

TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
SEQUOYAH NUCLEAR PLANT

MONTHLY OPERATING REPORT
TO THE
NUCLEAR REGULATORY COMMISSION
FEBRUARY 1, 1984 - FEBRUARY 29, 1984

UNIT 1

DOCKET NUMBER 50-327

LICENSE NUMBER DPR-77

UNIT 2

DOCKET NUMBER 50-328

LICENSE NUMBER DPR-79

Submitted By:

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Power Plant Superintendent

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Operations Summary

February, 1984

The following summary describes the significant operational activities for the month of February. In support of this summary, a chronological log of significant events is included in this report.

Unit 1

Unit 1 was critical for 479.5 hours, produced 501,810 MWH (gross), resulting in an average hourly gross load of 1,046,528 kW during the month.

There were no reactor scrams, 1 manual shutdown and no power reductions during February. The reactor entered mode 5 at 0315 hours on February 22, 1984 beginning the refueling/modification outage.

Unit 2

Unit 2 was critical for 635.8 hours, produced 716,270 MWH (gross), resulting in an average hourly gross load of 1,134,056 kW during the month. There are 169.3 full power days estimated remaining until the end of cycle 2 fuel. With a capacity factor of 85 percent, the target EOC exposure would be reached September 15, 1984. The capacity factor for the month was 87.0 percent.

There were no reactor scrams, one manual shutdown, and no power reductions during February.

Significant Operational Events

Unit 1

<u>Date</u>	<u>Time</u>	<u>Event</u>
02/01/84	0001	The reactor was in mode 1 at 30% power producing 330 MWe and was holding for steam generator chemistry requirements.
02/03/84	0650	Began power ascension.
02/04/84	0404	The reactor obtained 100% power, producing 1175 MWe.
02/19/84	2257	Began reducing power to manually shut the reactor down for the refueling/modification outage.
02/20/84	2326	The reactor entered mode 2.
	2330	The turbine was taken off-line. The reactor entered mode 3.
02/21/84	1540	The reactor entered mode 4.

Significant Operational Events
(Continued)

Unit 1
(Continued)

<u>Date</u>	<u>Time</u>	<u>Event</u>
02/22/84	0315	The reactor entered mode 5. The refueling/modification outage in progress.
02/29/84	2359	The reactor was in mode 5 and the refueling/modification outage continues.

Unit 2

02/01/84	0001	The reactor was in mode 1 at 100% power, producing 1186 MWe.
02/07/84	1132	Began reducing load due to the steam generator chemistry going out of specification.
	1441	The reactor was at 30% power producing 300 MWe and was holding because of the steam generator chemistry.
	1620	Began reducing power to take the unit off-line to fill and flush the steam generators.
	1719	The unit was taken off-line.
02/08/84	0125	The reactor entered mode 4.
	0850	Began increasing reactor temperature and pressure. Reactor entered mode 3.
02/10/84	0535	Reactor taken critical.
	0942	The unit was tied on-line.
	1343	The reactor was at 30% power, producing 301 MWe and holding due to steam generator chemistry.
02/11/84	0248	Began power ascension.
	0615	The reactor was at 48% power, producing 520 MWe and was holding due to heater drain tank chemistry.
	1140	Began power ascension.

Significant Operational Events

(Continued)

Unit 2
(Continued)

<u>Date</u>	<u>Time</u>	<u>Event</u>
02/11/84	2330	The reactor was at 93% power, producing 1114 MWe and was holding due to an E.H.C. oil leak on the #4 governor valve.
02/12/84	0215	Began power ascension.
	0345	The reactor obtained 100% power, producing 1184 MWe.
02/29/84	2359	The reactor was in mode 1 at 100% power and producing 1184 MWe.

PORV'S and Safety Valves Summary

No PORV's or safety valves were challenged during the month.

Licensee Events and Special Reports

The following Licensee Event Reports (LER's) were sent during February 1984, to the Nuclear Regulatory Commission.

<u>LER</u>	<u>DATE</u>	<u>TIME</u>	<u>UNIT</u>	<u>MODE</u>	<u>DESCRIPTION OF EVENT</u>
SQRO-50-327/1-84002	01/12/84	0700	1	3	Inadvertent ABI's was received due to electromagnetic interference (EMI) generated due to switching and voltage surges within RM-90-101.
SQRO-50-327/1-84003	01/20/84	1939	1	1	An inadvertent CVI's occurred due to
	01/29/84	1015	1	1	EMI generated by switch actuation on RM-90-106.
SQRO-50-327/1-84004	01/14/84	0055	1	1	An inadvertent CRI occurred due to
	01/14/84	0120	1	1	EMI generated by switch actuation on RM-90-125.
SQRO-50-327/1-84005	01/09/84	0045	1	1	Cold leg accumulator 3 was found to have a high boron concentration.
SQRO-50-327/1-84006	01/10/84	0204	1	1	The reactor tripped due to a Lo-Lo steam generator.

Licensee Events and Special Reports

(Continued)

<u>LER</u>	<u>DATE</u>	<u>TIME</u>	<u>UNIT</u>	<u>MODE</u>	<u>DESCRIPTION OF EVENT</u>
SQRO-50-327/1-84007	01/10/84	1610	1	1	The reactor tripped due to a Lo-Lo steam generator level caused by the operator closing the feedwater regulator by pass valves too early.
SQRO-50-327/1-84008	01/24/84	1550	1	1	High radiation alarm on RM-90-101
	01/27/84	1000	1	1	caused five separate ABI's. The
	01/27/84	1020	1	1	investigation revealed two-separate
	01/30/84	1116	1	3	causes: the relieving of pressure
	01/30/84	1147	1	3	(burping) the VCT and the over-flowing of the condensate demin-erlizer waste evaporator (CDWE).
SQRO-50-327/1-84009	01/28/84	0550	1	1	Pressurizer level transmitter root valve 68-443A leaked through the packing which increased the radiation level in containment. RM-90-106 alarmed high when the levels exceeded the set points resulting in a CVI.
SQOR-50-327/1-84010	01/28/84	2130	1	1	An inadvertent ABI occurred due to EMI generated by switch actuation on RM-90-101.
SQRO-50-327/1-84011	01/25/84	-	1	1	NCR SQNP WP8315 identified a
			2	1	potential leak path which would cause loss of control room pressurization during a LOCA seismic event, due to broken floor and equipment piping.
SQRO-50-327/1-84013	01/30/84	1930	1	1	The reactor tripped due to a Lo-Lo steam generator level caused by difficulty in controlling levels while in manual control following a turbine trip due to a Hi-Hi level in #4 steam generator.
SQRO-50-328/2-84001	01/10/84	1535	2	1	Inadvertent CVI's occurred due to
	01/15/84	0241	2	1	EMI caused by switch actuation
	01/16/84	0829	2	1	and one by not allowing a source
	01/17/84	2335	2	1	check to decay below setpoint.
	01/21/84	1950	2	1	
SQRO-50-328/2-84002	01/27/84	0123	2	1	Inadvertent CVI's occurred due to
	01/27/84	1538	2	1	EMI caused by switch actuation
	01/27/84	2025	2	1	and vibration.
	01/29/84	0117	2	1	
	02/01/84	1714	2	1	
	02/08/84	2048	2	3	

Diesel Generator Failure Reports

There were no diesel generator failure reports transmitted during the month.

Special Reports

There were no special reports transmitted during the month.

Offsite Dose Calculation Manual Changes

Changes in the Sequoyah Nuclear Plant ODCM are described in this section in accordance with Sequoyah Technical Specification 6.14.2.

These changes were officially approved by RARC on December 16, 1983. See Appendix A at the end of this report for the approval changes.

OPERATING DATA REPORT

DOCKET NO. 50-327
 DATE MARCH 3, 1984
 COMPLETED BY M G EDDINGS
 TELEPHONE (615) 870-6248

OPERATING STATUS

- | | |
|--|--------|
| 1. UNIT NAME: SEQUOYAH NUCLEAR PLANT, UNIT 1 | NOTES: |
| 2. REPORT PERIOD: FEBRUARY 1-29, 1984 | |
| 3. LICENSED THERMAL POWER(MWT): 3411.0 | |
| 4. NAMEPLATE RATING (GROSS MWE): 1220.6 | |
| 5. DESIGN ELECTRICAL RATING (NET MWE): 1148.0 | |
| 6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWE): 1183.0 | |
| 7. MAXIMUM DEPENDABLE CAPACITY (NET MWE): 1148.0 | |
| 8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS NUMBERS 3 THROUGH 7) SINCE LAST REPORT, GIVE REASONS: _____ | |

9. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWE): _____

10. REASONS FOR RESTRICTIONS, IF ANY: _____

	THIS MONTH	YR.-TO-DATE	CUMULATIVE
11. HOURS IN REPORTING PERIOD	696.00	1440.00	23377.00
12. NUMBER OF HOURS REACTOR WAS CRITICAL	479.50	1014.90	15456.46
13. REACTOR RESERVE SHUTDOWN HOURS	0.00	0.00	0.00
14. HOURS GENERATOR ON-LINE	479.50	961.30	15074.45
15. UNIT RESERVE SHUTDOWN HOURS	0.00	0.00	0.00
16. GROSS THERMAL ENERGY GENERATED (MWH)	1494484.63	2870307.71	48362158.01
17. GROSS ELECTRICAL ENERGY GEN. (MWH)	501810.00	956150.00	16335286.00
18. NET ELECTRICAL ENERGY GENERATED (MWH)	480444.00	915067.00	15691995.00
19. UNIT SERVICE FACTOR	68.89	66.76	64.48
20. UNIT AVAILABILITY FACTOR	68.89	66.76	64.48
21. UNIT CAPACITY FACTOR (USING MDC NET)	60.13	55.35	58.47
22. UNIT CAPACITY FACTOR (USING DER NET)	60.13	55.35	58.47
23. UNIT FORCED OUTAGE RATE	0.00	21.43	18.18
24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):			

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:
April 13, 1984

NOTE THAT THE THE YR.-TO-DATE AND CUMULATIVE VALUES HAVE BEEN UPDATED.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-327

UNIT NAME SEQUOYAH ONE

DATE March 3, 1984

COMPLETED BY M. G. Eddings

TELEPHONE (615) 870-6248

REPORT MONTH FEBRUARY

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method Of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
5	840220	S	216.5	C	1				Refueling Outage

1
F: Forced
S: Scheduled

2
Reason:
A-Equipment Failure (Explain)
B-Maintenance or Test
C-Refueling
D-Regulatory Restriction
E-Operator Training & License Examination
F-Administrative
G-Operational Error (Explain)
H-Other (Explain)

3
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Cont. of Existing
Outage
5-Reduction
9-Other

4
Exhibit G-Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File (NUREG-
0161)

5
Exhibit I-Same Source

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-327
 UNIT SEQUOYAH ONE
 DATE March 3, 1984
 COMPLETED BY M. G. Eddings
 TELEPHONE (615) 870-6248

MONTH FEBRUARY 1984

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>0298</u>
2	<u>0325</u>
3	<u>0654</u>
4	<u>1126</u>
5	<u>1130</u>
6	<u>1127</u>
7	<u>1101</u>
8	<u>1129</u>
9	<u>1122</u>
10	<u>1126</u>
11	<u>1125</u>
12	<u>1127</u>
13	<u>1129</u>
14	<u>1124</u>
15	<u>1127</u>
16	<u>1126</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>1132</u>
18	<u>1130</u>
19	<u>1124</u>
20	<u>0844</u>
21	<u>Refuel Outage</u>
22	<u>Refuel Outage</u>
23	<u>Refuel Outage</u>
24	<u>Refuel Outage</u>
25	<u>Refuel Outage</u>
26	<u>Refuel Outage</u>
27	<u>Refuel Outage</u>
28	<u>Refuel Outage</u>
29	<u>Refuel Outage</u>
30	<u>N/A</u>
31	<u>N/A</u>

