Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

February 28, 1996

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

Gentlemen:

In the Matter of	)	Docket Nos. 50-327
Tennessee Valley Authority	)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - 1995 ANNUAL REPORTS

Enclosed are the 1995 Annual Reports for SQN. These reports contain a summary of the following items: occupational exposure data, reactor coolant system specific activity analysis, and diesel generator reliability data.

These reports are being submitted to satisfy the requirements of Technical Specifications 6.9.1.4, 6.9.1.5, and 6.9.2.2.

Please direct questions concerning this submittal to Keith Weller at (423) 843-7527.

Sincerely,

R. H. Shell

R. H. Shell
Manager
Sequoyah Site Licensing

Enclosure
cc: See page 2

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cc (Enclosure):

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TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT

UNITS 1 AND 2

ANNUAL REPORTS TO THE

NUCLEAR REGULATORY COMMISSION

JANUARY 1 - DECEMBER 31, 1995

DOCKET NUMBERS 50-327 AND 50-328

LICENSE NUMBERS DPR-77 AND DPR-79

SEQUOYAH NUCLEAR PLANT
ANNUAL REPORTS
1995

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SEQUOYAH NUCLEAR PLANT (SQN)
ANNUAL REPORTS
1995

PREFACE

The following are descriptions of the items contained in this report.

Occupational Exposure Data

Enclosed is the exposure data for personnel at SQN that received greater than 100 millirem between January 1 and December 31, 1995. Exposure data for special maintenance is based on the following activities:

Spent Fuel Pool Rerack
Installation of Steel Platforms in Residual Heat Removal/Component Cooling System (RHR/CS) Heat Exchanger Rooms
Hanger Modifications
Installation of a Cable Drive System for Fuel Transfer
Chemistry Program Upgrade in the Hot Sample Room (Units 1 and 2)
Vent Hose Installation on RHR Piping Inside Lower Containment (Units 1 and 2)
Repair of Damaged Fitting at the Seal Table (Unit 1)
Actuator Repair and Inspection of 1-VLV-62-70 (Unit 1)
Replace Bolts and Nuts on Reactor Coolant Pump Fireshields (Unit 1)
Replace Control Room Drive Mechanism (CRDM) Dampers and Duct Work (Unit 1)
Installation of Transfer Switches and 480-Volt Receptacle to CRDM Coolers (Unit 1)
Replace Feedwater Nozzle Transition Pieces (Unit 1)
Chemically Clean Secondary Side of the Steam Generators (Unit 1)
Weld Reactor Pressure Vessel Guide Funnels to Thermal Sleeves (Unit 1)
Repair Bent Thermocouple Column (Unit 1)
Repair Canopy Seal Weld (Unit 1)

Reactor Coolant System Specific Activity Analysis (Specific Iodine Isotopic Activity Concentration and/or DEI-131 Determination)

During 1995, there were no specific iodine activity results of Unit 1 or Unit 2 reactor coolant systems exceeding the limits of Technical Specification (TS) 3.4.8.a (1.0 μCi/gm) during either power operation or reactor shutdown and/or start-up.

Diesel Generator (DG) Reliability Data

The reliability data for the SQN 6900-Volt emergency DGs is enclosed in accordance with TS 6.9.2.2.

REXPR219
RUN DATE: 01-24-96
RUN TIME: 10:46:03

TENNESSEE VALLEY AUTHORITY
SQN RADIATION EXPOSURE SYSTEM

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
TOTAL NUMBER OF INDIVIDUALS

NUMBER OF PERSONNEL (> 100 M-REM) | TOTAL MAN-REM

MO=REACTOR OPS SURVEILLANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	90	2	156	248	1.756	0.019	3.292	5.067
OPERATING PERSONNEL	53	3	7	63	7.560	0.460	0.061	8.081
HEALTH PHYSICS PERSONNEL	58	3	55	116	6.254	0.213	7.921	14.388
SUPERVISORY PERSONNEL	13	6	0	19	0.773	0.233	0.000	1.006
ENGINEERING PERSONNEL	24	6	9	39	0.676	0.024	0.628	1.328
MO	238	20	227	485	17.019	0.949	11.902	29.870

MO=ROUTINE MAINTENANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	113	4	367	484	29.103	0.682	69.706	99.491
OPERATING PERSONNEL	52	5	9	66	1.556	0.145	1.197	2.898
HEALTH PHYSICS PERSONNEL	74	3	60	137	19.400	0.083	7.288	26.771
SUPERVISORY PERSONNEL	18	7	0	25	3.385	0.158	0.000	3.543
ENGINEERING PERSONNEL	31	19	60	110	3.242	0.818	8.368	12.428
MO	288	38	496	822	56.686	1.886	86.559	145.131

