



Tennessee Valley Authority, Post Office Box 2000, Soddy Daisy, Tennessee 37384-2000

April 16, 2014

10 CFR 50.4

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

Sequoyah Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. DPR-77 and DPR-79  
NRC Docket Nos. 50-327 and 50-328

**Subject: 2013 Annual Radioactive Effluent Release Report**

Enclosed is the Annual Radioactive Effluent Release Report (ARERR) for the period of January 1 to December 31, 2013. This report (Enclosure 1) is being submitted in accordance with the respective Sequoyah Nuclear Plant (SQN), Units 1 and 2, Technical Specification (TS) 6.9.1.8.

The Offsite Dose Calculation Manual (ODCM), Section 5.2 requires that a Radiological Impact Assessment be submitted with the ARERR for the same reporting period. The assessment is included as Enclosure 2. There were no changes to the ODCM during the reporting period.

There are no regulatory commitments contained in this letter. If you have any questions concerning this matter, please contact Michael McBrearty at (423) 843-7170.

Respectfully,

J. T. Carlin  
Site Vice President  
Sequoyah Nuclear Plant

**Enclosures:**

1. Annual Radioactive Effluent Release Report, Sequoyah Nuclear Plant, January - December 2013
2. Radiological Impact Assessment Report, Sequoyah Nuclear Plant, January - December 2013

**cc (Enclosures):**

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector -  
NRR Project Manager - Sequoyah Nuclear Plant

JE48  
NRR

Enclosure 1

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

SEQUOYAH NUCLEAR PLANT

2013

2013  
SEQUOYAH NUCLEAR PLANT (SQN)  
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT

I. REGULATORY LIMITS

A. Gaseous Effluents

1. Dose rates due to radioactivity released in gaseous effluents from the site to areas at and beyond the unrestricted area boundary shall be limited to the following:
  - a. Noble gases:
    - Less than or equal to 500 mrem/year to the total body.
    - Less than or equal to 3000 mrem/year to the skin.
  - b. Iodine-131 (I-131), Iodine-133 (I-133), tritium, and all radionuclides in particulate form with half-lives greater than eight days:
    - Less than or equal to 1500 mrem/year to any organ.
2. Air dose due to noble gases released in gaseous effluents to areas at and beyond the unrestricted area boundary shall be limited to the following:
  - a. Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation during any calendar quarter.
  - b. Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation during any calendar year.
3. Dose to a member of the public from Iodine-131, Iodine-133, tritium, and radionuclides in particulate form with half-lives greater than eight days in gaseous effluents released to areas at and beyond the unrestricted area boundary shall be limited to the following:
  - a. Less than or equal to 7.5 mrem to any organ during any calendar quarter.
  - b. Less than or equal to 15 mrem to any organ during any calendar year.

B. Liquid Effluents

1. The annual average concentration of radioactivity released in liquid effluents to unrestricted areas shall be limited to the concentrations specified in Title 10 of the Code of Federal Regulations (CFR), Part 20 (Standards for Protection Against Radiation), Appendix B, Table 2, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2.0E-04 microcuries/milliliter ( $\mu\text{Ci/ml}$ ) total activity.

2. The dose or dose commitment to a member of the public from radioactivity in liquid effluents released to unrestricted areas shall be limited to:
  - a. Less than or equal to 1.5 mrem to the total body and less than or equal to 5 mrem to any organ during any calendar quarter.
  - b. Less than or equal to 3 mrem to the total body and less than or equal to 10 mrem to any organ during any calendar year.

## II. EFFLUENT CONCENTRATION LIMITS

### A. Liquids

- \*1. The Effluent Concentration Limits (ECL) for liquids are those listed in 10 CFR 20, Appendix B, Table 2, Column 2. For dissolved and entrained gases, the ECL of 2.0E-04  $\mu\text{Ci/ml}$  is applied. This ECL is based on the Xenon-135 (Xe-135) concentration in air (submersion dose) converted to an equivalent concentration in water as discussed in the International Commission on Radiological Protection (ICRP), Publication 2.

\*These values are used as applicable limits for liquid and gaseous effluents.

