

**Southern Nuclear  
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August 27, 2007

Docket No.: 50-425

NL-07-1628

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant – Unit 2  
NRC Request Regarding the Spring 2007 Refueling Outage  
Reactor Pressure Head Inspection Report

Ladies and Gentlemen:

On August 6, 2007, Southern Nuclear Operating Company (SNC) participated in a telecom with the NRC staff regarding the spring 2007 Vogtle Electric Generating Plant Unit 2 (VEGP-2) reactor pressure vessel (RPV) head inspection report, submitted by SNC on June 21, 2007. The NRC staff requested that SNC provide a table showing the amount of wear on each thermal sleeve and the method used to collect the data. The subject table is contained in Enclosure 1. Enclosure 2 contains the VEGP RPV head layout as a reference.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "B. J. George". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

B. J. George  
Manager, Nuclear Licensing

BJG/DRG/daj

- Enclosures:
1. Plant Vogtle Unit 2 Thermal Sleeve Inspection Data Table
  2. Plant Vogtle Unit 2 Reactor Pressure Vessel Head Layout

cc: Southern Nuclear Operating Company  
Mr. J. T. Gasser, Executive Vice President  
Mr. T. E. Tynan, Vice President – Vogtle  
Mr. D. H. Jones, Vice President – Engineering  
RType: CVC7000

U. S. Nuclear Regulatory Commission  
Dr. W. D. Travers, Regional Administrator  
Mr. S. P. Lingam, NRR Project Manager – Vogtle  
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

**Vogtle Electric Generating Plant – Unit 2  
NRC Request Regarding the Spring 2007 Refueling Outage  
Reactor Pressure Head Inspection Report**

**Enclosure 1**

**Thermal Sleeve Inspection Data Table**

**Vogtle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Depth of Length Wear Scar (in.)	Estimated Depth of Length Wear Scar (in.)	Max. Depth of Length Wear Scar (in.)	
1	64	Severe wear to slight wear	1	0.770	>0.119		0.102
			2		>0.119		
			3		>0.119		0.125
			4		>0.119		
			5		<0.040		0.063
			6		<0.040		
			7		<0.040		0.070
			8		<0.078		
1	52	Severe wear to slight wear	1		<0.020		
			2	0.320	<0.040		
			3		<0.040		
			4		<0.020	0.035	
			5		<0.040		
			6		<0.020		
			7		<0.020		
			8		<0.040		
1	70	Severe wear to slight wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020	0.035	
			5	0.380	<0.020		
			6		N/A		
			7		N/A		
			8		<0.020		
1	34	Severe wear to slight wear	1		<0.020		
			2		<0.040		
			3	0.130	<0.040		
			4		<0.020		
			5		<0.040		
			6		<0.040		
			7		<0.040		
			8		<0.040		
1	46	Severe wear to slight wear	1	0.280	<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020	0.037	
			5		<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		
1	71	Minimal Wear	1		<0.040		
			2	0.320	<0.040		
			3		<0.020		
			4		<0.020	0.021	
			5		<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		
1	58	Minimal Wear	1		<0.020		
			2		<0.040		
			3		<0.040		
			4		<0.020	0.060	
			5		<0.040		
			6		<0.020		
			7		<0.040		
			8	0.520	<0.078		
1	16	Minimal Wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4	0.290	<0.020		
			5		<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		

