Jeffrey T. Gasser
Vice President

Southern Nuclear
Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201

Tel 205.992.7721
Fax 205.992.0403

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U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555-0001

Vogtle Electric Generating Plant
Response to NRC Questions Regarding the
2002 Unit 2 (2R9) and the 2003 Unit 1 (1R11)
Steam Generator Tube Inspection Reports

Ladies and Gentlemen:

On April 29, 2004, Southern Nuclear Operating Company (SNC) received eight questions by telecon from the staff concerning the Vogtle Electric Generating Plant (VEGP) 2002 Unit 2 (2R9) and the 2003 Unit 1 (1R11) Steam Generator Tube Inspection Reports. The SNC response to these questions is enclosed.

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

Sincerely,

Jeffrey T. Gasser

JTG/DRG

Enclosure: SNC Response to NRC Questions Regarding VEGP 2002 Unit 2 (2R9) and VEGP 2003 Unit 1 (1R11) Steam Generator Tube Inspection Reports

cc: Southern Nuclear Operating Company
Mr. J. B. Beasley, Jr., Executive Vice President
Mr. W. F. Kitchens, General Manager – Plant Vogtle
RType: CVC7000

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

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Enclosure

Vogtle Electric Generating Plant
Response to NRC Questions Regarding the
2002 Unit 2 (2R9) and the 2003 Unit 1 (1R11)
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Vogtle Electric Generating Plant
Response to NRC Questions Regarding the
2002 Unit 2 (2R9) and the 2003 Unit 1 (1R11)
Steam Generator Tube Inspection Reports

1. NRC Question

Most of the three letter indication codes used in your report are defined in the EPRI guidelines but not all, for example: "MBS", "TRA" and "BDE". Provide a definition for these codes and explain how these are used at Vogtle Units 1 and 2.

SNC Response

Southern Nuclear Operating Company (SNC) obtains the services of Westinghouse Electric to perform the steam generator (SG) eddy current examination. Westinghouse uses procedures to control the inspection, and they employ codes in addition to the EPRI codes to facilitate their inspection program. The codes referenced above are used in the Westinghouse program procedures and described:

- MBS – Manufacturing buff mark indication detected by bobbin coil inspection which was confirmed as a non-flaw condition based on diagnostic testing or historical review.
- TRA – Trackable anomaly is a rotating +Point coil (RPC) inspected location at which no flaw was found, however, the location is marked for tracking and monitoring for change in future inspections.
- BDE – Bad data due to not testing the required extent. This constitutes an extent which required retest.

2. NRC Question

On page 4-2 of your in-service inspection report for Unit 1, you indicated that a volumetric indication was detected in tube R4C81. Please discuss the nature and cause of this indication. Please clarify whether this indication is above the secondary side of the cold leg tubesheet in the freespan or whether the indication is located approximately 10" from the tube end (i.e., in the tubesheet).

SNC Response

This volumetric indication is 9.82 inches above the top-of-tubesheet, on the cold leg side, in the tube freespan. This volumetric indication was consistent with loose parts impact or a mechanical change in the tube, e.g., cold lap breaking off. Because this was a single occurrence of this type of volumetric indication, it did not result in the declaration of a new degradation mechanism.

3. NRC Question

On page 4-2 of your in-service inspection report for Unit 1, you indicated that one tube (R1C36) was plugged due to difficulty in performing an inspection of row 1. Please describe the nature and location of the difficulty. Include in your response a discussion of whether the difficulty was service induced and the extent of it (e.g., what was the largest size probe to be passed through the tube during this outage and previous outages).

SNC Response

The location in the R1C36 tube for which the inspection was difficult was the U-bend region. The 0.520" +Point rotating probe would pass through the tube; however, due to a tight fit in this row 1 U-bend, proper rotation of the probe was prevented at the apex of the U-bend region of the tube. Because an inspection of this tube within the preceding 60 effective full power months (EFPM) had not been performed, it was plugged. The U-bend tube was previously inspected using a +Point rotating probe during the 1R7 outage in 1997, though special effort was required to complete the inspection. Completion of the inspection in the 1R11 outage was not pursued because of concerns with dose and outage duration impacts.

