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AUG 2 2 2007

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
STARTUP TEST REPORT FOR CYCLE 12

Pursuant to Section 6.9.1.1 of the Millstone Unit 3 Technical Specifications, Dominion Nuclear Connecticut, Inc. hereby submits the enclosed Startup Test Report for Cycle 12.

Should you have any questions about the information provided or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Sincerely,

J. A. Price
Site Vice President - Millstone

Enclosure: (1)

Commitments made in this letter: None.

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ENCLOSURE

STARTUP TEST REPORT FOR CYCLE 12

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

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1.0 SUMMARY

Low Power Physics Testing and Power Ascension Testing for Millstone Unit 3 Cycle 12 identified no unusual core response or reactivity anomalies. All measured core parameters were determined to be within their acceptance criteria. All Technical Specification surveillance requirements were met.

2.0 INTRODUCTION

The Millstone Unit 3 Cycle 12 fuel reload was completed on May 5, 2007. The attached core map (Figure 1) shows the final core configuration. Reference [6.3] documents that Cycle 12 uses a low leakage loading pattern (L3P) consisting of 76 new Region 14 fuel assemblies, 72 Region 13 once-burned fuel assemblies, and 45 Region 12 twice-burned fuel assemblies. The 76 feed fuel assemblies, 72 once-burned fuel assemblies and 40 out of 45 twice-burned assemblies are the Westinghouse 17x17 Robust Fuel Assembly (RFA) design. Five of the twice-burned fuel assemblies are Westinghouse 17x17 Next Generation Fuel (NGF) Lead Test Assemblies (LTAs).

The 76 Region 14 assemblies are comprised of 36 assemblies enriched to 4.70 weight percent Uranium-235 (w/o U^{235}) and 40 assemblies enriched to 4.95 w/o U^{235}. The top and bottom regions of all fuel assemblies in the Cycle 12 core are comprised of a 6-inch annular blanket region enriched to 2.6 w/o U^{235}. The fuel assembly locations for the fresh fuel were randomly assigned to prevent power tilts across the core due to systematic deviations in the fresh fuel composition.

Every fuel assembly in Cycle 12 contains an insert from the following list of items:
61 RCCAs, and 132 thimble plugs.

Subsequent operational and testing milestones were completed as follows:

Initial Criticality	May 17, 2007
Low Power Physics Testing completed	May 17, 2007
Main Turbine Online	May 19, 2007
30% Power Testing completed	May 20, 2007
75% Power Testing completed	May 21, 2007
100% Power Testing completed	May 23, 2007
Startup Test Program completed	June 4, 2007

3.0 FUEL DESIGN

The Robust Fuel Assembly (RFA) design comprises 188 out of the 193 assemblies in the Cycle 12 core. This fuel design differs from the previous fuel design in that it incorporates the Westinghouse protective bottom grid (P-Grid), thicker walled control rod guide tubes and instrument tube, and modifications to the mixing vane grids and Intermediate Flow Mixer (IFM) grids. The P-Grid improves the fuel assembly's resistance to debris and thus debris related failures. The thicker walled guide and instrument tubes make the fuel assembly more resistant to bowing and twisting, thereby further reducing the possibility of an incomplete rod insertion event. The modifications to the mixing vanes grids and IFMs improve the fuel assembly thermal performance and increase the margin to fuel-related design limits.

The final 5 assemblies in the Cycle 12 core are Next Generation Fuel (NGF) Lead Test Assemblies (LTAs). These LTAs, designated Region 12C, have several mechanical differences from the RFA assemblies. The LTAs have an Integral Top Nozzle, enhanced structural and IFM grids, two additional IFM grids per assembly, and utilize a tube-in-tube design for the guide tubes. The LTAs also have reduced pressure drop Debris Filter Bottom Nozzles (DFBNs), optimized ZIRLO™ cladding, and have had the plenum spring used on an RFA replaced by a spring clip. The central fuel assembly in Cycle 12 location H-08 is an LTA with an approved fuel rod average burnup limit of 71,000 MWD/MTU.