**Vogle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Depth of Length Wear Scar (in.)	Estimated Depth of Wear Scar (in.)	Max. Depth of Length Wear Scar (in.)	
1	40	Minimal Wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <u>&lt;0.020</u> <0.020 0.500 <0.020 <0.020 <0.020		<u>0.023</u>	
1	20	Minimal Wear	1 2 3 4 5 6 7 8	0.420 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020			
1	47	Minimal Wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <u>&lt;0.020</u> 0.420 <0.020 <0.020 <0.020 <0.020		<u>0.032</u>	
1	5	Minimal Wear	1 2 3 4 5 6 7 8				
1	4	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <0.020 0.300 <0.020 <0.020 <0.020 <0.020			
1	8	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 0.120 <0.020 <0.020 <0.020 <0.020 <0.020			
1	59	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 0.380 <0.040 <u>&lt;0.020</u> <0.020 <0.020 <0.020 <0.020		<u>0.028</u>	
1	35	Almost clean or no wear	1 2 3 4 5 6 7 8	0.220 <0.020 <0.020 <0.040 <0.020 <0.020 <0.020 <0.020 <0.020			
1	1	Almost clean or no wear	1 2 3 4 5 6 7 8				

**Notes:**

Final matrix of thermal sleeve thickness measurements.

This matrix contains eddy current data on 55 thermal sleeves, and UT data on 17 sleeves.

UT data was acquired at 90 points around the thermal sleeves, and only the deepest wear mark was recorded.

**Vogtle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	
2	65	Severe wear to slight wear	1 2 3 4 5 6 7 8	 0.660       			
2	17	Severe wear to slight wear	1 2 3 4 5 6 7 8	       0.280			
2	53	Minimal Wear	1 2 3 4 5 6 7 8	   <u>&lt;0.020</u>    0.380		0.050	
2	60	Minimal Wear	1 2 3 4 5 6 7 8	   <u>&lt;0.020</u>    0.340		0.025	
2	72	Minimal Wear	1 2 3 4 5 6 7 8	   <u>&lt;0.040</u> No Data No Data 0.340  		0.051	
2	21	Minimal Wear	1 2 3 4 5 6 7 8	       0.340			
2	14	Minimal Wear	1 2 3 4 5 6 7 8	0.350       			
2	36	Almost clean or no wear	1 2 3 4 5 6 7 8	0.140       			
2	48	Almost clean or no wear	1 2 3 4 5 6 7 8	   <u>0.060</u>    		0.035	

**Vogtle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	
2	41	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <del>&lt;0.020</del> <0.020 <0.020 <0.020 0.160 <0.020		<u>0.019</u>	
2	9	Almost clean or no wear	1 2 3 4 5 6 7 8	0.320 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020			
2	2	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 0.180 <0.020			
2	37	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 0.100 <0.040 <0.020 <0.020 <0.020 <0.020 <0.020			
2	61	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <del>&lt;0.020</del> <0.020 <0.020 0.180 <0.020 <0.020		<u>0.016</u>	
2	49	Almost clean or no wear	1 2 3 4 5 6 7 8	0.440 <0.020 <0.020 <0.020 <del>&lt;0.020</del> <0.020 <0.020 <0.020 <0.020		<u>0.021</u>	
2	73	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.040 0.340 <0.040 <del>&lt;0.020</del> <0.020 <0.020 <0.020 <0.020		<u>0.030</u>	
2	50	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.040 0.380 <0.040 <del>&lt;0.020</del> <0.020 <0.020 <0.020 <0.020		<u>0.044</u>	

**Notes:**

Final matrix of thermal sleeve thickness measurements.

This matrix contains eddy current data on 55 thermal sleeves, and UT data on 17 sleeves.

UT data was acquired at 90 points around the thermal sleeves, and only the deepest wear mark was recorded.

**Vogle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	
3	62	Severe wear to slight wear	1 2 3 4 5 6 7 8	 <0.040 >0.040 <0.020 <0.078 0.800 >0.119 >0.119 <0.020 <0.040			
3	30	Minimal Wear	1 2 3 4 5 6 7 8	0.340 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020 <0.020			
3	54	Minimal Wear	1 2 3 4 5 6 7 8	<0.040 <0.040 <0.020 no data no data <0.040 <0.040 <0.020			
3	42	Minimal Wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <0.020 <0.020 <0.020 0.300 <0.020 <0.020			
3	66	Minimal Wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <0.020 <0.020 no data 0.360 <0.040 <0.020			
3	15	Minimal Wear	1 2 3 4 5 6 7 8	      0.320 <0.020			
3	51	Minimal Wear	1 2 3 4 5 6 7 8	0.320 <0.020 <0.020 <0.040 <0.020 <0.020 <0.020 <0.020 <0.020			
3	67	Minimal Wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 <0.040 <0.040 <0.020 0.400 <0.040 <0.020			
3	38	Almost clean or no wear	1 2 3 4 5 6 7 8	<0.020 <0.020 <0.020 0.300 <0.020 <0.020 <0.020 <0.020 <0.020			