4. NRC Question

Table 1 of your Units 1 and 2 reports indicate various indications reported as differential free-span signals and distorted support signals. Regarding these indications, please address the following:

I. Can these indications be traced back to the baseline inspection? If so, have they shown any change? If change has been observed, please explain what has caused these indications to change.

II. If these are new indications that are service induced and not traceable, discuss the nature of these indications. For example, please discuss whether a flaw was present at this location and if so, provide the size (length, depth, percent degraded area) and nature of the indication (primary water stress corrosion cracking, outside diameter stress corrosion cracking, etc.).

SNC Response

I. There have been changes traced back to the baseline inspection. These changes have been dispositioned with a rotating coil inspection; however, the cause of the changes in the signals cannot be specified. The greatest number of signal changes typically occur early in life and are usually associated with time at temperature; however, changes do occur over the life of the steam generators. Potential causes of these signal changes are scale buildup on the tube, sludge buildup on support plates, sludge rocks, or other factors.

II. New differential indications have been detected at Vogtle, but it cannot be ascertained if these new differential indications are service-induced. However, no flaws were found in these new differential indications.

5. NRC Question

On page 4-5 of your in-service inspection report for Unit 2, you indicated that two tubes were plugged. The first tube (R43C83) was plugged due to a 45% wear indication and the second tube (R44C48) was administratively plugged with a 39% indication. The staff reviewed the table attached with the report to gain more insight regarding the tubes but noticed that this table is different from the one provided with the Unit 1 report. This table is titled "U2R7 History Percent Indications with Current U2R9 Results," which the staff assumes is not the table that lists all the as found indications. Discuss the nature of the eddy current signals at these locations and your assessment as to what could have cause wear at these locations. In addition, if the table in the Unit 2 report does not list all imperfections, please submit a modified table.

SNC Response

The staff is correct that the table "U2R7 History Percent Indications with Current U2R9 Results," which was attached to the Inservice Inspection Summary Report for 2R9, does not list all of the as-found indications of imperfections and associated through-wall penetration. The information which meets these criteria is provided in the attached Table 1, "SG-1 Listing of U2R9 Percent Indications," and Table 2, "SG-4 Listing of U2R9 Percent Indications."

The attached tables list volumetric eddy current indications which are attributed to wear removal of tube material, characterized as follows:

- AVB wear – This is wear into the tube by anti-vibration bars.
- Foreign object wear – Two volumetric indications attributed to foreign object wear were identified and sized at less than the Technical Specification plugging limit. No possible loose parts were identified with respect to these tubes; therefore, no foreign objects could be characterized with respect to this wear.

6. NRC Question

Discuss whether any indications other than wear were found in the inspection. If any cracks were found, discuss how they were detected, the size (length, depth, percent degraded area, voltage) and nature (primary water stress corrosion cracking, outside diameter stress corrosion cracking, etc.) of the flaw, and any additional testing performed to assess the integrity of the tube (e.g., ultrasonic testing, in-situ pressure testing).

SNC Response

No flaw indications other than wear were found in the inspection.

7. NRC Question

In Unit 1, you inspected 100% of the dents in the straight length that were greater than 5 volts. In Unit 2, you inspected 100% of the dents in the U-bend that were greater than 5 volts. Discuss why no dents greater than 5 volts were examined in the U-bend area of Unit 1 and why no dents greater than 5 volts were examined in the straight lengths of Unit 2.

SNC Response

Vogtle inspects 100% of the dents and dings with the bobbin every outage in the steam generators scheduled for inspection, with the exception of the row 1 and row 2 U-bends which are inspected with the +Point rotating coil on a 50% sampling basis. Rotating coil inspections are performed on the dents and dings greater than 5 volts in either the U-bends or in the straight leg of the tube each outage. These inspections are appropriate for steam generators which have never experienced corrosion in the U-bends or straight leg portion of the tube.

8. NRC Question

On page 4-1 of your in-service inspection report for Unit 1, you indicated that as part of your inspection scope you performed a quatrefoil blockage assessment and an evaluation of the Phosphate Chemistry Excursion that occur during cycle 11. Discuss the nature of these assessments/evaluations (e.g., scope, reason) and the results.