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

(9/77)

OPERATING DATA REPORT

DOCKET NO. 50-328
DATE MARCH 3, 1984
COMPLETED BY D.C. DUPREE
TELEPHONE (615) 870-6248

OPERATING STATUS

1. UNIT NAME: SEQUOYAH NUCLEAR PLANT, UNIT 2
2. REPORT PERIOD: FEBRUARY 1-29, 1984
3. LICENSED THERMAL POWER(MWT): 3411.0
4. NAMEPLATE RATING (GROSS MWE): 1220.6
5. DESIGN ELECTRICAL RATING (NET MWE): 1148.0
6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWE): 1183.0
7. MAXIMUM DEPENDABLE CAPACITY (NET MWE): 1148.0
8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS NUMBERS 3 THROUGH 7) SINCE LAST REPORT, GIVE REASONS: _____

NOTES:

9. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWE): _____
10. REASONS FOR RESTRICTIONS, IF ANY: _____

	THIS MONTH	YR.-TO-DATE	CUMULATIVE
11. HOURS IN REPORTING PERIOD	696.00	1440.00	15337.00
12. NUMBER OF HOURS REACTOR WAS CRITICAL	635.80	1379.80	11740.87
13. REACTOR RESERVE SHUTDOWN HOURS	0.00	0.00	0.00
14. HOURS GENERATOR ON-LINE	631.60	1375.60	11529.92
15. UNIT RESERVE SHUTDOWN HOURS	0.00	0.00	0.00
16. GROSS THERMAL ENERGY GENERATED (MWH)	2077520.26	4613056.89	37031124.70
17. GROSS ELECTRICAL ENERGY GEN. (MWH)	716270.00	1597750.00	12629690.00
18. NET ELECTRICAL ENERGY GENERATED (MWH)	691337.00	1541099.00	12158836.60
19. UNIT SERVICE FACTOR	90.75	95.53	75.18
20. UNIT AVAILABILITY FACTOR	90.75	95.53	75.18
21. UNIT CAPACITY FACTOR (USING MDC NET)	86.52	93.22	69.06
22. UNIT CAPACITY FACTOR (USING DER NET)	86.52	93.22	69.06
23. UNIT FORCED OUTAGE RATE	9.25	4.47	8.72
24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):			

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: _____

NOTE THAT THE THE YR.-TO-DATE AND CUMULATIVE VALUES HAVE BEEN UPDATED.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-328

UNIT NAME SEQUOYAH TWO

DATE March 4, 1984

COMPLETED BY D. C. Dupree

TELEPHONE (615) 870-6248

REPORT MONTH FEBRUARY

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method Of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
1	840207	F	64.40	A	1	.			Steam generator chemistry out of specifications.

1
F: Forced
S: Scheduled

2
Reason:
A-Equipment Failure (Explain)
B-Maintenance or Test
C-Refueling
D-Regulatory Restriction
E-Operator Training & License Examination
F-Administrative
G-Operational Error (Explain)
H-Other (Explain)

3
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Cont. of Existing
Outage
5-Reduction
9-Other

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0161)

5
Exhibit I-Same Source

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-328
 UNIT SEQUOYAH TWO
 DATE March 4, 1984
 COMPLETED BY D. C. Dupree
 TELEPHONE (615) 870-6248

MONTH FEBRUARY 1984

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>1146</u>
2	<u>1144</u>
3	<u>1145</u>
4	<u>1147</u>
5	<u>1146</u>
6	<u>1138</u>
7	<u>0904</u>
8	<u>Unit was down</u>
9	<u>Unit was down</u>
10	<u>0147</u>
11	<u>0542</u>
12	<u>1136</u>
13	<u>1146</u>
14	<u>1155</u>
15	<u>1145</u>
16	<u>1159</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>1157</u>
18	<u>1160</u>
19	<u>1147</u>
20	<u>1145</u>
21	<u>1149</u>
22	<u>1143</u>
23	<u>1144</u>
24	<u>1145</u>
25	<u>1146</u>
26	<u>1146</u>
27	<u>1147</u>
28	<u>1148</u>
29	<u>1148</u>
30	<u>N/A</u>
31	<u>N/A</u>

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

(9/77)

Plant Maintenance Summary

The following significant maintenance items were completed during the month of February 1984:

Mechanical Maintenance

1. Repaired the burnable poison rod assembly tool.
2. Repaired the unit 1 fuel transfer basket.
3. Cut the CVCS mixed bed 2A in half to inspect the resin screen.
4. Repacked the 2A-A & 2B-B auxiliary feedwater pumps.
5. Repaired the damaged stem on 2-LCV-6-106B.
6. Balanced reactor coolant pump 2-2.
7. Furmanited 2-FCV-1-150.
8. Installed a new drum in the "A" ice machine.
9. Repaired the bursted N₂ line to steam generators 2 & 3 (unit 1).
10. Began repairs of the turbine building sump line at the temporary DI.
11. Inspected RHR suction valves 1-FCV-74-1, -2.
12. Began ice condenser servicing during the unit 1 cycle 2 refueling outage.
13. Began installing the flexitallic gasket in 1-FCV-3-67.
14. Began replacing "dogbone" seal in the unit 1 main condenser.
15. Began inspected the #4 reactor coolant pump seals (unit 1).

Electrical Maintenance

1. Shutdown board room chiller A-A, O-CHR-313-D0/5D-A, was found inoperable. The investigation found the load sequencer defective. The load sequencer was replaced. The system was cleaned and new valves installed. A vacuum was pulled and the system charged with R22 and check for proper operation.
2. ERCW strainer A2A-A would not operate on demand due to a blown control fuse caused by a stuck back flow valve. The control fuse was replaced and the back flow valve was freed. The system was checked for proper operation.
3. A visual alarm indicated that steam generator #3 main steam isolation valve 1-FCV-1-22 would not operate. The limit switch was not making up causing the light in the MCR not to come on. The limit switch was cleaned, lubricated, and functionally checked.
4. Performed the 10 year inspection and preventive maintenance on PCB 5064.

Plant Maintenance Summary

(Continued)

Electrical Maintenance

(Continued)

5. A visual alarm on 2B-B purge exhaust fan discharge damper 2-FCO-30-4B indicating improper damper position. The limit switch was readjusted and checked for proper operation.
6. Glycol circulation pump B would not start due to a defective circuit in the controller on 0-MTRB-61-84. The controller was replaced.
7. The 125V DC Vital Battery Charger II, 0-CHGB-250-QG voltage meter would not operate due to a defective meter circuit. The meter was replaced.
8. 0-BCTC-62-167 would not reset preventing concentrate pump B from starting. The breaker was replaced and functionally checked.
9. A visual alarm indicating both limits were made-up on 2-LCV-62-118 causing the valve not to operate. Adjusted the limit actuator and functionally checked the system.
10. The pressurizer control heater D bank would not operate on demand. The contacts on the auto transfer relay were not making up. They were adjusted and checked for proper operation.
11. 2-FCV-1-98 was found out of limits due to the actuator arm being loose on the shaft preventing the limit switch from making up.
12. During a special investigation the #1 main steam header isolation valve 1-FCV-1-4 would not operate due to the actuator arm being loose on the shaft preventing limit switch ZS-1-4 from making up.
13. During the performance of an SI #3 main steam header isolation valve 1-FCV-1-22 position limit switch would not operate due to the actuator arm being loose on the shaft preventing limit switch ZS-1-22 from making up.
14. Inspected the unit 1 polar crane, the turbine building R/C cranes and the AB cranes with the TVA crane inspector.
15. A visual alarm on 1-II vital 120V AC inverter, 1-INVB-250-QN-E, indicated no synchronization for transferring feeds on the power board. Replaced the inverter and various components and returned to service.
16. Repaired the unit 2 incore detectors. Replaced the slip clutch and the encoder on "A" detector and repaired D and E ten path transfer switches. Repaired the Unit 1 D incore detector. Adjusted the withdraw limit switch which was causing the K25 relay to chatter.
17. During testing CB PMP 1B the suction isolation valve 1-FCV-2-87 would not open on demand. The oil pump start relay contacts on 1-FCV-2-87 were found dirty causing the contact not to make-up.
18. An alarm indicated the heat-trace on the unit 2 upper ice condenser not operating on demand. The heat trace on 2-MTRE-61-715B was found to have a defective connection.

Plant Maintenance Summary

(Continued)

Instrument Maintenance

Unit 1

1. Charging pump 1A-A auxiliary oil pressure switch was inoperable, the micro-switch housing was broken. Replaced the micro-switch and calibrated the pressure switch.
2. Modified the Inplant DI conductivity cells for the caustic, acid and mixed bed conductivity analyzers.
3. The control rod drive system would not move the rods in or out. The master pulser circuit card was found bad and replaced.
4. Rod position indicator C-11 was erratic indicating a high resistance in the connector. Reliable contact was achieved by applying voltage to the field cable and connector.
5. While performing SI-188, 1-PDM-65-82 was found inoperative. The shunt assembly was broken and was replaced.
6. The "B" train EGTS humidity control heater high temperature cut out control switch was malfunctioning. The location of the sensing element was aligned to agree with the location of the low temperature control switch's sensing element.
7. During shut down of unit 1 for the refueling outage NIS intermediate range detector N-36 failed. The detector has been scheduled for replacement during this refueling outage.
8. The waste gas hydrogen analyzer was inoperative, water was found in the analyzer. The drain valve from the moisture trap to the drain header was closed. The valve was tagged opened, the analyzer was cleaned, dried and repaired.

Unit 2

1. The unit 2 backup source range detector developed a noise problem. There was a search for the source of the noise however, it ceased prior to being found.
2. Containment sump level transmitter 2-LT-63-179 drifted high by 1%. Investigation found no problems except a 1% zero shift.
3. The low voltage power supply in power range channel N-41 failed. The power supply was replaced and the channel returned to service.
4. Auxiliary feedwater control valve 2-LCV-3-148 was lifting off the seat when the pump was started. The level controller, 2-LIC-3-148, setpoint indicator was misaligned by 6%. An alignment was done on the controller.
5. Main feedwater regulator valve 2-FCV-3-48 went closed with the unit at 100% power. Automatic control was lost but was reinstated when the loop power fuse for 2-LT-3-51 was replaced.