4.0 LOW POWER PHYSICS TESTING

The low power physics testing program for Cycle 12 was completed using the procedure in reference [6.1] based on the Westinghouse Dynamic Rod Worth Measurement (DRWM) Technique described in reference [6.4]. This program consisted of the following: Control and Shutdown Bank Worth measurements, Critical Boron Endpoint measurements for All Rods Out (ARO), and ARO Moderator/Isothermal Temperature Coefficient measurements. Low power physics testing was performed at a power level below the point of nuclear heat to avoid nuclear heating reactivity feedback effects.

4.1 Critical Boron Concentration

The critical boron concentration was measured for the ARO configuration. The measured values include corrections to account for differences between the measured critical rod configuration and the ARO configuration. The review and acceptance criteria of ±500 and ±1000 percent milliRho (pcm) respectively were met for the ARO configuration.

Summary of Boron Endpoint Results

	Measured (ppm)	Predicted (ppm)	M-P (ppm)	Acceptance Criteria (pcm)
All Rods Out (ARO)	2171	2177	-6 (-40 pcm)	± 1000

4.2 Moderator Temperature Coefficient

Isothermal Temperature Coefficient (ITC) data was measured at the ARO configuration. Controlled heat-ups and cool-downs were performed and the reactivity change was measured. These measurements were corrected for ARO conditions and the averages of the corrected results are presented below. They were then compared to the design predictions and review criteria. The review criteria of ±2 pcm/°F to the predictions were met.

The ARO Moderator Temperature Coefficient (MTC) of -0.17 pcm/°F was calculated by subtracting the design Doppler Temperature Coefficient (-1.77 pcm/°F) from the measured ARO Isothermal Temperature Coefficient of -1.94 pcm/°F. The Technical Specification Limit of MTC < +5.0 pcm/°F at ARO Hot Zero Power (HZP) was met.

Isothermal/Moderator Temperature Coefficient Results

	Measured (pcm/°F)	Corrected Predicted (pcm/°F)	M-P (pcm/°F)	Acceptance Criteria (pcm/°F)
ARO ITC	-1.94	-2.04	+0.10	NA
ARO MTC	-0.17	NA	NA	MTC < +5.0

4.3 Control Rod Reactivity Worth Measurements

The integral reactivity worths of all RCCA Control and Shutdown Banks were measured using the Dynamic Rod Worth Measurement Technique (DRWM). The review criteria is that the measured worth is ±15% or 100 pcm of the individual predicted worth, whichever is greater and sum of the measured worths is ±8% of the predicted worths. The DRWM rod worth acceptance criteria is defined as: the sum of the measured worths (M) of all banks shall be greater than or equal to 90% of the sum of their predicted worths (P).

Control Bank Integral Worth Results

	Measured (pcm)	Predicted (pcm)	M-P (pcm)	% Difference (M-P) / P
Control Bank A	717.7	731.9	-14.2	-1.9
Control Bank B	722.9	691.6	31.3	4.5
Control Bank C	762.4	744.3	18.1	2.4
Control Bank D	443.4	449.8	-6.4	-1.4
Shutdown Bank A	407.3	400.0	7.3	1.8
Shutdown Bank B	1170.1	1133.5	36.6	3.2
Shutdown Bank C	400.5	397.6	2.9	0.7
Shutdown Bank D	404.4	396.1	8.3	2.1
Shutdown Bank E	67.8	63.3	4.5	7.1
Totals	5096.5	5008.1	88.4	1.8

The measured results of the individual bank worths and the total control bank worth showed excellent agreement with the predicted values. All individual and total worth review criteria were met. The acceptance criteria for sum of the measured rod worths (greater than or equal to 90% of the sum of the predicted worths) was met.

5.0 POWER ASCENSION TESTING

5.1 Power Distribution, Power Peaking and Tilt Measurements

The core power distribution was measured through the performance of a series of flux maps during the power ascension as specified in reference [6.2]. The results from the flux maps were used to verify compliance with the power distribution Technical Specifications.

A low power flux map, at approximately 30% rated thermal power (RTP), was performed to determine if any gross neutron flux abnormalities existed. At the 30% power plateau flux map, data necessary to perform an INCORE to EXCORE calibration via the single point methodology was obtained. Per Technical Specification Surveillance 4.3.1.1, Table 4.3-1 Functional Unit 2 Note 6, a flux map at approximately 100% power was performed for INCORE to EXCORE calibration. The 100% power map also verified core power distributions were within the design limits.