SNC Response

In the quatrefoil blockage assessment, a rotating probe inspection was performed on the HL-side tube-to-tube support plate (TSP) intersection at 360 locations at TSPs 6 and 7, and numerous other locations at other TSPs. Variation from a clean intersection would be reflected in the eddy current signature. Results do not support quantification of quatrefoil blockage because there is not enough correlation between the RPC signatures and visual inspection data to support a quantified estimate of blockage. The results of this assessment are summarized below:

- No clean tube-TSP intersections were observed.
- Scale is significantly thicker at the bottom of the TSP than at the top along the tube extent going through the TSP.
- More deposits are observed in TSP intersections at TSP7 than at other TSPs.

In the evaluation of the phosphate chemistry excursion, 100% of the tubes were inspected with the bobbin probe and 50% were inspected at top of the tubesheet HL-side with the +Point probe. For a limited number of tubes, a detailed analysis and history comparison were performed in an attempt to identify any excursion signals that indicated the onset of corrosion. None were identified.

Table 1

SG - 1 LISTING OF U2R9 PERCENT INDICATIONS

Vogtle 2 U2R9 GBE 20021001 10/20/2002 13:55:14

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
2002/10/01	30	10	.33	0	PCT	12	P2	AV6	.00		TEH	TEC	.560	MBARH	18	C
2002/10/01	35	14	.40	0	PCT	16	P2	AV4	.00		TEH	TEC	560	MBARH	22	C
2002/10/01	36	17	1.09	0	PCT	19	P2	AV6	-.49		TEH	TEC	560	MBARH	20	C
2002/10/01	36	17	.62	0	PCT	20	P2	AV6	-.08		TEH	TEC	560	MBARH	20	C
2002/10/01	8	20	.98	0	PCT	9	3	TSC	2.24		TSC	TSC	560	ZPSMR	108	C
2002/10/01	41	20	.59	0	PCT	20	P2	AV2	-.08		TEH	TEC	560	MBARH	22	C
2002/10/01	41	20	.34	0	PCT	14	P2	AV3	-.11		TEH	TEC	560	MBARH	22	C
2002/10/01	41	20	.41	0	PCT	16	P2	AV4	.03		TEH	TEC	560	MBARH	22	C
2002/10/01	41	20	.36	0	PCT	15	P2	AV5	-.03		TEH	TEC	560	MBARH	22	C
2002/10/01	42	20	.67	0	PCT	21	P2	AV2	.00		TEH	TEC	.560	MBARH	22	C
2002/10/01	44	22	.52	0	PCT	18	P2	AV4	-.08		TEH	TEC	.560	MBARH	22	C
2002/10/01	44	22	.36	0	PCT	15	P2	AV6	.00		TEH	TEC	.560	MBARH	22	C
2002/10/01	41	23	.68	0	PCT	14	P2	AV5	.00		TEH	TEC	.560	MBARH	20	C
2002/10/01	41	23	.46	0	PCT	10	P2	AV6	.00		TEH	TEC	.560	MBARH	20	C
2002/10/01	44	23	.34	0	PCT	13	P2	AV2	-.22		TEH	TEC	.560	MBARH	20	C
2002/10/01	44	23	.88	0	PCT	17	P2	AV3	.00		TEH	TEC	.560	MBARH	20	C