COMP

MR2....	U	FUNC	SYS	ADDRESS	DATE....	DESCRIPTION.....	CORRECTIVE ACTION.....
A083467	2	RM	090	112	02/09/84	2-RM-090-112, PLACE AN O-RING IN THE PREFILTER PLATE CONTACT CHEM LAB 6347 OR JOHN DILLS 6297 PRIOR TO WORKING.	REPLACED O-RING IN PRE-FILTER. LEFT IN SERVICE.
A083484	1	RM	090	100C	02/25/84	1-RM-090-100C, IODINE FLOW LOW. PLEASE READJUST FLOW TO BETWEEN 1.8 AND 2.2 CFM.	FLTR PAPER WAS OBSTRUCTING FLOW, ADVANCED FLTR PAPER, ALARM CLEARED, PERFORMED FUNCT TEST.
A100236	2	RM	090	106A	02/09/84	2-RM-090-106A, MONITOR SPIKING APPROX. 5-6 MIN DETERMINE CAUSE AND CORRECT.	REPLACED 20 MIN TIMER. RETURNED MONITOR TO SERVICE.
A101833	1	PIS	087	22	02/25/84	1-PIS-087-22, INDICATOR GIVES ERRATIC INDICATION.	REPLACED METER, VERIFIED PROPER OPERATION.
A101834	1	PIS	087	24	02/25/84	1-PIS-087-24, INDICATOR GIVES ERRATIC INDICATION AND ALARM LIGHT IS BURNED OUT.	REPLACED METER, VERIFIED PROPER OPERATION.
A106887	2	HIC	062	938	02/08/84	2-HIC-062-938, *NPRD* REPAIR LEAK AS NECESSARY.	THERE IS NO LEAK.
A106935	1	FT	003	908	02/06/84	1-FT-003-908, FLOW INDICATOR CONTROLLER ERRATIC WHEN IN AUTO CAUSING SOURCE FLUCTUATION. INVESTIGATE AND MAKE NECESSARY REPAIRS.	FW PRESS WAS SWINGING. FIELD TURNED THE RECORDER AND LEFT IN SERVICE.
A106945	2	FIS	074	24	02/08/84	2-FIS-074-24, *C-ZONE* *NPRD* TIGHTEN LEAKING FITTING.	TIGHTENED ALL FITTINGS. LEFT IN SERVICE.
A241737	1	FI	003	170A	02/23/84	1-FI-003-170A, THIS INDICATOR WILL NOT INDICATE FLOW WHEN IN USE.	REPLACED RIBBON CONNECTOR ON SQUARE ROOT MODIFIERS. VERIFIED PROPER OPERATION.
A243344	0	RM	090	225	02/04/84	0-RM-090-225, REPLACE ROTOMETER FLOW COLUMN INSIDE RAD MONITOR.	REPLACED ROTOMETER GLASS TUBE. LEFT IN SERVICE.
A243707	1	LCV	003	156	02/06/84	1-LCV-003-156, LCV 156 IS OPEN AND WILL NOT CLOSE FULLY IN AUTO OR MANUAL.	REPLACED THE V/I BOARD & RAN CAL CHK ON CONTROLLER. FIELD TUNED CONTROLLER, LEFT IN SVS.
A245387	2	XI	092	50028	02/23/84	2-XI-092-50028, CPS METER READING LOW, ISOLATION AMPLIFIER IN SRM DRAWER NEEDS TO BE CHECKED FOR CALIBRATION.	READJUSTED ZERO ON REMOTE CPS METER, LEFT IN SERVICE.
A245455	0	RM	090	122	02/04/84	0-RM-090-122, MONITOR IS NOT RESPONDING TO SOURCE CHECK.	ALIGNED CHECK SOURCE TO DETECTOR. LEFT IN SERVICE
A245501	0	PS	082	5025/4	02/26/84	0-PS-082-5025/4, THE CRANK CASE PRESSURE SWITCH HAS ACTUATED, WAS RESET. THE PS NEED TO BE VERIFIED OPERABLE.	VERIFIED CAL, RETURNED TO SERVICE.
A245599	0	RM	090	122	02/26/84	0-RM-090-122, TRIP POINT FLUCTUATES. TRIP REF VOLTAGE FLUCTUATES WHILE TURNING TRIP REF POT. TEST POINT 3 IS LOOSE.	EXERCISED ADJ. POTS & INDICATIONS STABILIZED. REMOVED RP-30 MODULE & VERIFIED PROPER OPERATION.
A250460	2	TS	061	131	02/09/84	2-TS-061-131, I.B. TEMP SW'S HI ALARM IS SWITCH WAS OUT OF CAL. RECALIBRATED AND	

COMP

MR2.... U FUNC SYS ADDRESS. DATE.... DESCRIPTION..... CORRECTIVE ACTION.....

IN, WINDOW #18 XA-55-60, SUSPECT BAD LEFT IN SERVICE.
ANN. CARD AND/OR TEMP SW'S IN ICE
CONDENSER.

16 records listed.

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION
(Formerly known as FSG)

RUN DATE 08MAR84 0054HRS

T I M E S C H E D U L E

PROJECT START 3JAN83

PROJECT MOD

CURRENT COMPL. 28APR84

CODE 1 ALEXANDER/FS MECH

SORT EJECT CODES 5678

F START

DATA DATE 14FEB84 PAGE 1

ACTIVITY D E S C R I P T I O N

SLGMT

DURATION

START INFORMATION

FINISH INFORMATION

NUMBER

MODE=C/F

NO.

SCH SPAN

DATE WKPRD

TIME

DATE WKPRD

TIME

206117973	DCR1797/10735P1 C/O AHU CLT BX LATH U-2	20	20	16FEB84	285	8:00H	15MAR84	304	16:00H
106117972	DCR1797/10735 C/O AHU CLT BX LATH U-1	20	20	16FEB84	285	8:00H	15MAR84	304	16:00H
40015344	WP 10429-COMplete EXTERIOR WEATHER PROOFING (H)	7	60	22NOV83	226	8:00H	16FEB84	285	16:00H
40019347	DCR1934/WP10429 COMP FIRE DAMPER INSTALLATION	5	6	8FEB84	279	8:00H	15FEB84	284	16:00H
20271	2027/WP10746 INSTL TOOLROOM MONORAIL (H)	10	29	9JAN84	257	8:00H	16FEB84	285	16:00H
20272	2027/10746 RELOCATE ACCESS STAIR NO 5 TOOL RM	12	13	6FEB84	277	8:00H	23FEB84	289	16:00H
8324561	ECN-2456/9512-INSTALL H2 SYSTEM HANGERS	46	88	17OCT83	201	8:00H	22FEB84	288	16:00H
204327804	2780/10271-CMPLT U2 PASE SMPI TUBING O/S CNIMI-W	46	128	17OCT83	201	8:00H	18APR84	328	16:00H
140032621	INSTL INSL IN ECN SIG BLDG/OUTSIDE VENDOR	13	32	20DEC83	245	8:00H	3FEB84	276	16:00H
140032620	INSTL FENCE AROUND ECN STORAGE YARDS	31	48	16JAN84	262	8:00H	22MAR84	309	16:00H
140032623	INSTL HEATING & AIR HANDLING UNIT/ECN SIG BLDG	12	22	1FEB84	274	8:00H	2MAR84	295	16:00H
106715009	5009/9520 BEGIN U1 PEN RM CLRS ERCW C/O HGRS	22	79	13OCT83	199	8:00H	6FEB84	277	16:00H
106750105	WP 9557-INSTALL INSL ON CCP 1A ERCW	20	35	24DEC83	250	8:00H	15FEB84	284	16:00H
106750099	WP 9539-INSTL S/S PPG FOR SEP 1B ERCW	12	21	16JAN84	262	8:00H	13FEB84	282	16:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION
(Continued)

LDL	1 ALEXANDER/FS MECH	SORT	EJECT	CODES	567H	E START	DATA DATE 14FEB84	PAGE 2	
ACTIVITY NUMBER	D E S C R I P T I O N MODE=C/F	SEGMENT NO.	DURATION SCH SPAN	START DATE	INFORMATION WKPRD	FINISH TIME	FINISH DATE	INFORMATION WKPRD	FINISH TIME
106750093	WP 9560-INSTALL INSL ON SIS 1B ERCW		11 24	23JAN84	267	8:00H	24FEB84	290	16:00H
106750097	WP 9539-INSTALL INSL ON SFP 1A ERCW		10 18	25JAN84	269	8:00H	17FEB84	286	16:00H
106750100	WP 9539-HYDRO TST SPF 1B CLR PPG		1 1	10FEB84	281	8:00H	10FEB84	281	16:00H
106750101	WP 9539-INSTALL INSL ON SFP 1B ERCW		10 10	15FEB84	284	8:00H	29FEB84	293	16:00H
100135024	ECN5024/10450 PREFAB AB&PREP INSTL SUCT ISOL PPG		19 44	21DEC83	246	8:00H	23FEB84	289	16:00H
100145024	ECN 5024/10450-PREFAB&PREP FW CK VLV BP (H)		8 34	9JAN84	257	8:00H	24FEB84	290	16:00H
100165024	ECN5024/10450 PREFAB AB&PREP CHEM FEED PIPG INST		17 34	11JAN84	259	8:00H	28FEB84	292	16:00H
100155024	ECN5024/10450 PREFAB AB&PREP DISCHRG ISOL PIPING		5 5	3FEB84	276	8:00H	9FEB84	280	16:00H
100151043	5104/9981-CMPLT MSR DOGHOUSE COVERS (P) (I)		18 45	22DEC83	247	8:00H	27FEB84	291	16:00H
106899983	WP10774 INSTALL HANGERS AUX BLDG/ANNUL PRE BTG		10 11	13FEB84	282	8:00H	28FEB84	292	16:00H
109094021	ECN5194/WP10615 RUN TUBING ANNULUS & MON BLDG		32 46	30DEC83	252	8:00H	6MAR84	297	16:00H
104380004	ECN 5200/WP 10217-COMP EMERG AIR DSCHG-ABGTS		16 97	29SEP83	190	8:00H	17FEB84	286	16:00H
104380011	ECN 5200/WP 9584-CHELT SAMPLE TUBING O/S CONT		33 198	17OCT83	201	8:00H	21MAR84	308	16:00H
104380010	ECN 5200/WP 10290-INSTL EMERG AIR BREATHING STA		62 93	19OCT83	203	8:00H	2MAR84	295	16:00H
104380005	ECN 5200/WP 10217-COMP EMRG AIR SUP SUCTION		48 106	19OCT83	203	8:00H	21MAR84	308	16:00H
104352003	ECN 5200/WP10636 REWORK A/B STRCASE PASF		25 74	31OCT83	211	8:00H	15FEB84	284	16:00H
104380008	ECN5200/WP10217 INSTALL TORNADO DAMPERS		16 83	7NOV83	216	8:00H	7MAR84	298	16:00H
104380009	ECN 5200 INSTALL ADDL EQUIP BLDG ROOF INLET		16 82	7NOV83	216	8:00H	6MAR84	297	16:00H
104325200	ECN 5200/10252-INSTL U1 FIRE PROT PIPNG-PASF		15 35	16JAN84	262	8:00H	5MAR84	296	16:00H
103025200	WP 10643/ECN 5200-INSTL SERV BLDG BREATH AIR-PAS		21 39	17JAN84	263	8:00H	12MAR84	301	16:00H
104380050	5200/WP9864 INSTALL ABGTS DAMPER HGR U1&U2 (H)		12 21	18JAN84	264	8:00H	15FEB84	284	16:00H
104380049	ECN5200 ADD PASF HEPA FILTER DRAINS & TRAPS		36 41	31JAN84	273	8:00H	28MAR84	313	16:00H
101552293	ECN5229/8961 INSTL SGBD VENT,INST SMPL TUBE (H)		12 55	29NOV83	230	8:00H	15FEB84	284	16:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION
(Continued)