A summary of the Measured Axial Flux Difference (AFD) and INCORE Tilt for the flux maps performed during the power ascension is provided below. Additional tables provide comparisons of the most limiting measured Heat Flux Hot Channel Factor ($\mathbf{F_Q}$) and Nuclear Enthalpy Rise Hot Channel Factor ($\mathbf{F}_{\Delta}h$), including uncertainties, to their respective limits from each of the flux maps performed during the power ascension. The most limiting $\mathbf{F_Q}$ reported is based on minimum margin to the steady state limit that varies as a function of core height.

As can be seen from the data presented, all Technical Specification limits were met and no abnormalities in core power distribution were observed during power ascension.

Summary of Measured Axial Flux Difference and INCORE Tilt

Power (%RTP)	Burnup (MWD/MTU)	Rod Position (steps)	AFD (%)	INCORE Tilt
30.0	7.1	216	5.362	1.0049
74.0	26.4	216	4.126	1.0025
99.8	116.1	216	0.756	1.0012

Comparison of Measured F_Q to F_Q^{RTP} Limit

Power (%RTP)	Burnup (MWD/MTU)	Measured F_Q	F_Q^{RTP} steady state limit	Margin to Transient Limit
30.0	7.1	N/A	N/A	N/A
74.0	26.4	1.907	3.396	33.9 %
99.8	116.1	1.820	2.518	14.8 %

Comparison of Measured $F_{\Delta}h$ to $F_{\Delta}h$ Limit for each Fuel Type

Power (%RTP)	Burnup (MWD/MTU)	Type 1 (NGF)	Type 1 Limit	Type 2 (RFA)	Type 2 Limit
30.0	7.1	0.849	1.827	1.525	1.912
74.0	26.4	0.898	1.628	1.468	1.703
99.8	116.1	0.927	1.511	1.454	1.581

Presented in Figures 2, 3 and 4 are measured Power Distribution Maps showing percent difference from the predicted power for the 30%, 75% and 100% power plateaus. From these data it can be seen that there is good agreement between the measured and predicted assembly powers.

5.2 Boron Measurements

Hot full power all rods out boron concentration measurements were performed after reaching equilibrium conditions. The measured All Rods Out, Hot Full Power, equilibrium xenon, boron concentration was 1506 ppm with a predicted value of 1502 ppm. The predicted to measured difference was +24 pcm which met the acceptance criteria of ± 1000 pcm.

5.3 Reactor Coolant System Flow Measurement

The Reactor Coolant Flow rate was determined using a secondary calorimetric heat balance for each loop using the steam generators as the control volumes. The following parameters were measured:

- Reactor Coolant System Pressure
- Hot Leg Temperatures
- Cold Leg Temperatures
- Feedwater Temperatures
- Feedwater Flow Rates
- Feedwater Pressure
- Steam Generator Pressure

Steam generator blowdown was not isolated during the data acquisition period.

Per Technical Specification Surveillance 4.2.3.1.2, the Reactor Coolant System Flow was measured prior to operation above 75% rated thermal power. The measured flow at approximately 74% rated thermal power was 402,334 gallons per minute

(gpm) with a minimum required flow of 372,292 gpm. The reactor coolant system flow measurement was re-performed after reaching 100% rated thermal power. The measured flow at 100% power was 400,661 gpm with a minimum required flow of 372,292 gpm. All Technical Specification limits were met.

6.0 REFERENCES

6.1 SP 31008, Rev. 003-01, "Low Power Physics Testing (IPTE)"

6.2 EN 31015, Rev. 002-01, "Power Ascension Testing of Millstone Unit 3"

6.3 Nuclear Design and Core Physics Characteristics of the Millstone Generating Station Unit 3, Cycle 12

6.4 WCAP-13360-P-A, Revision 1, "Westinghouse Dynamic Rod Worth Measurement Technique"

6.5 NEU-07-133, Letter from W. F. Staley (Westinghouse) to Robert Borchert, "Dominion Nuclear Connecticut Millstone Unit 3 Low Power Physics Tests (LPPT)," dated June 28, 2007.