2002/10/01	44	23	.71	0	PCT	14	P2	AV4	.00		TEH	TEC	.560	MBARH	20	C
2002/10/01	44	23	1.60	0	PCT	24	P2	AV5	.00		TEH	TEC	.560	MBARH	20	C
2002/10/01	46	24	.36	0	PCT	15	P2	AV4	-.08		TEH	TEC	.560	MBARH	22	C
2002/10/01	34	25	.53	0	PCT	17	P2	AV1	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	46	26	.73	0	PCT	23	P2	AV4	.00		TEH	TEC	560	MBARH	24	C
2002/10/01	41	27	.48	0	PCT	16	P2	AV5	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	44	27	.23	0	PCT	8	P2	AV2	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	44	27	.31	0	PCT	11	P2	AV3	.00		TEH	TEC	560	MBARH	26	C
2002/10/01	47	27	1.22	0	PCT	27	P2	AV2	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	48	27	.29	0	PCT	11	P2	AV2	.00		TEH	TEC	560	MBARH	26	C
2002/10/01	48	27	.34	0	PCT	12	P2	AV3	.00		TEH	TEC	560	MBARH	26	C
2002/10/01	46	28	.18	0	PCT	6	P2	AV6	.03		TEH	TEC	560	MBARH	26	C
2002/10/01	48	28	.48	0	PCT	16	P2	AV2	.00		TEH	TEC	560	MBARH	26	C
2002/10/01	50	28	1.02	0	PCT	25	P2	AV3	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	50	28	1.36	0	PCT	29	P2	AV4	.00		TEH	TEC	.560	MBARH	26	C
2002/10/01	50	28	.31	0	PCT	11	P2	AV6	.08		TEH	TEC	.560	MBARH	26	C
2002/10/01	49	29	.37	0	PCT	13	P2	AV6	.05		TEH	TEC	560	MBARH	26	C
2002/10/01	46	32	.42	0	PCT	14	P2	AV3	-.11		TEH	TEC	560	MBARH	28	C
2002/10/01	46	32	.52	0	PCT	16	P2	AV4	-.05		TEH	TEC	560	MBARH	28	C
2002/10/01	37	33	.42	0	PCT	9	P2	AV3	.00		TEH	TEC	560	MBARH	30	C
2002/10/01	37	33	.42	0	PCT	9	P2	AV4	.00		TEH	TEC	560	MBARH	30	C
2002/10/01	53	33	.51	0	PCT	16	P2	AV4	.03		TEH	TEC	560	MBARH	28	C
2002/10/01	53	34	.43	0	PCT	14	P2	AV3	.00		TEH	TEC	560	MBARH	28	C
2002/10/01	37	35	.25	0	PCT	10	P2	AV3	.00		TEH	TEC	560	MBARH	34	C
2002/10/01	47	36	.70	0	PCT	13	P2	AV1	.00		TEH	TEC	560	MBARH	32	C
2002/10/01	37	39	.19	0	PCT	8	P2	AV4	.00		TSH	TEC	560	MBARH	34	C
2002/10/01	37	39	.24	0	PCT	10	P2	AV4	.00		TEH	TEC	560	MBARH	82	C
2002/10/01	55	39	.23	0	PCT	11	P2	AV2	.00		TEH	TEC	560	MBARH	32	C
2002/10/01	55	39	.32	0	PCT	13	P2	AV3	.00		TEH	TEC	560	MBARH	32	C
2002/10/01	54	50	.27	0	PCT	12	P2	AV2	.00		TEH	TEC	560	MBARH	40	C
2002/10/01	54	50	.33	0	PCT	13	P2	AV3	.00		TEH	TEC	560	MBARH	40	C
2002/10/01	58	53	.26	0	PCT	11	P2	AV1	.00		TEH	TEC	560	MBARH	44	C
2002/10/01	58	53	.46	0	PCT	9	P2	AV3	-.03		TEH	TEC	560	MBARH	44	C
2002/10/01	58	53	.24	0	PCT	10	P2	AV4	.00		TEH	TEC	560	MBARH	44	C
INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Table 1