MO=IN-SERVICE INSPECTION

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	16	0	48	64	2.427	0.000	9.020	11.447
OPERATING PERSONNEL	6	1	4	11	0.714	0.126	0.079	0.919
HEALTH PHYSICS PERSONNEL	28	4	38	70	2.001	0.505	8.566	11.072
SUPERVISORY PERSONNEL	2	5	0	7	0.076	0.810	0.000	0.886
ENGINEERING PERSONNEL	7	23	109	139	0.787	8.102	51.757	60.646
MO	59	33	199	291	6.005	9.543	69.422	84.970

MO=SPECIAL MAINTENANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	62	3	256	321	7.729	0.599	60.076	68.404

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TENNESSEE VALLEY AUTHORITY
SQN RADIATION EXPOSURE SYSTEM

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TOTAL NUMBER OF INDIVIDUALS

	NUMBER OF PERSONNEL (> 100 M-REM)				TOTAL MAN-REM			
OPERATING PERSONNEL	33	2	10	45	0.928	0.334	1.233	2.495
HEALTH PHYSICS PERSONNEL	52	1	19	72	2.694	0.008	0.549	3.251
SUPERVISORY PERSONNEL	11	5	2	18	0.457	0.245	0.282	0.984
ENGINEERING PERSONNEL	21	5	72	98	1.636	0.242	18.569	20.447
MO	179	16	359	554	13.444	1.428	80.709	95.581

MO=WASTE PROCESING

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	8	0	19	27	0.187	0.000	0.405	0.592
OPERATING PERSONNEL	0	0	1	1	0.000	0.000	0.739	0.739
HEALTH PHYSICS PERSONNEL	34	0	17	51	3.266	0.000	0.399	3.665
SUPERVISORY PERSONNEL	0	0	0	0	0.000	0.000	0.000	0.000
ENGINEERING PERSONNEL	0	0	1	1	0.000	0.000	0.810	0.810
MO	42	0	38	80	3.453	0.000	2.353	5.806

MO=REFUEL

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	10	0	21	31	0.456	0.000	2.899	3.355
OPERATING PERSONNEL	1	1	3	5	0.078	0.100	0.295	0.473
HEALTH PHYSICS PERSONNEL	7	0	8	15	0.623	0.000	0.194	0.817
SUPERVISORY PERSONNEL	5	0	0	5	1.568	0.000	0.000	1.568
ENGINEERING PERSONNEL	3	2	21	26	0.175	0.234	8.561	8.970
MO	26	3	53	82	2.900	0.334	11.949	15.183
	832	110	1372	2314	99.507	14.140	262.894	376.541

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TENNESSEE VALLEY AUTHORITY
SQN RADIATION EXPOSURE SYSTEM

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
TOTAL NUMBER OF INDIVIDUALS

GROUP	NUMBER OF PERSONNEL (> 100 M-REM)				TOTAL MAN-REM			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	299	9	867	1175	41.658	1.300	145.398	188.356
OPERATING PERSONNEL	145	12	34	191	10.836	1.165	3.604	15.605
HEALTH PHYSICS PERSONNEL	253	11	197	461	34.238	0.809	24.917	59.964
SUPERVISORY PERSONNEL	49	23	2	74	6.259	1.446	0.282	7.987
ENGINEERING PERSONNEL	86	55	272	413	6.516	9.420	88.693	104.629
	832	110	1372	2314	99.507	14.140	262.894	376.541

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T E N N E S S E E V A L L E Y A U T H O R I T Y
SQN RADIATION EXPOSURE SYSTEM

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
TOTAL NUMBER OF INDIVIDUALS

GROUP	STATION	UTILITY	CONTRACT	TOTAL
MAINTENANCE PERSONNEL	114	4	396	514
OPERATING PERSONNEL	54	5	12	71
HEALTH PHYSICS PERSONNEL	67	2	68	137
SUPERVISORY PERSONNEL	19	6	2	27
ENGINEERING PERSONNEL	28	13	144	185
	282	30	622	934

SEQUOYAH NUCLEAR PLANT
UNITS 1 AND 2
DIESEL GENERATOR (DG) RELIABILITY DATA REPORT FOR 1995

This report is submitted to comply with Technical Specification (TS) 6.9.2.2 for an annual data report for DG reliability. The 6.9 kilovolt DGs at SQN serve as the onsite Class 1E power source. Surveillance requirements (SRs) of the TSs that demonstrate operability of the DGs are accomplished by the routine performance of the following surveillance instructions (SI):

1-SI-OPS-082-007.A, "Electrical Power System - DG 1A-A"
1-SI-OPS-082-007.B, "Electrical Power System - DG 1B-B"
2-SI-OPS-082-007.A, "Electrical Power System - DG 2A-A"
2-SI-OPS-082-007.B, "Electrical Power System - DG 2B-B"
0-SI-OPS-082-007.O, "Diesel Generator Operability Verification"
1-SI-OPS-082-026.A, "Loss of Offsite Power with Safety Injection-DG 1A-A Containment Isolation Test"
2-SI-OPS-082-026.A, "Loss of Offsite Power with Safety Injection-DG 2A-A Containment Isolation Test"
1-SI-OPS-082-026.B, "Loss of Offsite Power with Safety Injection-DG 1B-B Containment Isolation Test"
2-SI-OPS-082-026.B, "Loss of Offsite Power with Safety Injection-DG 2B-B Containment Isolation Test"
SI-102 series documents the performance of vendor recommended maintenance.