7.0 FIGURES

FIGURE 1
CORE LOADING PATTERN
MILLSTONE UNIT 3 - CYCLE 12

90°

	R	P	N	M	L	K	J	H	G	F	E	D	C	B	A
1					12B M19	12B M33	12C M72	12B M43	12B M46	12B M47	12B M63				
2			12B M34	12B M23	14B P42	14B P50	14B P59	14B P64	14B P66	14B P52	14B P44	12B M24	12B M53		
3		12B M59	14B P37	14B P72	14A P15	13B N70	13B N42	13B N67	13B N43	13B N69	14A P20	14B P73	14B P38	12B M37	
4		12B M25	14B P58	13A N22	13B N47	13B N57	13A N18	14A P22	13A N25	13B N49	13B N56	13A N29	14B P76	12B M28	
5	12B M56	14B P45	14A P31	13B N65	14A P32	13A N03	14A P06	13A N16	14A P08	13A N08	14A P14	13B N51	14A P35	14B P46	12B M22
6	12B M39	14B P53	13B N62	13B N50	13A N01	14A P16	13A N35	14A P26	13A N32	14A P27	13A N07	13B N63	13B N54	14B P54	12B M41
7	12B M32	14B P60	13B N39	13A N11	14A P09	13A N33	14A P01	13A N27	14A P02	13A N15	14A P10	13A N24	13B N41	14B P69	12C M69
8	12B M29	14B P70	13B N72	14A P23	13A N30	14A P24	13A N13	12C M71	13A N37	14A P19	13A N14	14A P21	13B N61	14B P67	12B M30
9	12C M65	14B P68	13B N45	13A N10	14A P11	13A N23	14A P03	13A N36	14A P04	13A N26	14A P05	13A N19	13B N40	14B P63	12B M35
10	12B M40	14B P55	13B N55	13B N58	13A N06	14A P13	13A N31	14A P30	13A N21	14A P18	13A N05	13B N46	13B N73	14B P49	12B M42
11	12B M20	14B P47	14A P17	13B N52	14A P34	13A N04	14A P12	13A N17	14A P07	13A N02	14A P33	13B N66	14A P29	14B P41	12B M55
12		12B M17	14B P65	13A N20	13B N71	13B N53	13A N28	14A P36	13A N12	13B N60	13B N48	13A N34	14B P57	12B M21	
13		12B M48	14B P39	14B P71	14A P28	13B N59	13B N44	13B N64	13B N38	13B N68	14A P25	14B P62	14B P40	12B M52	
14			12B M62	12B M26	14B P48	14B P56	14B P61	14B P75	14B P74	14B P51	14B P43	12B M18	12B M44		
15					12B M58	12B M36	12B M31	12B M45	12C M68	12B M38	12B M27				