SG - 1 LISTING OF U2R9 PERCENT INDICATIONS

Vogtle 2 U2R9 GBE 20021001 10/20/2002 13:55:14

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
2002/10/01	59	68	21	0	PCT	9	P2	AV1	22		TEH	TEC	.560	MBARH	82	C
2002/10/01	44	72	32	0	PCT	8	P2	AV6	00		TEH	TEC	.560	MBARH	50	C
2002/10/01	58	72	30	0	PCT	13	P2	AV1	03		TEH	TEC	.560	MBARH	82	C
2002/10/01	58	73	29	0	PCT	7	P2	AV1	00		TEH	TEC	.560	MBARH	50	C
2002/10/01	35	74	.41	0	PCT	10	P2	AV4	00		TEH	TEC	.560	MBARH	50	C
2002/10/01	58	75	.34	0	PCT	12	P2	AV6	03		TEH	TEC	.560	MBARH	54	C
2002/10/01	55	81	.16	0	PCT	7	P2	AV2	08		TEH	TEC	.560	MBARH	56	C
2002/10/01	53	89	.31	0	PCT	12	P2	AV5	03		TEH	TEC	.560	MBARH	58	C
2002/10/01	50	92	.30	0	PCT	11	P2	AV2	08		TEH	TEC	.560	MBARH	58	C
2002/10/01	50	93	.26	0	PCT	10	P2	AV3	03		TEH	TEC	.560	MBARH	60	C
2002/10/01	44	94	.35	0	PCT	13	P2	AV5	00		TEH	TEC	.560	MBARH	58	C
2002/10/01	48	96	.24	0	PCT	9	P2	AV2	16		TEH	TEC	.560	MBARH	62	C
2002/10/01	47	99	.35	0	PCT	13	P2	AV2	00		TEH	TEC	.560	MBARH	64	C
2002/10/01	47	99	.22	0	PCT	9	P2	AV5	03		TEH	TEC	.560	MBARH	64	C
2002/10/01	43	100	.39	0	PCT	14	P2	AV2	-.11		TEH	TEC	.560	MBARH	62	C
2002/10/01	43	100	.63	0	PCT	19	P2	AV3	-.05		TEH	TEC	.560	MBARH	62	C
2002/10/01	43	100	.79	0	PCT	21	P2	AV4	-.11		TEH	TEC	.560	MBARH	62	C
2002/10/01	43	100	.28	0	PCT	11	P2	AV5	.05		TEH	TEC	.560	MBARH	62	C
2002/10/01	29	105	.31	0	PCT	12	P2	AV2	.05		TEH	TEC	.560	MBARH	68	C
2002/10/01	29	112	.25	0	PCT	10	P2	AV2	.00		TEH	TEC	.560	MBARH	66	C
INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 46 Records: 70