The information listed below is a tabulation of DG testing data taken from 0-SI-OPS-082-007.M, "Diesel Generator Surveillance Frequency." The data was taken from testing performed during the period of January 1 through December 31, 1995. "Valid Test" and "Invalid Test" are defined in accordance with the criteria established in Regulatory Guide 1.108, Revision 1, August 1977.

DG	DG STARTS	VALID TESTS	VALID TESTS FAILURES	INVALID TESTS	INVALID FAILURES
1A-A	43	18	0	25	1
1B-B	40	16	0	24	1
2A-A	41	23	0	18	1
2B-B	38	13	0	25	2
TOTALS	162	70	0	92	5

There were five invalid failures which occurred in 1995 and are described below.

DG 1A tripped while being loaded to 110 percent of its rated load as required by SQN TS SR 4.8.1.1.2.d.7. The trip was initiated by the Phase Imbalance (46) Relay. The relay had been replaced over a year ago and the new relay's setpoint drifted. The trip capability of this relay is isolated during emergency mode operation and therefore would not have prevented the DG from performing its design function.

A DG 1B Valid Test was stopped to allow investigation of a Ground (64) Relay actuation. The relay has a low threshold and actuates momentarily during field flashing. Check out of the relay identified the relay to be sticking. The relay was cleaned, calibration checked and returned to service. The trip capability of this relay is isolated during emergency mode operation and therefore would not have prevented the DG from performing its design function.

A DG 2A Valid Test was stopped prior to completing its one hour loaded run to allow investigation of why voltage had appeared while in the 5-minute idle warmup period. The test was stopped, not due to the inability of the diesel to continue with the run, but to minimize the LCO time for the diesel. Trouble shooting and evaluation of the circuit identified that a relay binding problem prevented the exciter field from being shunted. This would not have affected emergency mode operation and therefore would not have prevented the DG from performing its design function.

A DG 2B Valid Test was emergency stopped prior to loading for the one hour run due to a low lube oil pressure annunciation. The pressure switch had drifted out of calibration and could not be recalibrated. The trip from this pressure switch is isolated during emergency mode operation and therefore would not have prevented the DG from performing its design function.

DG 2B tripped on high crankcase pressure during an idle start for a maintenance outage functional test. The pressure switch had drifted out of calibration and could not be recalibrated. The trip from this pressure switch is isolated during emergency mode operation and therefore would not have prevented the DG from performing its design function.

The above data indicates an average of 40.5 starts per DG for the year with no valid failures. This gives a strong indication that the DGs will perform when required.

SQN recognizes the importance of reducing the number of DG starts. As shown below, for the operating years 1988 through 1992, a downward trend for DG starts was established. Due to air start modifications installed during 1993, six-year required maintenance activities, 18-month load sequence and endurance testing, and accelerated testing for the 2A-A DG, additional starts per DG set were accumulated during calendar year 1993. Due to the speed controller modification on 2A and 2B DGs, and the increased testing resulting from valid failures on DG 2A, above average DG starts were accumulated during calendar year 1994. A TS change was submitted

to and approved by NRC to revise the TS wording of SR 4.8.1.1.2.a.4, which required the diesel speed to reach at least 900 rpms during monthly testing and allowed the associated Valid Failure on DG 2A to be declared a Valid Success. As revealed by the data below, the number of DG starts in 1995 were again reduced, but not as low as 1992 due to the speed controller modification on DG 1A and DG 1B and accelerated testing on DG 2A extending into February of 1995 before NRC approval was obtained to reverse the valid failure status.

APPROXIMATE NUMBER OF TOTAL DG STARTS PER YEAR

1988: approximately 170 starts per DG per year
1989: approximately 55 starts per DG per year
1990: approximately 36 starts per DG per year
1991: approximately 36 starts per DG per year
1992: approximately 35 starts per DG per year
1993: approximately 69 starts per DG per year
1994: approximately 47 starts per DG per year
1995: approximately 41 starts per DG per year

SQN will continue efforts to keep DG starts as low as possible to enhance engine life and DG reliability.

Reactor Coolant System Specific Activity Analysis

(Specific Iodine Isotopic Activity Concentration and/or DEI-131 Determination)

During 1995, there were no specific iodine activity results of Unit 1 or Unit 2 reactor coolant systems exceeding the limits of Technical Specification (TS) 3.4.8.a (1.0 μCi/gm) during either power operation or reactor shutdown and/or start-up.