0°

LEGEND

R ID	Region Identifier Fuel Assembly Identifier

REGION	ASSEMBLIES	ENRICHMENT
12B	40	4.95
12C	5	4.95
13A	36	4.00
13B	36	4.95
14A	36	4.70
14B	40	4.95

FIGURE 2
INCORE Power Distribution - 30%
MILLSTONE UNIT 3 - CYCLE 12

	R	P	N	M	L	K	J	H	G	F	E	D	C	B	A
1					0.284 0.4	0.380 1.9	0.386 1.6	0.380 2.2	0.382 1.1	0.372 1.1	0.276 1.1				
2			0.265 -2.2	0.475 -2.3	1.062 0.4	1.252 1.5	1.223 1.7	1.202 2.1	1.220 2.0	1.258 2.4	1.070 0.8	0.492 -2.0	0.268 -1.5		
3		0.265 -2.6	0.940 -2.5	1.138 -2.7	1.312 0.3	1.322 0.4	1.333 0.8	1.292 1.0	1.337 1.7	1.369 3.6	1.322 0.8	1.151 -2.0	0.952 -1.2	0.269 -0.7	
4		0.489 -2.6	1.143 -2.7	1.050 -3.0	1.214 -2.6	1.206 -2.6	1.123 0.8	1.318 0.2	1.125 1.0	1.250 0.6	1.247 0.2	1.070 -1.1	1.160 -0.9	0.485 -0.2	
5	0.270 -1.1	1.052 -0.8	1.300 -0.9	1.232 -1.0	1.252 -2.9	1.038 -3.0	1.258 -2.6	1.057 -1.8	1.269 -1.7	1.057 -1.0	1.276 -1.1	1.240 -0.5	1.316 0.6	1.066 0.8	0.287 1.4
6	0.367 -0.3	1.243 1.1	1.358 2.8	1.256 1.1	1.056 -1.1	1.203 -2.8	1.017 -3.0	1.188 -2.3	1.041 -0.7	1.240 0.2	1.077 0.7	1.252 1.1	1.342 1.9	1.255 1.8	0.378 1.3
7	0.384 1.6	1.221 2.1	1.351 2.7	1.141 2.4	1.296 0.4	1.039 -0.9	1.234 -2.0	0.947 -1.7	1.244 -1.2	1.048 0.0	1.289 -0.2	1.142 2.5	1.354 2.4	1.236 2.8	0.387 1.8
8	0.382 2.7	1.207 2.5	1.310 2.4	1.346 2.3	1.099 2.1	1.217 0.1	0.957 -0.6	0.778 -1.4	0.951 -1.2	1.197 -1.6	1.067 -0.8	1.332 1.2	1.312 2.6	1.215 3.2	0.382 2.7
9	0.390 2.6	1.231 2.4	1.350 2.1	1.136 2.0	1.312 1.6	1.062 1.3	1.272 1.0	0.959 -0.4	1.221 -3.0	1.018 -2.9	1.273 -1.4	1.117 0.3	1.336 1.6	1.231 2.9	0.388 2.6
10	0.376 0.8	1.243 0.8	1.340 1.7	1.239 0.1	1.071 0.1	1.243 0.4	1.059 1.0	1.212 -0.3	1.035 -1.2	1.200 -3.1	1.047 -2.0	1.221 -1.7	1.326 0.4	1.239 0.8	0.371 0.8
11	0.283 0.0	1.058 0.0	1.281 -2.1	1.245 -0.1	1.296 0.5	1.076 0.7	1.308 1.3	1.090 1.3	1.309 1.4	1.063 -0.7	1.274 -1.2	1.233 -1.0	1.314 0.2	1.044 -1.6	0.269 -1.5
12		0.480 -1.2	1.142 -2.4	1.061 -1.9	1.240 -0.4	1.240 -0.2	1.130 1.4	1.335 1.4	1.131 1.5	1.232 -0.5	1.225 -1.7	1.065 -1.6	1.151 -2.0	0.487 -3.0	
13		0.265 -2.2	0.942 -2.3	1.153 -1.9	1.314 0.2	1.324 0.2	1.330 1.1	1.295 1.3	1.336 1.1	1.327 0.8	1.297 -0.8	1.160 -0.9	0.945 -2.0	0.260 -4.4	
14			0.266 -2.2	0.491 -2.2	1.040 -2.0	1.213 -1.3	1.206 0.8	1.187 0.8	1.210 0.7	1.225 -0.6	1.046 -1.1	0.478 -1.6	0.263 -3.0		
15					0.266 -2.6	0.363 -1.4	0.380 0.5	0.375 0.8	0.381 0.3	0.371 -0.5	0.279 -1.4				

