	-3.69	-49.00	0.186	-14.61	-72.50	0.012	-38.50			
-6.25	0.975	-0.22	-26.00	0.643	-3.84	-49.50	0.179	-14.95	-73.00	0.011	-39.29			
-6.50	0.973	-0.23	-26.50	0.632	-3.99	-50.00	0.172	-15.29	-73.50	0.010	-40.09			

Preliminary, subject to final design and review.

W288BI.A
BPFT20121212AAG
Latitude: 28-36-20 N
Longitude: 081-25-05 W
ERP: 0.25 kW
Channel: 288
Frequency: 105.5 MHz
AMSL Height: 160.0 m
Elevation: 29.0 m

E2 60 DBU - AM 2 MV/M

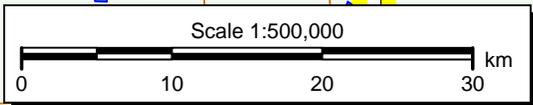
WTLN 40 KM RADIUS

WTLN 2 MV

60 DBU

W288BI.A

WTLN Orlando



E3 Registration 1244200

 [Map Registration](#)

Registration Detail			
Reg Number	1244200	Status	Constructed
File Number	A0679067	Constructed	07/20/2004
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates)			
Lat/Long	28-36-21.2 N 081-25-04.3 W	Address	5109 Carder Rd.
City, State	Orlando , FL		
Zip	32810	County	ORANGE
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)		
28.9	152.4		
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances		
181.3	146.3		
Painting and Lighting Specifications			
FAA Chapters 3, 4, 5, 12 Paint and Light in Accordance with FAA Circular Number 70/7460-1K			
FAA Notification			
FAA Study	2010-ASO-218-OE	FAA Issue Date	03/09/2010
Owner & Contact Information			
FRN	0006156111	Owner Entity Type	
Owner			
Pinnacle Towers LLC Attention To: Regulatory Department 2000 Corporate Drive Canonsburg , PA 15317		P: (724)416-2000 F: E: Regulatory.Department@Crowncastle.com	
Contact			
Verre , Christine A 2000 Corporate Drive Canonsburg , PA 15317		P: (336)643-2524 F: E: Christine.Verre@Crowncastle.com	
Last Action Status			
Status	Constructed	Received	03/15/2010
Purpose	Notification	Entered	03/15/2010
Mode	Interactive		

Output from NADCON for station

North American Datum Conversion

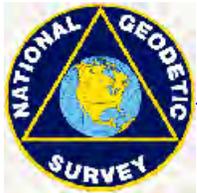
NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	28 36 20.20058	81 25 5.04698
NAD 83 datum values:	28 36 21.20000	81 25 4.30000
NAD 27 - NAD 83 shift values:	-0.99942	0.74698 (secs.)
	-30.768	20.294 (meters)
Magnitude of total shift:		36.858 (meters)



[NGS HOME PAGE](#)