Table 2

SG - 4 LISTING OF U2R9 PERCENT INDICATIONS

Vogtle 2 U2R9 GDI 20021031 10/20/2002 13:55:14

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
2002/10/01	38	9	.88	0	PCT	20	P2	AV5	.00		TEH	TEC	.560	MBARH	24	C
2002/10/01	36	14	.37	0	PCT	10	P2	AV2	-.11		TEH	TEC	.560	MBARH	28	C
2002/10/01	45	22	.22	0	PCT	12	P2	AV2	.17		TEH	TEC	.560	MBARH	22	C
2002/10/01	45	22	.25	0	PCT	13	P2	AV3	.08		TEH	TEC	.560	MBARH	22	C
2002/10/01	45	23	.20	0	PCT	11	P2	AV2	.22		TEH	TEC	.560	MBARH	16	C
2002/10/01	45	23	.24	0	PCT	10	P2	AV3	.17		TEH	TEC	.560	MBARH	16	C
2002/10/01	45	23	.29	0	PCT	11	P2	AV5	-.06		TEH	TEC	.560	MBARH	16	C
2002/10/01	46	26	.23	0	PCT	14	P2	AV4	.00		TEH	TEC	.560	MBARH	6	C
2002/10/01	46	26	.31	0	PCT	17	P2	AV6	.00		TEH	TEC	.560	MBARH	6	C
2002/10/01	44	29	.44	0	PCT	19	P2	AV3	.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	29	.32	0	PCT	16	P2	AV4	.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	46	31	.26	0	PCT	14	P2	AV3	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	46	31	.22	0	PCT	11	P2	AV4	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	46	31	.56	0	PCT	22	P2	AV5	.11		TEH	TEC	.560	MBARH	2	C
2002/10/01	48	31	.19	0	PCT	6	P2	AV3	-.06		TEH	TEC	.560	MBARH	36	C
2002/10/01	45	32	.65	0	PCT	24	P2	AV3	.09		TEH	TEC	.560	MBARH	2	C
2002/10/01	52	33	.31	0	PCT	15	P2	AV2	.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	52	33	.52	0	PCT	21	P2	AV3	.03		TEH	TEC	.560	MBARH	2	C
2002/10/01	52	33	.28	0	PCT	15	P2	AV4	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	52	33	1.42	0	PCT	34	P2	AV5	.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	52	33	.34	0	PCT	17	P2	AV6	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	53	34	.19	0	PCT	10	P2	AV2	.00		TEH	TEC	.560	MBARH	38	C
2002/10/01	53	34	.22	0	PCT	11	P2	AV6	-.16		TEH	TEC	.560	MBARH	38	C
2002/10/01	51	35	.40	0	PCT	18	P2	AV4	.03		TEH	TEC	.560	MBARH	2	C
2002/10/01	54	35	.13	0	PCT	9	P2	AV4	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	54	35	.70	0	PCT	25	P2	AV5	-.28		TEH	TEC	.560	MBARH	2	C
2002/10/01	54	35	.23	0	PCT	13	P2	AV6	-.11		TEH	TEC	.560	MBARH	2	C
2002/10/01	47	36	.29	0	PCT	14	P2	AV4	.13		TEH	TEC	.560	MBARH	38	C
2002/10/01	53	36	.27	0	PCT	13	P2	AV5	.05		TEH	TEC	.560	MBARH	38	C
2002/10/01	54	37	.23	0	PCT	13	P2	AV1	.17		TEH	TEC	.560	MBARH	2	C
2002/10/01	54	37	.33	0	PCT	16	P2	AV6	-.36		TEH	TEC	.560	MBARH	2	C
2002/10/01	38	39	.20	0	PCT	8	P2	AV4	-.05		TEH	TEC	.560	MBARH	40	C
2002/10/01	51	39	.20	0	PCT	8	P2	AV2	-.03		TEH	TEC	.560	MBARH	40	C
2002/10/01	51	39	.22	0	PCT	9	P2	AV3	.09		TEH	TEC	.560	MBARH	40	C
2002/10/01	51	39	.33	0	PCT	12	P2	AV4	.19		TEH	TEC	.560	MBARH	40	C
2002/10/01	47	41	.38	0	PCT	10	P2	AV2	.17		TEH	TEC	.560	MBARH	2	C
2002/10/01	47	41	.38	0	PCT	18	P2	AV3	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	42	.31	0	PCT	15	P2	AV3	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	42	.44	0	PCT	19	P2	AV4	-.31		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	42	.92	0	PCT	28	P2	AV5	-.03		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	42	.33	0	PCT	16	P2	AV6	-.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	56	42	.21	0	PCT	11	P2	AV6	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	51	43	.20	0	PCT	8	P2	AV3	.00		TEH	TEC	.560	MBARH	44	C
2002/10/01	51	43	.23	0	PCT	9	P2	AV4	.00		TEH	TEC	.560	MBARH	44	C
2002/10/01	51	43	.46	0	PCT	9	P2	AV5	.09		TEH	TEC	.560	MBARH	44	C
2002/10/01	53	43	.19	0	PCT	10	P2	AV1	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	53	43	1.47	0	PCT	35	P2	AV3	.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	53	43	.38	0	PCT	18	P2	AV4	.14		TEH	TEC	.560	MBARH	2	C
2002/10/01	53	43	.43	0	PCT	19	P2	AV5	-.06		TEH	TEC	.560	MBARH	2	C
2002/10/01	44	44	.57	0	PCT	22	P2	AV3	.00		TEH	TEC	.560	MBARH	2	C
2002/10/01	53	44	.75	0	PCT	15	P2	AV3	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	52	45	.28	0	PCT	10	P2	AV2	-.03		TEH	TEC	.560	MBARH	44	C
2002/10/01	56	45	.20	0	PCT	8	P2	AV5	-.05		TEH	TEC	.560	MBARH	44	C