**Vogtle Thermal Sleeves (3/29/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.)	Estimated Depth of Wear Scar (in.)	Position	
3	18	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020		
			5		<0.020		
			6		<0.020		
			7		<0.040		
			8	0.380	<0.040		
3	6	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020		
			5		<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		
3	3	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4	0.200	<0.020		
			5		<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		
3	55	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020		
			5	0.300	<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		
3	31	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.020		
			4		<0.020		
			5		<0.020		
			6		<0.020		
			7	0.190	<0.020		
			8		<0.020		
3	43	Almost clean or no wear	1		<0.020		
			2		<0.020		
			3		<0.040		
			4		<0.020		
			5	0.460	<0.020		
			6		<0.020		
			7		<0.020		
			8		<0.020		

**Notes:**

Final matrix of thermal sleeve thickness measurements.

This matrix contains eddy current data on 55 thermal sleeves, and UT data on 17 sleeves.

UT data was acquired at 90 points around the thermal sleeves, and only the deepest wear mark was recorded.

**Vogtle Thermal Sleeves (4/01/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	
4	63	Severe wear to slight wear	1	<0.119			
			2	0.720 >0.119			
			3	<0.119			
			4	<0.040			
			5	<0.078			
			6	<0.078			
			7	<0.040			
			8	<0.040			
4	32	Minimal Wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	0.500 <0.020			
			8	<0.020			
4	56	Minimal Wear	1	0.360 <0.040			
			2	<0.020			
			3	<0.020			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			
4	39	Minimal Wear	1	<0.020			
			2	<0.020			
			3	<0.040			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			
4	19	Minimal Wear	1	0.320 <0.040			
			2	<0.040			
			3	<0.040			
			4	<0.040			
			5	<0.020			
			6	<0.040			
			7	<0.040			
			8	<0.040			
4	69	Minimal Wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	0.200 <0.020			
4	68	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	0.340 <0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			
4	44	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	0.340 <0.020			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			
4	7	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	0.260 <0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			

**Vogtle Thermal Sleeves (4/01/07)**

Quadrant	Penetration Number	Video Review	Eddy Current Results		UT Results		Physical Measurement (in.)
			Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	Position	Max. Length (in.) Estimated Depth of Wear Scar (in.)	
4	45	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	<0.020			
			5	<0.020			
			6	0.420 <0.020			
			7	<0.020			
			8	<0.020			
4	57	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	0.300 <0.020			
			5	<0.020			
			6	<0.020			
			7	<0.020			
			8	<0.020			
4	33	Almost clean or no wear	1	<0.020			
			2	<0.020			
			3	<0.020			
			4	<0.020			
			5	<0.020			
			6	<0.020			
			7	0.520 <0.020			
			8	<0.020			

**Notes:**

Final matrix of thermal sleeve thickness measurements.

This matrix contains eddy current data on 55 thermal sleeves, and UT data on 17 sleeves.

UT data was acquired at 90 points around the thermal sleeves, and only the deepest wear mark was recorded.

**Vogtle Electric Generating Plant – Unit 2  
NRC Request Regarding the Spring 2007 Refueling Outage  
Reactor Pressure Head Inspection Report**

**Enclosure 2**

**Reactor Pressure Vessel Head Layout**

# Vogtle Unit 2 Reactor Vessel Head Inspection Status Map - 2R12