ACTIVITY NUMBER	DESCRIPTION	MODE=C/E	SEGMENT NO.	DURATION SCH SPAN	START DATE	START WKPBD	START TIME	FINISH DATE	FINISH WKPBD	FINISH TIME
10775370	WP9877 LAUNDRY FACILITY HVAC (PREUIC2 WORK)		59	107	60OCT83	195	8:00H	12MAR84	301	16:00H
7752372	WP9917 HOT LAUNDRY CHILLER PKG (PREUIC2 WORK)		40	81	14NOV83	220	8:30H	9MAR84	300	16:00H
103105274	ECN5274/WP10485, INSTALL SS TRIG TO HVAL DMAR		40	41	12JAN84	260	8:00H	9MAR84	300	16:00H
102553920	ECN5399/10268 MODIFY LADDERS RWST (INST GATE)		2	3	6FEB84	277	8:00H	8FEB84	279	16:00H
106754577	54577/WP 5504-REPL P TR SOL VLV ERGW RM CLBS		8	23	16JAN84	262	8:00H	15FEB84	284	16:00H
106754575	WP9504 REPL AFW PMP SPC CLR SOL VLV-1-67-162		3	3	9FEB84	280	8:00H	13FEB84	282	16:00H
131354571	WP-9534 REPLACE SOL VLVS SYS 313		8	8	16FEB84	285	8:00H	28FEB84	292	16:00H
107955170	55177/WP9440 COMPLY U1&U2 MANIP CRN TST FIXTURE		4	6	9FEB84	280	8:00H	16FEB84	285	16:00H
106554051	ECN 5605/WP 10534-PREFAB EGTS A&B TR FD PIPE		10	11	27JAN84	271	8:00H	10FEB84	281	16:00H
101554956	WP 1033RR1/5645-CMPLY NON-OT INST TUBING-U1		44	179	14JUN83	115	8:00H	29FEB84	293	16:00H
201554435	WP10456 INSTL 4" SGRO/HGRS&TORO FLGS VL (H)		45	61	21DEC83	246	8:00H	19MAR84	306	16:00H
101565645	ECN 5645-INSULATE TANKS, HTX&PIPING U1(H)		17	37	9JAN84	257	8:00H	29FEB84	293	16:00H
201565645	ECN 5645-INSULATE TANKS-PTX & PIPING U2		17	27	23JAN84	267	8:00H	29FEB84	293	16:00H
101565646	5645/WP10730 INSTL SGRO DRN COND A&BLOG SUNP		13	13	15FEB84	284	8:00H	5MAR84	296	16:00H
201554453	WP 10454-INSTL INST LINES S/G B/D U2 (H)		30	30	15FEB84	284	8:00H	28MAR84	313	16:00H
199057430	WP 10001 PREFAB PLTFRM&LDDRS S/G&FRZ(PRE UIC2)		21	29	9JAN84	257	8:00H	16FEB84	285	16:00H
100050640	5746/10492-C02 STORAGE TANK BLEEDER (P)		20	59	25NOV83	228	8:00H	17FEB84	286	16:00H
109025770	5770/10631R0 INSTL CONC FDN/SET 1&2RE-90-90		12	20	9JAN84	257	8:00H	3FEB84	276	16:00H
109057705	5770/10631P1-RUN SMPL TUBING TO MON-NON DTG		15	15	16FEB84	285	8:00H	8MAR84	299	16:00H
106865773	WP10688 PREFAB PORV PIPING		15	15	1FEB84	274	8:00H	22FEB84	288	16:00H
170157873	5787/10694-INSTL SWAY BRACES EXTRA STEAM		25	38	24JAN84	268	8:00H	16MAR84	305	16:00H
100358002	WP 10632-WELD FLANGES TO CAV VENTURI 10-B		7	7	31JAN84	273	8:00H	8FEB84	279	16:00H
100358422	WP 10632-WELD FLANGES TO CAV VENTURI 1A-A		3	3	6FEB84	277	8:00H	8FEB84	279	16:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION

(Continued)

CODE	1 ALEXANDER/FS MECH	5081	EJECT	CODES 5678	E START	DATA DATE 7MAR84	PAGE 6
ACTIVITY	O E S E R I P T I O N	MODE=C/F	SEGMENT NO.	DURATION SCH SPAN	START DATE WKPRD	FINISH DATE WKPRD	TIME
NUMBER							
100150245	ECN 50247WP 10450-INSTL SUCT PIPE-FW TO ISOL VLV		104	120 21FEB84	1 8:00H	12MAR84 120	16:00H
100150246	ECN 50247WP 10450-INSTL BYPASS FW CHECK VLVS		164	264 21FEB84	5 20:00H	29MAR84 268	20:00H
100150247	50247/10450-INSTL DISCH PIPE SGBD TO ISOL VLV		160	190 27FEB84	33 8:00H	29MAR84 222	14:00H
100350340	ECN 50347WP 10714-INSTL 376 HANDHOLE PLATFORMS		216	232 24FEB84	25 8:00H	4APR84 256	16:00H
100350692	ECN 5069-001AIN H.O. ON FW FOR WP9667R1		4	4 21FEB84	2 1:00H	21FEB84 5	5:00H
100350690	ECN 50697WP9667R1-REMOVE FW FE INSULATION		42	42 21FEB84	1 8:00H	23FEB84 42	18:00H
100350693	ECN 50697WP9667R1-SET UP FAN AREA/LAY OUT CUTS		64	72 21FEB84	1 8:00H	25FEB84 72	16:00H
100350691	ECN 50697WP9667R1-RIG FW PIPE FOR REMOVAL		8	8 24FEB84	49 8:00H	24FEB84 56	16:00H
100350695	ECN 50697WP9667R1-CUT 4 FW PIPES & RMV		20	20 24FEB84	53 12:00H	25FEB84 72	16:00H
100350694	ECN 50697WP9667R1-TAG & CUT INSTR LINES		16	16 24FEB84	57 16:00H	25FEB84 72	16:00H
150690026	ECN 50697WP9667R1-REMOVE INSTR LN HT TRACE		3	3 24FEB84	26 17:00H	24FEB84 28	20:00H
106800222	5106/10734(LP 183)INSTL SLEEVE IN ELEV 693 FLR		88	113 22FEB84	25 0:00H	26FEB84 137	17:00H
106800223	5106/10734(LP 183)INSTL SLEEVE IN POLAR CRN WALL		88	113 22FEB84	25 0:00H	26FEB84 137	17:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION

(Continued)

CODE	1 ALEXANDER/FIS MECH	POST	SUBJECT	CODES	5678	F START	DATA DATE	7MAR84	PAGE	7
ACTIVITY	D B S C R I P T I O N	MODE=C/P	STRT NO.	DURATION SCH SPAN	START DATE	INFORMATION WKPRD	FINISH DATE	INFORMATION WKPRD	TIME	TIME
106800232	5106/10722-(LP 1)SCAF(RDY LIG CAPRY-CMMN PNT)		9	9	23FEB84	24	23:00H	25FEB84	32	0:00H
106800330	5106/10722-(LP 3)SCAF(RDY LIG CAPRY-CMMN PNT)		24	24	24FEB84	25	3:00H	26FEB84	49	14:00H
106800250	5106(LP 1)-REINW BELLONS FOR SNRS (INSTR SHOD)		17	12	24FEB84	37	3:00H	24FEB84	49	70:00H
106800350	5106(LP 3)-REINW BELLONS FOR SNRS (INSTR SHOD)		12	12	24FEB84	37	8:00H	24FEB84	49	30:00H
106800201	5106/10722-(LP 1)SCAF LVR ENTENTRY HD HP VNT		24	33	24FEB84	32	15:00H	28FEB84	64	14:00H
106800312	5106/10722-(LP 3)SCAF(CTAL TEL CAPRY-CMMN PNT)		25	25	24FEB84	32	15:00H	27FEB84	56	14:00H
106800175	5106/10722-SCAF CMTY:CAPLLS FOR RX HD-HP VNT		48	55	24FEB84	57	16:00H	28FEB84	112	0:00H
106800210	5106/10722 (LP 1) SCAF FOR POND WORK(FINE X-34)		8	8	24FEB84	25	16:00H	25FEB84	32	0:00H
106899930	5106/10722-BUILD SCAFFOLDS I/S LOWER ENTENT		40	43	24FEB84	57	16:00H	27FEB84	104	14:00H
106800202	5106/10722-(LP 1)SCAF LVR ENTENTRY CMMN PNT		24	24	25FEB84	33	8:00H	27FEB84	56	16:00H
106800214	5106/10774-(LP 1)OUTSIDE CAPILLARY WORK		96	153	27FEB84	49	0:00H	17MAR84	201	1:00H
106800314	5106/10774-(LP 3)OUTSIDE CAPILLARY WORK		96	153	27FEB84	49	0:00H	17MAR84	201	1:00H
106800270	ECN 5106/HP 10722-INSTL LP 1 SNDR SUPPORT-HOT LG		36	44	27FEB84	49	16:00H	3MAR84	92	20:00H
106800370	5106/10722-INSTL LP 3 SNDR SUPPORT-HOT LG		44	44	27FEB84	49	16:00H	3MAR84	92	20:00H
106800275	5106/10722-INSTL UNISTROT FOR FL 1-LOOPT		40	43	27FEB84	49	16:00H	4MAR84	95	0:00H
106800195	INSTALL SCAFFOLD IN RX CAVITY		9	9	27FEB84	168	23:00H	28FEB84	176	8:00H
106800179	5106/9002-RX HEAD VLV ASSEMBLY PREP WORK		20	122	28FEB84	177	3:00H	4MAR84	305	17:00H
106800178	5106/9002-PDD BLOWOUT DRSECTR R5 HD TO HP VNT		14	15	28FEB84	113	8:00H	28FEB84	121	0:00H
109400004	5106/10642-MODIFY J-7 & INSTL SEAL TBL(WSTNGHS)		27	27	23FEB84	177	3:00H	29FEB84	203	11:00H
109094023	ECN 5194/HP 10615-CMPLT TUPING TIE-INS-ANNULUS		36	95	24FEB84	25	8:00H	12MAR84	120	14:00H
106851970	ECN 5197/HP 9002T-BOLE IT RRV VNT SPOOL PICE		3	3	23FEB84	24	23:00H	24FEB84	26	10:00H
106825197	ECN 5197-CORRECT CONDUCT INTERFERENCES		10	13	25FEB84	35	15:00H	27FEB84	52	20:00H
104330007	WP10217-INSTL EMERG AIR SUPPLY SUCTION & DMPRS		320	352	21FEB84	1	3:00H	22MAR84	352	0:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION

(Continued)

CODE	1 ALEXANDER/FS MECH	5573	E START	DATA DATE 7MAR84	PAGE 8
ACTIVITY	DESCRIPTION	SEGMENT NO.	DURATION	START DATE	FINISH DATE
NUMBER	MODE=C/F	NO.	SCH SPAN	DATE WKPRD	DATE WKPRD
				TIME	TIME
102652001	ECN 5200/WP10252-INSTALL PASS FF PIPING	128	180	21FEB84	22MAR84
104330003	ECN 5200/WP10217-INSTALL TORNADO DAMPERS	160	232	21FEB84	12MAR84
104380009	WP10217 INSTALL ADENL EQUIP BLDG ROOF INLET	150	232	21FEB84	12MAR84
152000109	ECN 5200/WP10343-INSTL SRVC BLDG BATHNG AIR PASS	147	198	21FEB84	26MAR84
152000108	ECN 5200/WP10290-INSTL EMERG AIR BREATHING STATN	136	194	21FEB84	26MAR84
104352001	5200/WP9534-INSTL NEW AIR SAMPLE TUBNG UPP CNT	32	43	24FEB84	2MAR84
104330049	WP10217 ADD PASS HEPA FILTER DRAINS & TRAPS	250	312	27FEB84	23MAR84
101513058	ECN 5645/WP10338R1-INSTL INSTR TUBING	80	144	23FEB84	19MAR84
100005743	ECN 5743/WP10001-INSTL LAD/PLTFRM TO PZR/SG	454	455	22FEB84	3APR84
106807034	5773/10683-RMV INSULATION PORV'S & PIPING	20	20	23FEB84	24FEB84
106807026	-MARKID ALL SPRTS ATTCHD TO SFTY VLVS	8	205	24FEB84	3MAR84
106807023	-RMV CONDUIT & DISCONNECT ELECT PORV'S	56	79	24FEB84	27FEB84
106807030	5773/10757-INSTL 3 SPRTS ON COLLECTION HDR	64	114	24FEB84	10MAR84
106807035	5773/10683-REMOVE ACCOUSTIC MONITOR	4	4	24FEB84	24FEB84
106807043	5773/10758&10755-RMV PORV & LOOP SEAL SUPPORTS	56	165	24FEB84	8MAR84
100657872	ECN 5787/WP10693 INSTALL EXTR STM SWAY BRACES	168	240	21FEB84	3APR84
106807100	5356/10762-RPLC PZR SFTY VLVS=TRIM & TEST	208	320	21FEB84	12MAR84
106807023	-INSTALL LIGHTS FRP LOWER	22	22	22FEB84	23FEB84
106807024	5356/10719-INSTL SCAFFOLD FOR LOOP SEAL LINE	123	123	23FEB84	28FEB84
106807020	-OPEN PZR PANWAY	6	6	23FEB84	23FEB84
106807022	-INSTL LIGHTS/PHONE FROM UPPER	8	8	23FEB84	23FEB84
106807019	-MOVE TOOLS EQUIP TO TOP OF PZR	8	70	24FEB84	26FEB84
107958671	ECN 5367/WP 10664-FUEL XFER SYS MECH MODS	18	13	26FEB84	28FEB84