Measured Power
% Difference (M-P)/P

Measured Location

FIGURE 3
INCORE Power Distribution - 74%
MILLSTONE UNIT 3 - CYCLE 12

	R	P	N	M	L	K	J	H	G	F	E	D	C	B	A
1					0.287 0.0	0.384 1.9	0.390 1.3	0.384 1.6	0.384 0.3	0.373 0.3	0.279 0.4				
2			0.272 -1.4	0.483 -1.4	1.040 0.1	1.219 1.5	1.189 1.1	1.170 1.5	1.184 1.1	1.217 1.6	1.043 0.1	0.490 -3.2	0.273 -1.8		
3		0.272 -2.2	0.935 -2.0	1.122 -2.4	1.281 0.1	1.293 0.1	1.302 0.0	1.264 0.0	1.306 0.8	1.332 2.8	1.282 -0.2	1.120 -3.0	0.939 -1.6	0.276 0.0	
4		0.495 -2.2	1.129 -2.3	1.039 -2.8	1.208 -2.3	1.210 -2.3	1.123 -0.2	1.313 -0.5	1.128 0.3	1.244 0.2	1.230 -0.5	1.055 -1.3	1.140 -0.9	0.491 0.2	
5	0.276 -0.7	1.034 -0.8	1.272 -0.9	1.219 -1.4	1.259 -2.4	1.065 -2.5	1.286 -2.0	1.087 -1.5	1.292 -1.5	1.076 -1.3	1.274 -1.2	1.232 -0.4	1.287 0.5	1.045 0.6	0.289 0.7
6	0.371 -0.3	1.205 0.6	1.325 2.2	1.252 0.9	1.082 -0.7	1.236 -2.1	1.062 -2.1	1.228 -1.8	1.083 -0.2	1.268 0.4	1.103 1.0	1.248 0.8	1.311 1.5	1.217 1.3	0.380 0.8
7	0.390 1.8	1.191 1.7	1.324 2.2	1.148 2.0	1.323 0.8	1.081 -0.4	1.283 -1.2	0.998 -1.0	1.297 -0.2	1.095 0.9	1.319 0.5	1.145 1.8	1.322 1.5	1.197 1.8	0.388 0.8
8	0.388 2.6	1.181 2.4	1.290 2.1	1.348 2.2	1.129 2.3	1.257 0.6	1.008 0.0	0.825 -0.6	1.005 -0.3	1.242 -0.6	1.101 -0.3	1.330 0.8	1.285 1.7	1.183 2.6	0.387 2.4
9	0.395 2.6	1.202 2.2	1.322 1.5	1.145 1.8	1.336 1.8	1.103 1.7	1.322 1.8	1.012 0.4	1.274 -1.9	1.063 -2.0	1.299 -1.0	1.127 0.2	1.309 1.0	1.200 2.5	0.393 2.6
10	0.378 0.3	1.205 0.3	1.309 1.3	1.236 -0.2	1.091 -0.1	1.271 0.6	1.106 1.9	1.260 0.8	1.084 -0.1	1.232 -2.5	1.071 -1.7	1.223 -1.5	1.302 0.5	1.209 0.9	0.376 1.1
11	0.285 -0.7	1.032 -0.7	1.249 -2.4	1.233 -0.3	1.291 0.1	1.096 0.6	1.335 1.8	1.125 1.9	1.337 1.9	1.082 -0.9	1.279 -0.9	1.228 -0.6	1.293 0.7	1.021 -2.0	0.272 -2.2
12		0.484 -1.2	1.131 -1.7	1.050 -1.8	1.225 -0.9	1.233 -0.6	1.139 1.2	1.339 1.5	1.142 1.5	1.229 -0.7	1.221 -1.3	1.058 -1.0	1.146 -0.8	0.494 -2.4	
13		0.268 -2.9	0.925 -3.0	1.126 -2.5	1.282 -0.2	1.296 0.0	1.305 0.7	1.275 0.9	1.311 0.7	1.300 0.6	1.281 0.1	1.153 0.3	0.948 -0.6	0.271 -2.5	
14			0.269 -3.2	0.493 -2.6	1.024 -1.7	1.185 -1.1	1.180 0.8	1.163 0.9	1.183 0.6	1.195 -0.5	1.036 -0.3	0.488 -0.4	0.272 -1.4		
15					0.271 -2.5	0.368 -1.1	0.386 0.8	0.381 0.8	0.387 0.5	0.376 -0.3	0.286 -0.3				