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

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Table 2

SG - 4 LISTING OF U2R9 PERCENT INDICATIONS

Vogtle 2 U2R9 GDE 20021801 10/20/2002 13:55:14

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L1
2002/10/01	43	47	.18	0	PCT	8	P2	AV1	.00		TEH	TEC	.560	MBARH	44	C
2002/10/01	43	47	.29	0	PCT	11	P2	AV2	.22		TEH	TEC	.560	MBARH	44	C
2002/10/01	56	47	1.05	0	PCT	18	P2	AV3	.00		TEH	TEC	.560	MBARH	44	C
2002/10/01	44	48	.91	0	PCT	27	P2	AV3	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	44	48	.58	0	PCT	22	P2	AV4	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	44	48	2.13	0	PCT	39	P2	AV6	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	57	48	.21	0	PCT	11	P2	AV2	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	57	48	.51	0	PCT	20	P2	AV3	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	57	48	.92	0	PCT	27	P2	AV5	.00		TEH	TEC	.560	MBARH	46	C
2002/10/01	43	53	.32	0	PCT	8	P2	AV3	.00		TEH	TEC	.560	MBARH	48	C
2002/10/01	44	54	.27	0	PCT	13	P2	AV1	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	44	54	.25	0	PCT	12	P2	AV5	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	51	54	.48	0	PCT	19	P2	AV4	-.18		TEC	TEH	.560	MBARH	81	H
2002/10/01	51	54	.30	0	PCT	14	P2	AV5	.03		TEC	TEH	.560	MBARH	81	H
2002/10/01	50	55	.28	0	PCT	14	P2	AV3	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	51	55	.32	0	PCT	15	P2	AV2	.17		TEC	TEH	.560	MBARH	83	H
2002/10/01	51	55	.65	0	PCT	23	P2	AV3	.12		TEC	TEH	.560	MBARH	83	H
2002/10/01	48	57	.38	0	PCT	17	P2	AV3	-.06		TEC	TEH	.560	MBARH	83	H
2002/10/01	48	57	.30	0	PCT	16	P2	AV4	-.09		TEC	TEH	.560	MBARH	83	H
2002/10/01	48	57	.68	0	PCT	22	P2	AV5	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	43	58	.29	0	PCT	14	P2	AV5	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	45	58	.09	0	PCT	23	P2	AV3	.20		TEC	TEH	.560	MBARH	81	H
2002/10/01	45	58	.27	0	PCT	13	P2	AV4	-.12		TEC	TEH	.560	MBARH	81	H
2002/10/01	44	59	.89	0	PCT	17	P2	AV1	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	44	59	.83	0	PCT	16	P2	AV3	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	44	59	.38	0	PCT	17	P2	AV4	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	51	60	.26	0	PCT	9	P2	AV3	.10		TEH	TEC	.560	MBARH	84	C
2002/10/01	59	63	.49	0	PCT	11	P2	AV6	.00		TEC	TEH	.560	MBARH	83	H
2002/10/01	39	64	.33	0	PCT	15	P2	AV1	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	39	64	.24	0	PCT	12	P2	AV2	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	39	64	1.47	0	PCT	34	P2	AV3	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	39	64	.30	0	PCT	14	P2	AV4	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	39	64	.78	0	PCT	25	P2	AV6	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	43	65	.40	0	PCT	18	P2	AV4	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	43	65	.26	0	PCT	13	P2	AV6	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	45	66	.47	0	PCT	19	P2	AV5	-.12		TEC	TEH	.560	MBARH	81	H
2002/10/01	52	66	.20	0	PCT	13	P2	AV1	-.03		TEC	TEH	.560	MBARH	81	H
2002/10/01	52	66	.64	0	PCT	23	P2	AV2	.03		TEC	TEH	.560	MBARH	81	H
2002/10/01	52	66	.21	0	PCT	11	P2	AV3	.06		TEC	TEH	.560	MBARH	81	H
2002/10/01	43	68	.60	0	PCT	21	P2	AV3	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	43	68	.65	0	PCT	23	P2	AV4	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	43	68	.44	0	PCT	18	P2	AV5	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	57	68	5.63	0	PCT	33	3	BPC	.32		BPC	BPC	.560	ZPSMK	108	C
2002/10/01	43	69	.64	0	PCT	19	P2	AV5	.22		TEH	TEC	.560	MBARH	48	C
2002/10/01	60	70	.34	0	PCT	15	P2	AV3	.03		TEC	TEH	.560	MBARH	85	H
2002/10/01	52	71	.28	0	PCT	13	P2	AV1	.00		TEC	TEH	.560	MBARH	87	H
2002/10/01	52	71	.71	0	PCT	24	P2	AV2	.03		TEC	TEH	.560	MBARH	87	H
2002/10/01	52	71	.86	0	PCT	27	P2	AV3	.08		TEC	TEH	.560	MBARH	87	H
2002/10/01	57	71	.28	0	PCT	13	P2	AV6	.06		TEC	TEH	.560	MBARH	87	H
2002/10/01	52	72	2.45	82	PCT	30	P2	AV2	-.03		TEC	TEH	.560	MBARH	85	H
2002/10/01	52	72	.35	0	PCT	15	P2	AV3	.03		TEC	TEH	.560	MBARH	85	H
2002/10/01	38	73	.23	0	PCT	10	P2	AV5	.22		TEH	TEC	.560	MBARH	48	C