(Continued)

CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	12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OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION

(Continued)

CODE	1 ALEXANDER/FS MECH	50RT	EJECT	CODES	5678	E START	DATA DATE	7MAR84	PAGE 10
ACTIVITY	D E S C R I P T I O N	SEGMENT	DURATION	START	INFORMATION	FINISH INFORMATION	DATE	WKPRD	TIME
NUMBER	MODE=C/F	NO.	SEC SPAN	DATE	WKPRD	TIME	DATE	WKPRD	TIME
100300007	5939/10670-CUT TUBES FROM TUBE SHEET: COND "A"	25	25	24FEB84	82	9:00H	25FEB84	106	10:00H
100300041	ECN 5939/WP 10670-REMOVE HANGWAY COND "B"	2	2	25FEB84	98	1:00H	25FEB84	99	3:00H
100310020	ECN 5939/WP 10670-SET UP WACHS CUTTING MACHINE-S	1	1	25FEB84	99	2:00H	25FEB84	99	3:00H
100300029	ECN 5939/WP 10670-CUT DIAPHRAGM: COND "B"	3	3	25FEB84	100	3:00H	25FEB84	102	6:00H
100300030	ECN 5939/WP 10670-CUT SHELL: COND "B"	21	21	25FEB84	101	4:00H	25FEB84	121	1:00H
100310013	5939/10670-INST TEMP SPRAY SHELL COND "B"	3	3	25FEB84	105	8:00H	25FEB84	107	11:00H
100310009	ECN 5939/WP 10669-RMV VLV OPERATOR FCV-2-211 COV	8	3	25FEB84	105	8:00H	25FEB84	112	14:00H
100310019	ECN 5939/WP 10670-RMV SADDLE BEAM SPRAY COND B	3	3	25FEB84	106	9:00H	25FEB84	103	12:00H
100310010	ECN 5939/WP 10669-RMV VLV STEM PROTECTOR FCV-2-21	1	1	25FEB84	106	9:00H	25FEB84	106	10:00H
100310002	ECN 5939/WP 10669-RMV VLV STEM PROTECTOR FCV-2-210	1	1	25FEB84	106	9:00H	25FEB84	106	10:00H
100300031	5939/10670-PULL TUBE BUNDLE ASSLY: COND "B"	1	1	26FEB84	123	2:00H	26FEB84	123	3:00H
100300032	ECN 5939/WP 10670-CUT TUBES FRM TUBE SHT: COND B	52	52	26FEB84	123	2:00H	28FEB84	174	4:00H
100300010	5939/10670-PULL TUBE STUBS FRM TUBE SHT-COND A	69	69	26FEB84	96	23:00H	2MAR84	164	12:00H
100300000	ECN 5939/WP 10670-CLEAN TUBE SHEET: COND A	63	63	28FEB84	58	1:00H	6MAR84	120	8:00H
100300055	ECN 5939/WP 10670-RMV PARTIYN PLATE BGSKT-COND B	1	1	28FEB84	180	11:00H	28FEB84	180	12:00H
100300033	5939/10670-PULL TUBE STUBS FRM TUBE SHT-COND B	75	75	28FEB84	122	17:00H	4MAR84	196	12:00H
107960520	ECN 6052/WP 10704-CMPLY MANIP CRN HANDRAILS (P)	40	83	22FEB84	9	8:00H	3MAR84	95	16:00H
107900073	WP 10732-INSTL NEW GRATING ON INTRNL LIFT RIG	75	93	28FEB84	182	13:00H	3MAR84	274	10:00H

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION

(Continued)

IN DATE	REMARKS	TIME	SCHEDULE	PROJECT START	30JAN83			
PROJECT	NO.			CURRENT	COMPL. 29AFR86			
CODE	1	DESCRIPTION	30M1	ELCCT	CODES 5678	E-START	DATA DATE 14FEB84	PAGE 1
ACTIVITY	NUMBER	DESCRIPTION	ELCCT NO.	DURATION	SCH. DIAL	START DATE WKPRD TIME	FINISH DATE WKPRD TIME	
13987 031	CABLE TRAY (MAINTENANCE) 1427005		63	135	19OCT83	203 8:00H	1MAY84 337	16:00H
13795 753	DCR 875/WP 10626-VESTIBULHOUSE FOR DCR 875					E.V.E.N.T.	14FEB84 283	14:00H
13720 691	DCR 565/WP 1 702 CO MONITOR AIR COMPRESS INTAKE(H)		14	14	15FEB84	284 8:00H	6MAY84 297	16:00H
12451 7432	DCR 1741L RELOCATE FOR SOURCE FUSION BA 546 COMHU		13	13	15FEB84	284 8:00H	29FEB84 293	16:00H
1301 343	WP1066-INSTL LIGHTS PAN & FIRE ALARMS (H)		5	17	1FEB84	274 8:00H	28FEB84 292	16:00H
11115 240	ECR 5104/WP 10210-INSTL CONDUIT 5/8 LAYUP		18	39	23DEC83	248 8:00H	17FEB84 286	16:00H
10912 1324	ECR 5124/WP 1 494 PULL CABLE 5/8 LAYUP(H)		9	24	13JAN84	261 8:00H	15FEB84 284	16:00H
10645 456	ECR 5145/WP 10677 INSTL CABLE & CONDUIT		15	15	15FEB84	284 8:00H	7MAR84 298	16:00H
10395 721	5172/WP 1 1355 02 MON/LAZR CR2 STORAGE VAULT(H)		14	34	12JAN84	260 8:00H	29FEB84 293	16:00H
10901 1114	ECR 5119/WP 1 260 REWORK WP 1 1260		15	16	20JAN84	266 8:00H	10FEB84 281	16:00H
10655 1256	ECR 5125/WP 10705 PRELIM CONDUIT & CBL WPK-LETS AW		15	16	10FEB84	281 8:00H	5MAR84 296	16:00H
10904 4316	ECR 5194/WP 10639-INSTL CONDUIT-IDDINE MONITOR		44	61	14NOV83	220 8:00H	13MAY84 302	16:00H
10904 4236	ECR 5194/WP 10747-PULL ALL CABLE		19	26	13FEB84	282 8:00H	20MAR84 307	16:00H
15196 355	WP 10548-PULL TSC U1 DATA CABLES		55	73	21NOV83	225 8:00H	1MAR84 294	16:00H
15192 423	WP 10448 COMPLETE POWER CABLE TERMINATIONS		10	53	1DEC83	232 8:00H	15FEB84 284	16:00H
1519 427	PULL & TERMINATE CABLES FROM P-250 TO DEM-52 U1		21	54	2DEC83	233 8:00H	17FEB84 286	16:00H
1519 409	ECR 5191-WP 10743-CABLE TERM IN 1-R-15651-R-157		26	30	17JAN84	263 8:00H	28FEB84 292	16:00H
15192 422	CALIBRATE ANALOG POINTS		30	30	18FEB84	411 8:00H	18MAR84 440	16:00H
10438 1017	5209/10320 PULL CBL FOR PAGE 0/5 CNTNT		38	102	14OCT83	200 8:00H	12MAY84 301	16:00H
10435 1013	WP 10541/5280-INSTL SWITCH RELAYS LOG PAN		27	97	2NOV83	213 8:00H	22MAR84 309	16:00H
15200 991	ECR 5232-WP 10445 10331P1 PAGE TERM CBL 0/5 CNTN		31	78	22NOV83	226 8:00H	14MAR84 303	16:00H

(Continued)

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OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTIONS
(Continued)

CODE	DESCRIPTION	DATE	TIME	CODES	5678	E START	DATA DATE	140000H	PAGE	3
ACTIVITY	NUMBER	DESCRIPTION	DATE	TIME	START	INFORMATION	FINISH	INFORMATION		
4100-3-2	4100-3-2	4100-3-2	16JAN84	262	81	16JAN84	262	81	16JAN84	262
11750-167	11750-167	11750-167	12MAR84	437	214	12MAR84	437	214	12MAR84	437
10010-033	10010-033	10010-033	19FEB84	283		19FEB84	283		19FEB84	283
10810-013	10810-013	10810-013	15FEB84	284	18	15FEB84	284	18	15FEB84	284
10010-111	10010-111	10010-111	17FEB84	284	5	17FEB84	284	5	17FEB84	284

(Continued)

[illegible]

OUTAGE AND MAJOR MODIFICATION MAINTENANCE SECTION
(Continued)

ACTIVITY NUMBER	DESCRIPTION	MODEL/TYPE	EST NO.	DURATION SCH SPAN	START DATE	START WKFRD	START TIME	FINISH DATE	FINISH WKFRD	FINISH TIME
13684936	CON 1147-1 1967-CABLE IN II CONDUIT & PIG		144	216	22FEB84	9	8:00H	21MAR84	424	14:00H
13684937	5145721 1965-WT & APPV PANEL R-435 WIRING		25	25	24FEB84	25	8:00H	27FEB84	42	14:00H
13684945	CON 1147-1 1968-CABLE IN II CONDUIT & PIG		32	99	24FEB84	30	13:00H	29MAR84	124	14:00H
13684953	1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT		43	125	24FEB84	58	15:00H	10MAR84	142	13:00H
13684964	CON 1147-1 1965-INSTL WIRING R-4, R-5, & OUTSIDE PC		246	243	24FEB84	58	8:00H	24MAR84	300	12:00H
13684965	CON 1147-1 1965-INSTL INSTRUMENTS IN I-R-4		143	119	21FEB84	58	8:00H	15MAR84	176	14:00H
13684951	WP 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		57	173	21FEB84	1	8:00H	40ZAP84	103	15:00H
13684955	WP 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		72	136	21FEB84	1	8:00H	40ZAP84	136	15:00H
13684966	CON 1147-1 1967-PULL ALL REMAINING CABLE		168	174	21FEB84	1	8:00H	15MAR84	175	14:00H
13684965	CON 1147-1 1965-INSTL WIRING R-4, R-5, & OUTSIDE PC		48	56	22FEB84	9	8:00H	1MAR84	64	14:00H
13684952	CON 1147-1 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		40	44	21FEB84	17	8:00H	1MAR84	64	14:00H
13684967	CON 1147-1 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		50	104	23FEB84	33	8:00H	17MAR84	166	12:00H
13684973	514771170X REPT FM DRAFS&INSTL CNDT IN BOX B-4		151	148	21FEB84	1	14:00H	16MAR84	194	10:00H
13684974	INSTALL J BOXES CONDUIT IN ANNULUS		123	176	24FEB84	45	20:00H	21MAR84	223	21:00H
15194969	WP 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		114	119	21FEB84	1	8:00H	15MAR84	140	11:00H
15194952	WP 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		1	1	21FEB84	8	7:00H	21FEB84	8	11:00H
15194955	WP 1965-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		174	120	26FEB84	42	11:00H	14MAR84	161	11:00H
134384951	CON 5200-CABLE PASS PREOUTAGE ACTIVITIES							21FEB84	1	11:00H
134384921	CON 5200-INSTL CONDUIT TO TORNADO DAMPERS		113	163	22FEB84	9	14:00H	15MAR84	169	21:00H
15200101	5210746 1965-TERMIN CABLES & SYSTM CHECKOUT		248	304	22FEB84	9	15:00H	44MAR84	312	11:00H
15200103	CON 5200-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		72	72	22FEB84	9	14:00H	24MAR84	80	11:00H
15200105	CON 5200-WT & APPV WP 1965-WT & APPV CABLE IN II CONDUIT & PIG		91	194	22FEB84	9	14:00H	18MAR84	192	10:00H
134384931	5200746 1965-PULL&TERM CABLE TO OFFR CONT VLVS		16	16	24FEB84	41	15:00H	28FEB84	56	11:00H