Measured Power
% Difference (M-P)/P

Measured Location

FIGURE 4
INCORE Power Distribution - 100%
MILLSTONE UNIT 3 - CYCLE 12

	R	P	N	M	L	K	J	H	G	F	E	D	C	B	A
1					0.289 -0.7	0.385 1.0	0.391 0.8	0.385 1.0	0.385 -0.3	0.377 0.3	0.282 0.4				
2			0.277 -1.4	0.488 -1.2	1.031 -0.5	1.203 1.0	1.173 0.5	1.154 0.7	1.167 0.4	1.199 0.9	1.033 -0.5	0.492 -3.3	0.278 -1.4		
3		0.277 -1.8	0.937 -1.9	1.118 -2.4	1.265 -0.5	1.274 -0.5	1.283 -0.5	1.247 -0.6	1.284 0.0	1.303 1.6	1.263 -0.9	1.112 -3.4	0.941 -1.5	0.282 0.4	
4		0.499 -2.0	1.124 -2.3	1.037 -2.9	1.204 -2.2	1.207 -2.2	1.121 -0.4	1.312 -0.5	1.126 0.0	1.239 0.2	1.219 -0.9	1.049 -1.8	1.131 -1.3	0.493 -0.2	
5	0.279 -0.7	1.028 -1.0	1.261 -1.1	1.211 -1.5	1.263 -2.1	1.075 -2.1	1.300 -1.4	1.103 -0.9	1.307 -0.8	1.089 -0.6	1.279 -0.9	1.219 -1.0	1.260 -0.9	1.027 -0.9	0.289 -0.7
6	0.373 -0.8	1.192 0.3	1.308 1.9	1.246 0.7	1.090 -0.5	1.252 -1.6	1.084 -1.2	1.255 -0.7	1.107 0.9	1.286 1.0	1.115 1.5	1.238 0.3	1.285 0.4	1.195 0.3	0.379 -0.5
7	0.392 1.6	1.179 1.5	1.310 2.0	1.150 2.1	1.334 1.2	1.103 0.5	1.312 -0.2	1.028 0.3	1.327 1.0	1.118 1.9	1.338 1.5	1.146 1.8	1.308 1.4	1.184 1.5	0.386 -0.5
8	0.389 2.1	1.166 1.7	1.273 1.5	1.349 2.4	1.143 2.7	1.283 1.5	1.036 1.1	0.851 0.4	1.032 0.7	1.265 0.1	1.119 0.5	1.330 0.9	1.277 1.8	1.179 2.9	0.395 3.7
9	0.395 1.8	1.186 1.6	1.301 0.9	1.152 2.3	1.353 2.7	1.127 2.7	1.352 2.9	1.039 1.4	1.302 -0.9	1.084 -1.2	1.315 -0.2	1.130 0.4	1.301 1.3	1.196 2.9	0.401 3.9
10	0.379 -0.5	1.185 -0.5	1.280 0.0	1.238 0.3	1.103 0.5	1.288 1.2	1.124 2.5	1.279 1.2	1.100 0.3	1.248 -2.0	1.083 -1.2	1.225 -1.0	1.296 1.0	1.201 1.1	0.380 1.1
11	0.288 -1.0	1.026 -1.0	1.242 -2.3	1.233 0.2	1.295 0.4	1.107 1.0	1.345 2.0	1.139 2.3	1.346 2.1	1.094 -0.4	1.284 -0.5	1.227 -0.2	1.287 0.9	1.022 -1.5	0.277 -1.4
12		0.485 -1.8	1.116 -2.6	1.042 -2.4	1.216 -1.1	1.225 -1.0	1.137 1.0	1.336 1.4	1.141 1.3	1.232 -0.2	1.221 -0.8	1.061 -0.7	1.144 -0.6	0.499 -2.0	
13		0.271 -3.6	0.922 -3.5	1.115 -3.1	1.265 -0.8	1.274 -0.7	1.284 0.0	1.258 0.3	1.294 0.3	1.286 0.5	1.269 -0.2	1.150 0.3	0.949 -0.6	0.275 -2.5	
14			0.272 -3.5	0.494 -2.9	1.011 -2.6	1.164 -2.0	1.160 -0.2	1.145 -0.1	1.164 -0.3	1.177 -1.2	1.028 -0.8	0.492 -0.4	0.277 -1.4		
15					0.273 -2.8	0.368 -2.1	0.386 0.0	0.381 0.0	0.388 0.0	0.376 -1.3	0.288 -1.0				

Measured Power
% Difference (M-P)/P

Measured Location