| INSPDATE | ROW | COL | VOLTS | DEG | IND | PER | CHN | LOCN | INCH1 | INCH2 | BEGT | ENDT | PDIA | PTYPE | CAL | L1 |

Table 2

SG - 4 LISTING OF U2R9 PERCENT INDICATIONS

Vogtle 2 U2R9 GBE 20021001 10/20/2002 13:55:14

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L
2002/10/01	57	73	.36	0	PCT	12	P2	AV2	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	37	74	.30	0	PCT	14	P2	AV3	.00		TEH	TEC	.560	MBARH	50	C
2002/10/01	58	75	.24	0	PCT	13	P2	AV2	-.03		TEH	TEC	.560	MBARH	54	C
2002/10/01	43	76	.67	0	PCT	21	P2	AV5	.00		TEH	TEC	.560	MBARH	58	C
2002/10/01	57	76	.31	0	PCT	16	P2	AV5	-.05		TEH	TEC	.560	MBARH	54	C
2002/10/01	52	78	.40	0	PCT	18	P2	AV4	.00		TEH	TEC	.560	MBARH	54	C
2002/10/01	57	78	.22	0	PCT	13	P2	AV6	-.08		TEH	TEC	.560	MBARH	54	C
2002/10/01	27	79	.34	0	PCT	7	P2	AV5	.00		TEH	TEC	.560	MBARH	56	C
2002/10/01	48	79	.34	0	PCT	11	P2	AV2	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	48	79	.29	0	PCT	10	P2	AV3	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	53	80	.28	0	PCT	15	P2	AV5	.03		TEH	TEC	.560	MBARH	54	C
2002/10/01	43	83	1.29	0	PCT	28	P2	AV3	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	43	83	3.66	0	PCT	45	P2	AV4	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	43	83	1.11	0	PCT	26	P2	AV5	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	49	83	.46	0	PCT	14	P2	AV3	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	54	83	.29	0	PCT	10	P2	AV5	.00		TEH	TEC	.560	MBARH	56	C
2002/10/01	55	83	.64	0	PCT	12	P2	AV5	.05		TEH	TEC	.560	MBARH	58	C
2002/10/01	43	85	.31	0	PCT	11	P2	AV4	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	44	85	.25	0	PCT	9	P2	AV3	.00		TEH	TEC	.560	MBARH	52	C
2002/10/01	46	88	.26	0	PCT	14	P2	AV3	.08		TEH	TEC	.560	MBARH	54	C
2002/10/01	48	88	.21	0	PCT	12	P2	AV5	-.08		TEH	TEC	.560	MBARH	54	C
2002/10/01	53	89	.30	0	PCT	14	P2	AV6	-.03		TEH	TEC	.560	MBARH	58	C
2002/10/01	51	92	.47	0	PCT	9	P2	AV1	-.03		TEH	TEC	.560	MBARH	56	C
2002/10/01	49	93	.47	0	PCT	10	P2	AV3	.08		TEH	TEC	.560	MBARH	58	C
2002/10/01	49	93	.75	0	PCT	25	P2	AV5	-.03		TEH	TEC	.560	MBARH	58	C
2002/10/01	49	96	.25	0	PCT	12	P2	AV2	-.14		TEH	TEC	.560	MBARH	58	C
2002/10/01	48	97	.16	0	PCT	9	P2	AV2	.00		TEH	TEC	.560	MBARH	58	C
2002/10/01	48	97	.23	0	PCT	12	P2	AV3	-.22		TEH	TEC	.560	MBARH	58	C
2002/10/01	40	106	.19	0	PCT	7	P2	AV1	.00		TEH	TEC	.560	MBARH	56	C
2002/10/01	40	106	.22	0	PCT	8	P2	AV3	.00		TEH	TEC	.560	MBARH	56	C
2002/10/01	32	109	.24	0	PCT	10	P2	AV6	.00		TEH	TEC	.560	MBARH	78	C
2002/10/01	31	113	.21	0	PCT	9	P2	AV2	-.41		TEH	TEC	.560	MBARH	70	C

INSPDATE	ROW	COL	VOLTS	DEG	IND	PER	CHN	LOCN	INCH1	INCH2	BEGT	ENDT	PDIA	PTYPE	CAL	L

Tubes: 80 Records