(Continued)

CODE	3	50LACIK/F5 ELFC	SOFT	JECT	CODES	5678	E	START	DATA	DATE	7MARR4	PAGE	3
ACTIVITY	NUMBER	D E S C R I P T I O N	MODE=CF	SEGMENT NO.	DURATION	SCH SPAN	START DATE	INFORMATION WKPRD	TIME	FINISH DATE	WKPRD	TIME	
15200	104	ECN 5200/WP10144-INSTALL CONDUIT			160	200	28FEB84	57	16:00H	28MAR84	256	0:00H	
13725	3531	WP 10630P1-BYPASS LCL CNTRL 1-FCV-72-40-41			25	25	24FEB84	26	1:00H	29FEB84	50	2:00H	
10035	3534	WP10630P1 1-FCV-3-33,47,87,107			25	25	24FEB84	26	1:00H	29FEB84	50	2:00H	
10035	3533	WP 10630P1-BYPASS LCL CNTRL 1-FCV-3-33,47,87,1			25	25	24FEB84	26	1:00H	29FEB84	50	2:00H	
10015	3531	5353/1-FCV-1-BYPASS LCL CNTRL 1-FCV-1-15,16,17,18			17	17	27FEB84	34	1:00H	29FEB84	50	2:00H	
10305	3703	ECN 5370/10617 REFL SIS ROOM AHU MOTORS			39	59	24FEB84	25	16:00H	2MAR84	83	10:00H	
10325	4201	5420/10610767-WRT&APRV WP-AUX AIR COMP RELAYS			48	72	23FEB84	17	8:00H	6MAR84	85	16:00H	
12685	4292	WP 10777-INST CONDUIT & ADDTL 16TBS UPP CONT			76	104	21FEB84	1	8:00H	4MAR84	104	16:00H	
10610	4444	ECN 5444/DCK 0763-PRVD PWR OUTLETS IN ICE CONDNSR			178	202	21FEB84	8	7:00H	28MAR84	209	1:00H	
10151	1055	ECN5645/WF10739-/INSTL FIC & TERM CBLES IN C.47F			120	136	24FEB84	25	8:00H	13MAR84	163	16:00H	
10151	1053	ECN5645/WF10739-RMV AUX INST RACKS/INTERNAL WIRI			120	136	24FEB84	25	8:00H	13MAR84	163	16:00H	
10151	1054	ECN5645/WF10739-TERMINATE FIELD CABLES			72	80	27FEB84	49	8:00H	7MAR84	129	16:00H	
10310	745	ECN 5745/WF 10623-REPLC AIR COND CIRC PU MTRNCL 73			29	29	21FEB84	1	16:00H	24FEB84	29	1:00H	
10904	5770	ECN 5770/WP 10657-TERM CABLES OUTSIDE M-31			64	96	21FEB84	1	8:00H	7MAR84	96	16:00H	
10905	5770	ECN 5770/WP 10657-MODIFY PANEL 1-M-31			152	152	23FEB84	33	8:00H	7MAR84	184	16:00H	
10035	231	ECN 5823/WP 10799-APPROVE WP			40	56	21FEB84	1	16:00H	1MAR84	56	0:00H	
10799	6010	WP 10646-FUEL XFR SYS MODS COMPLETE								25FEB84	96	0:00H	
13790	6012	WP 10646-FUNCTIONAL TST FUEL XFER SYSTEM			8	8	28FEB84	113	8:00H	28FEB84	120	16:00H	
10615	812	ECN 5881-APPROVE WP 10761			40	135	22FEB84	10	17:00H	10MAR84	144	0:00H	
10035	823	5882/WP 10-19-WRT & APRV WP TO REPLACE TS			64	96	23FEB84	17	8:00H	9MAR84	112	16:00H	
10032	884	ECN5884-WRITE WP10776-REPLC FT.72-13834			16	16	21FEB84	1	8:00H	22FEB84	16	16:00H	
10000	1691	ECN5982/WP10682-REROUTE PORV CABLE(20 FT SEPRIN)			202	202	21FEB84	8	7:00H	20MAR84	209	1:00H	
10575	9871	5987/10676-REPLC STRT BUS 18 CONDCTRS & SLEEVES			240	249	22FEB84	17	0:00H	8MAR84	265	0:00H	

(Continued)

APPENDIX A

Changes to Sequoyah Nuclear Plant (SQN) Offsite Dose Calculation Manual (ODCM)

Change 1

Description of Change

Wording corrections were made on pages 7 and 30. No model changes are reflected in these changes; therefore, no evaluations are necessary.

Change 2

Description of Change

Wording was added to the gaseous and liquid sections describing how cumulative quarterly and annual doses are estimated based on monthly calculations and how dose projections are performed (pages 16 and 25). The additions do not represent a model change, but an explanation of the methodology already in use. Therefore, no evaluations are necessary.

Change 3

Description of Change

Three locations for sampling milk were added to table 3.1-2. One location was deleted.

Analysis or Evaluation Justifying Change

The most recent land-use survey identified 3 near site farms where goats are milked. Because goats have a higher concentration factor for iodine than do cows, these locations were added. As partial compensation for the addition, one site which consistently had low measured concentrations was deleted.

Evaluation of Accuracy of Dose Calculations or Set Point Determinations

Although this change will not affect dose calculations or set point determinations, it will improve the usefulness of the environmental monitoring program by decreasing the likelihood that any elevated environmental concentration will be missed.

SEQUOYAH NUCLEAR PLANT
OFFSITE DOSE CALCULATION MANUAL
EFFECTIVE PAGE LISTING
REVISION 8

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1 through 2	Revision 6
3 through 4	Original
5	Revision 3
6	Revision 4
7	Revision 8
8 through 9	Revision 5
10	Original
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14	Revision 7
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15a	Revision 7
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Table 1.1 (2 pages)	Revision 4
Table 1.2 (2 pages)	Original
Table 1.3 (8 pages)	Revision 4
Table 1.4	Revision 4
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Tables 1.6 and 1.7	Revision 5
Table 1.8	Original
Figures 1.1 and 1.2	Original
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Figure 3.1-1 through 3.1-2	Revision 4
Figure 3.1-3	Revision 8
Figure 3.1-4 through 3.1-5	Revision 4
Figure 3.1-6 through 3.1-7	Revision 8

Sequoyah Nuclear Plant
Offsite Dose Calculation Manual
Dates of Revisions

Original ODCM	2/29/80*
Revision 1	4/15/80**
Revision 2	10/7/80**
Revision 3	11/3/80, 2/10/81
	4/8/81 and 6/4/81**
Revision 4	11/22/82 (10/22/81,
	11/28/81 and 4/29/82**
Revision 5	10/21/82**
Revision 6	1/20/83**
Revision 7	3/23/83**
Revision 8	12/16/83**

*Low Power license for Sequoyah unit 1
**RARC Meeting date

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3. Milk Ingestion

For determining the concentration of any nuclide (except H-3) in and on vegetation:

$$CV_i = 3,600 \sum_{k=1}^7 \frac{f_k Q_i DR}{2\pi x/n} \left\{ \frac{r [1 - \exp(-\lambda_{Ei} t_e)]}{Y_v \lambda_{Ei}} + \frac{B_{iv} [1 - \exp(-\lambda_i t_b)]}{P \lambda_i} \right\} \quad (1.7)$$

where:

CV_i = concentration of radionuclide i in and on vegetation, $\mu\text{Ci/kg}$.

k = stability class.

f_k = frequency of this stability class and wind direction combination, expressed as a fraction.

Q_i = average release rate of radionuclide i , $\mu\text{Ci/s}$.

DR = relative deposition rate, m^{-1} (Figure 1.2).

x = downwind distance, m .

n = number of sectors, 16.

$2\pi x/n$ = sector width at point of interest, m .

r = fraction of deposited activity retained on vegetation, 0.47 (table 1.6).

λ_{Ei} = effective removal rate constant, $\lambda_{Ei} = \lambda_i + \lambda_w$, h^{-1} , where λ_i is the radioactive decay coefficient, h^{-1} , and λ_w is a measure of physical loss by weathering ($\lambda_w = 0.0023 \text{ h}^{-1}$ for particulates and 0.0017 for iodines).

t_e = period over which deposition occurs, 720 h.

Y_v = agricultural yield, 1.18 kg/m^2 .

B_{iv} = transfer factor from soil to vegetation of radionuclide i (Table 1.6).

λ_i = radioactive decay coefficient of radionuclide i , h^{-1} .

t_b = time for buildup of radionuclides on the ground, $3.07 \times 10^5 \text{ h}$ (35yr).

Step 2

This methodology is to be used if the calculations in step 1 yield doses that exceed applicable limits.

Doses for releases of iodines and particulates shall be calculated using the methodology in Section 1.1.1, step 1, part B, with the following exceptions:

1. All measured radionuclide releases will be used.
2. Dose will be evaluated at real cow locations and will consider actual grazing information.

The receptor having the highest total dose is then used to check compliance with specification 3.11.2.3.

Calendar quarter doses are first estimated by summing the doses calculated for each month in that quarter. Calendar year doses are first estimated by summing the doses calculated for each month in that year. However, if the annual doses determined in this manner exceed or approach the specification limits, doses calculated for previous quarters with the methodology of section 1.4 will be used instead of the doses estimated by summing monthly results.

1.3 Dose Projections

In accordance with specification 3.11.2.4, dose projections will be performed. This will be done by averaging the calculated dose for the most recent month and the calculated dose for the previous month and assigning that average dose as the projection for the current month.

1.4 Quarterly and Annual Dose Calculations

A complete dose analysis utilizing the total estimated gaseous releases for each calendar quarter will be performed and reported as required in Specifications 6.9.1.8 and 6.9.1.9. Methodology for this analysis is the same as that described in Section 1.1.1, except that real pathways and receptor locations (Table 1.4A) are considered. In addition, meteorological data representative of a ground level release for each corresponding calendar quarter will be used. This analysis will replace the estimates in Section 1.2.

At the end of the year an annual dose analysis will be performed by calculating the sum of the quarterly doses to the critical receptors.

1.5 Gaseous Radwaste Treatment System Operation

The gaseous radwaste treatment system (GRTS) described below shall be maintained and operated to keep releases ALARA.

1.5.1 System Description

A flow diagram for the GRTS is given in Figure 1.3. The system consists of two waste-gas compressor packages, nine gas decay tanks, and the associated piping, valves, and instrumentation. Gaseous

wastes are received from the following: degassing of the reactor coolant and purging of the volume control tank prior to a cold shutdown, displacing of cover gases caused by liquid accumulation in the tanks connected to the vent header, and boron recycle process operation.

1.5.2 Dose Calculations

Doses will be calculated monthly using the methodology described in Section 1.2. These doses will be used to ensure that the GRTS is operating as designed.

The dose equation then becomes

$$D = \frac{1}{F} (0.0823 A_{Co-60} + 0.0013 A_{Co-58} + 0.0218 A_{Cs-134} + 0.0356 A_{Cs-137}) \quad (2.18)$$

2.3.2.4 Monthly Summary

Calendar quarter doses are first estimated by summing the doses calculated for each month in that quarter. Calendar year doses are first estimated by summing the doses calculated for each month in that year. However, if the annual doses determined in this manner exceed or approach the specification limits, doses calculated for previous quarters with the methodology of section 2.3.3 will be used instead of those quarterly doses estimated by summing monthly results. An annual check will be made to ensure that the monthly dose estimates account for at least 95 percent of the dose calculated by the method described in Section 2.3.3. If less than 95 percent of the dose has been estimated, either a new list of principal isotopes will be prepared or a new correction factor will be used. The latter option will not be used if less than 90 percent of the total dose is predicted.

2.3.2.5 Dose Projections

In accordance with specification 3.11.1.3, dose projections will be performed. This will be done by averaging the calculated dose for the most recent month and the calculated dose for the previous month and assigning that average dose as the projection for the current month.

2.3.3 Quarterly and Annual Analysis

A complete analysis utilizing the total estimated liquid releases for each calendar quarter will be performed and reported as required in section 6.9 of the technical specifications. This analysis will replace values calculated using section 2.3.2 methodology and will also include an approximation of population doses.

2.3.3.1 Individual Doses

The dose to the j^{th} organ of the maximum individual from m nuclides, D_j , is described by

$$D_j = \sum_{k=1}^5 \sum_{i=1}^m D_{ijk, \text{rem}} \quad (2.19)$$

$$= \sum_{i=1}^m \sum_{k=1}^2 [(IDCF)_{ij} \times I_{ik}] + \sum_{k=3}^5 [(RDCF)_{ijk} \cdot \xi_{ik} \cdot T_k \cdot \phi] \quad (2.20)$$

where:

D_{ijk} = dose to the j^{th} organ from the i^{th} radionuclide, via the k^{th} exposure pathway, rem.

j = the organ of interest (bone, GI tract, thyroid, liver, total body, and skin.)

k = exposure pathway of interest: (1) water ingestion, (2) fish ingestion, (3) shoreline recreation, (4) above-water recreation, (5) in-water recreation.

$(IDCF)_{ij}$ = ingestion dose commitment factor for the j^{th} organ from the i^{th} radionuclide, rem/ μCi . For the combination of pathways considered and the nuclide mix expected, the maximum exposed individual will be an adult or child. Table 2.1 is a list of ingestion dose factors for the two age groups.

I_{ik} = the activity ingested of the i^{th} radionuclide, via the k^{th} exposure pathway, μCi .

$$I_{i1} = C_i V_n \quad (2.21)$$

For the fish pathway

$$I_{i2} = C_i B_i M \quad (2.22)$$

C_i = concentration of the i^{th} radionuclide in the Tennessee River, $\mu\text{Ci/mL}$

$$C_i = A_i / (F_\ell d) \quad (2.23)$$

A_i = activity released of i^{th} radionuclide during the release period, μCi .

F_ℓ = total river flow at location ℓ during period, mL.

ℓ = location of interest (for dose to the maximum individual the first down-river exposure point is used. For the population dose, various down-river locations are used to account for the total exposed population. Table 2.4a gives the river location of public water supplies; tables 2.4b and 2.4c give the boundaries of the various reaches in which concentrations are calculated for the fish and recreation pathways.)

d = fraction of river flow available for dilution (1/5 above Chickamauga Dam, 1 below the dam).

V = average rate of water consumption per Regulatory Guide 1.109.

For maximum individual:

Adult - 2000 mL/d
Child - 1400 mL/d

For average individual (population):

Adult - 1010 mL/d
Child - 710 mL/d

n = number of days during the release period, day.

B_i = bioaccumulation factor for the i^{th} radionuclide in fish, $\mu\text{Ci/g}$ per $\mu\text{Ci/mL}$, from table 2.2.

M = amount of fish consumed during the period (fraction of year times the annual consumption rate per Regulatory Guide 1.109.)

For maximum individual:

Adult - 21 kg/yr
Child - 6.9 kg/yr

For average individual (population):

Adult - 6.9 kg/yr
Child - 2.2 kg/yr

$(\text{RDCF})_{ijk}$ = recreation dose commitment factor for the j^{th} organ from the i^{th} radionuclide via the k^{th} pathway; mrem/yr per concentration (ξ_{ik}) in medium; from table 2.3.

ξ_{ik} = the concentration of the i^{th} radionuclide in the environmental medium pertaining to the k^{th} pathway.

For above-water and in-water pathways

$$\xi_{ik} = \xi_{i5} = C_i \quad (2.24)$$

For the shoreline pathway, a 15-year buildup in the sediment of the lake is assumed (per Regulatory Guide 1.109 equation A-5).

$$\xi_{i3} = 100 \cdot \text{RHL}_i \cdot C_i \cdot W [1 - \exp(-\lambda_i \cdot t)] \quad (2.25)$$

where

λ_{100} = transfer constant as defined in Regulatory Guide 1.109.

RHL_i = radiological half-life of the i^{th} isotope, days, from table 2.1.

W = shoreline width factor (0.3 for a lake shore, per table A-2 of Regulatory Guide 1.109.)

λ_i = decay constant of the i^{th} radionuclide
 $= 0.693/\text{RHL}_i$.

t = buildup time in sediment, assumed 15 years, per Regulatory Guide 1.109.

T_k = assumed exposure time of maximum individual for the k^{th} pathway

3) shoreline	500 h/yr	(~10 h/week)
4) above-water	1800 h/yr	(6 h/d, 300 d/yr)
5) in-water	920 h/yr	(6 h/d, for five summer months)

ϕ = fraction of annual exposure for each quarter

1st Quarter	Jan.-March	0.1
2nd Quarter	April-June	0.3
3rd Quarter	July-Sept.	0.4
4th Quarter	Oct.-Dec.	0.2

2.3.3.2 Population Doses

The total dose from all 5 pathways to the j^{th} organ of the population, Δ_j , from m nuclides at n locations is described by

$$\Delta_j = \sum_{\ell=1}^n \sum_{k=1}^5 \sum_{i=1}^m \Delta_{ijk\ell} \quad (2.26)$$

$$= \sum_{\ell=1}^n \sum_{k=1}^5 \sum_{i=1}^m D_{ijk\ell} \cdot P_{k\ell} \quad (2.27)$$

where

$\Delta_{ijk\ell}$ = dose to the j^{th} organ of the total population from the i^{th} radionuclide via the k^{th} pathway at location ℓ .

$D_{ijk\ell}$ = dose to individual as described in section 2.3.3.1 at location ℓ .

$P_{k\ell}$ = number of people exposed via the k^{th} pathway at location ℓ , from table 2.4.a-c. The population is assumed to consist of 71 percent adults and 29 percent children (from Appendix D, Regulatory Guide 1.109 - the value for children includes teenagers).

2.4 Operability of Liquid Radwaste Equipment

Specification 3.11.1.3 of the Radiological Effluent Technical Specifications requires that the liquid radwaste system shall be used to reduce the radioactive materials in liquid wastes prior to their

discharge when the projected dose due to liquid effluent releases to unrestricted areas (see Figure 2.1.1-1) when averaged over 31 days would exceed 0.06 mrem to the total body or 0.21 mrem to any organ. Doses will be projected monthly to assure compliance.

3.0 Radiological Environmental Monitoring

3.1 Monitoring Program

An environmental radiological monitoring program shall be conducted in accordance with Technical Specification 3.12.1. The monitoring program described in Tables 3.1-1, 3.1-2, and 3.1-3, and in Figures 3.1-1, 3.1-2, 3.1-3, 3.1-4, 3.1-5, 3.1-6, and 3.1-7 shall be conducted. Results of this program shall be reported in accordance with Technical Specifications 6.9.1.6 and 6.9.1.7. | 4 | 8

The atmospheric environmental radiological monitoring program shall consist of 12 monitoring stations from which samples of air particulates, atmospheric radioiodine, rainwater, and heavy particle fallout shall be collected.

The terrestrial monitoring program shall consist of the collection of milk, soil, ground water, drinking water, and food crops. In addition, direct gamma radiation levels will be measured in the vicinity of the plant.

The reservoir sampling program shall consist of the collection of samples of surface water, sediment, and fish.

Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, sample unavailability, or to malfunction of sampling equipment. If the latter, every effort shall be made to complete corrective action prior to the end of the next sampling period.

3.2 Detection Capabilities

Analytical techniques shall be such that the detection capabilities listed in Table 3.2-1 are achieved.

SNP

TABLE 3.1-2

Atmospheric and Terrestrial Monitoring Station Locations
Sequoyah Nuclear Plant

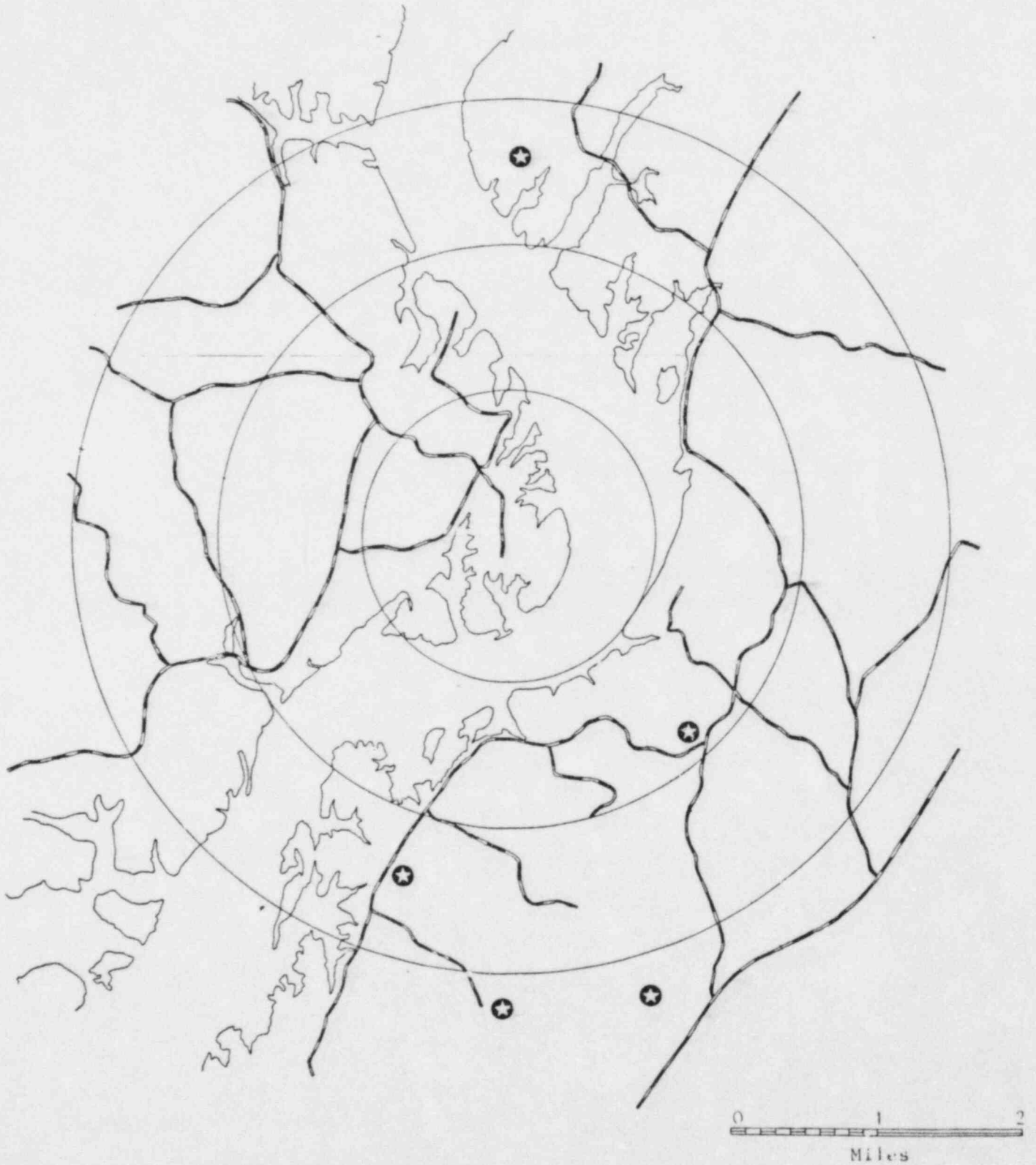
<u>Sample Station</u>	<u>Location</u> <u>Approximate Distance and</u> <u>Direction from Plant</u>
LM-1 S	1/4 mile SW
LM-2 S	1/4 mile N
PM-1 S (Northwoods)	10 miles WSW
PM-2 S (Hamilton County Park)	3-3/4 miles WSW
PM-3 S (Daisy)	5-1/2 miles WNW
PM-4 S (Sale Creek)	10-1/2 miles N
PM-5 S (Georgetown)	9 miles ENE
PM-6 S (Work)	5 miles NE
PM-7 S (Harrison Bay)	3-1/2 miles SE
PM-8 S (Harrison)	8-1/2 miles SSW
RM-1 S (Chattanooga, Riverside)	16 miles WSW
RM-2 S (Dayton)	17-1/2 miles NNE
(Identical with RM-2 WB, Watts Bar Nuclear Plant)	
Farm L	2-3/4 miles NNE
Farm M	3-1/2 miles NNE
Farm J	1-1/4 miles W
Farm HW	1-1/4 miles NW
Farm EM	2-1/2 miles N
Farm BR	2-1/4 miles SSW
Farm LE	3-1/2 miles S
Farm SM	1-3/4 miles SE
Farm SU	3-1/4 miles SSE
Farm C (control)	16 miles NE
Farm B (control)	43 miles NE
Farm S (control)	12 miles NNE

4

8

Figure 3.1 - 6

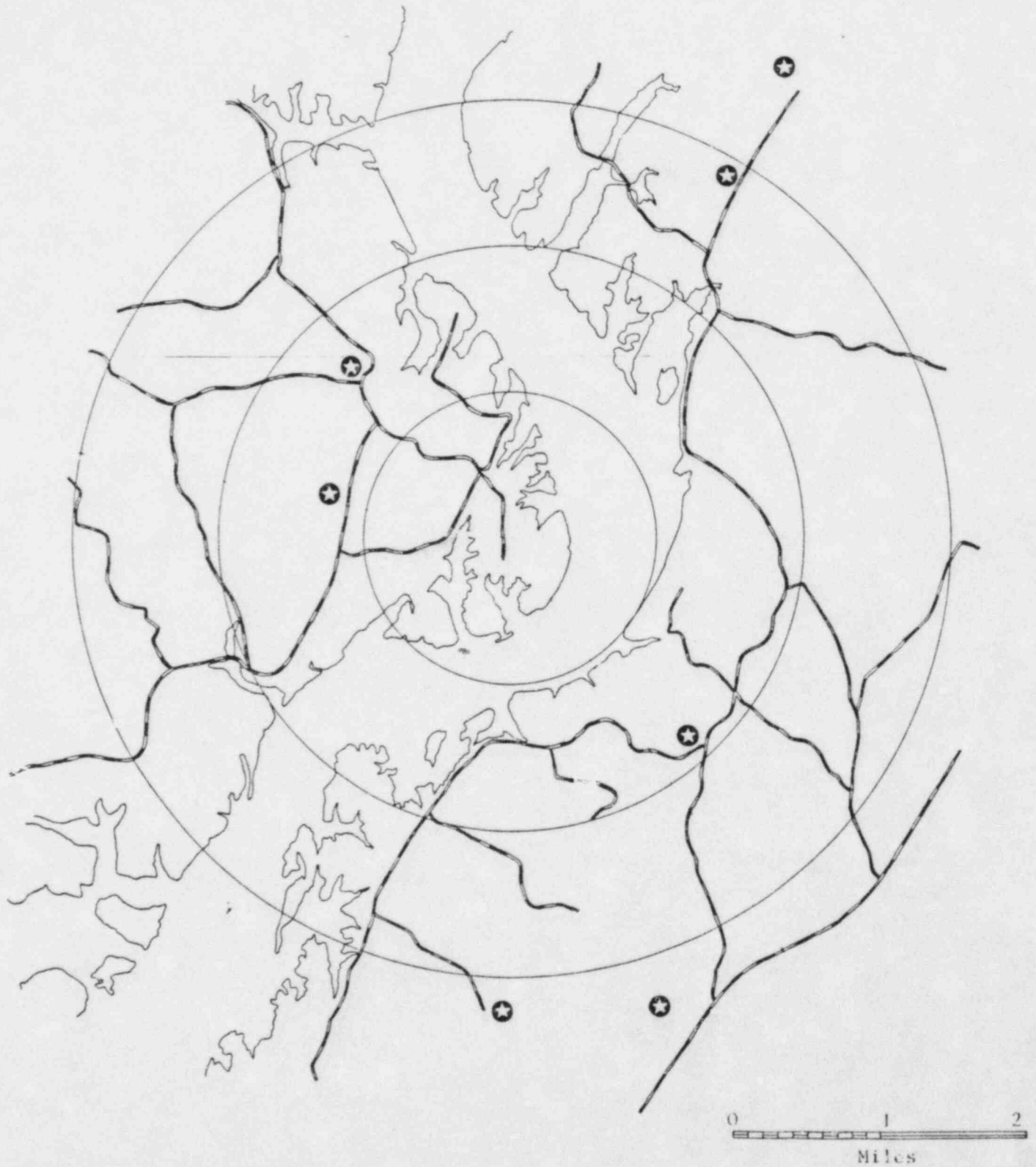
VEGETATION SAMPLING LOCATIONS



Revision 8

Figure 3.1 - 7

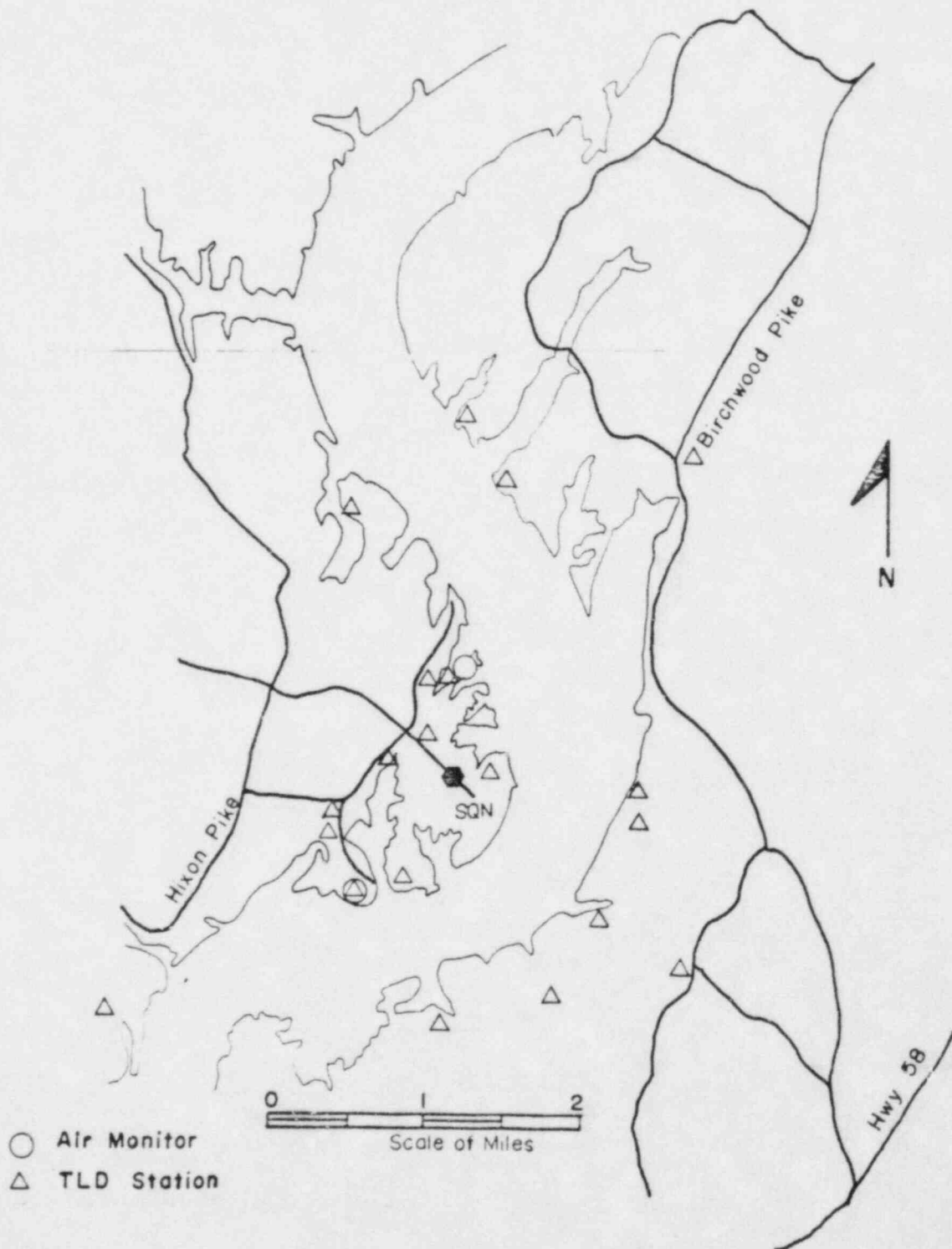
CHLORAMPHENICOL SAMPLING LOCATIONS



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Figure 3.1 - 3

LOCAL MONITORING STATIONS
SEQUOYAH NUCLEAR PLANT



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TENNESSEE VALLEY AUTHORITY

Sequoyah Nuclear Plant
P. O. Box 2000
Soddy-Daisy, Tennessee 37379

MAR 15 1984

Nuclear Regulatory Commission
Office of Management Information
and Program Control
Washington, DC 20555

Gentlemen:

Enclosed is the February 1984 Monthly Operating Report to the NRC for Sequoyah Nuclear Plant.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



C. C. Mason
Power Plant Superintendent

Enclosure

cc (Enclosure):

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