### B. Gaseous

- \*1. The maximum permissible dose rates for gaseous releases are defined in the plant Offsite Dose Calculation Manual (ODCM).
  - a. Noble gas dose rate at the unrestricted area boundary:
    - Less than or equal to 500 mrem/year to the total body.
    - Less than or equal to 3000 mrem/year to skin.
  - b. Iodine-131, Iodine-133, tritium, and particulates with half-lives greater than eight days dose rate at the unrestricted area boundary:
    - Less than or equal to 1500 mrem/year to any organ.

\*These values are used as applicable limits for liquid and gaseous effluents.

## III. AVERAGE ENERGY

SQN's ODCM limits the dose equivalent rates due to the release of noble gases to less than or equal to 500 mrem/year to the total body and less than or equal to 3000 mrem/year to the skin. The use of dose rate is in accordance with NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants." Since the release rate is not used for effluent control, the average energy discussed in Regulatory Guide 1.21 (used for release rate control) is not included in this report.

#### IV. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

NOTE: Every effort is made to ensure that effluent releases from SQN are conducted such that the ODCM Lower Limit of Detection (LLD) values are met. Whenever an analysis does not identify a radioisotope, a value of "0.00E-01 Ci" is recorded for the release. This does not necessarily mean that no activity was released for that particular radionuclide, but that the concentration was below the ODCM and analysis LLD. Refer to Tables A and B for estimates of these typical LLD values.

##### A. Fission and Activation Gases

Airborne effluent gaseous activity is continuously monitored and recorded. Additional grab samples from the shield building, auxiliary building, service building, and condenser vacuum exhausts are taken and analyzed at least monthly to determine the quantity of noble gas activity released for the month based on the average vent flow rates recorded for the sample period. Also, noble gas samples are collected and evaluated for the shield and auxiliary buildings following startup, shutdown, or rated thermal power change exceeding 15 percent within one hour (sampling is only required if the dose equivalent I-131 concentration in the primary coolant or the noble gas activity monitor shows that the containment activity has increased more than a factor of 3).

The quantity of noble gases released through the shield and auxiliary building exhausts due to purging or venting of containment and releases of waste gas decay tanks are also determined.

The total noble gas activity released for the month is then determined by summing of the activity released from each vent for the sampling periods.

##### B. Iodines and Particulates

Iodine and particulate activity is continuously sampled. Charcoal and particulate samples are taken from the shield and auxiliary building exhausts and analyzed at least weekly to determine the total activity released from the plant based on the average vent flow rates recorded for the sampling period.

Also, particulate and charcoal samples are taken from the auxiliary and shield building exhausts once per 24 hours for 2 days following startup, shutdown, or a rated thermal power change exceeding 15 percent within 1 hour. The quantity of iodine and particulate released from each vent during each sampling period is then determined using the average vent flow rates recorded for the sampling period and activity concentration.

The total particulate and iodine activity released for the month is then determined by summing all activity released from the shield and auxiliary building exhausts for the sampling periods.

### C. Carbon-14 in Gaseous Releases

The Carbon-14 production and effluent source term estimates were based on Electric Power Institute methodology provided in EPRI Report 1021106, "Estimation of Carbon-14 in Nuclear Power Plant Gaseous Effluents," dated December 2010. It was determined that 19.8 curies of Carbon-14 is generated annually at SQN. However, only 98 percent is considered released as gas and only the carbon dioxide form (20 percent) of that is used in the gaseous dose calculations.

### D. Liquid Effluents

#### Batch (Radwaste and during periods of primary to secondary leakage, condensate regenerants to cooling tower blowdown)

Total gamma isotopic activity concentrations are determined on each batch of liquid effluent prior to release. The total activity of a released batch is determined by summing each nuclide's concentration and multiplying by the total volume discharged. The total activity released during a month is then determined by summing the activity content of each batch discharged during the month.

There were no changes made to the radioactive waste systems and/or the Process Control Program (PCP) for this calendar year

#### Continuous Releases and Periodic Continuous Releases (Condensate regenerants, turbine building sump, and steam generator blowdown)

Total gamma isotopic activity and tritium concentrations are determined monthly on one composite sample each from the condensate system, and the turbine building sump. The tritium value is applied to releases over the month. Total gamma isotopic activity concentration for Units 1 and 2 steam generator blowdown is determined daily. In addition to ODCM Table 2.2-1, tritium concentrations are determined daily, averaged for the month, and applied to releases over the month. The total activity of the continuous release is determined by summing each nuclide's concentration and multiplying by the total volume discharged.

## Monitoring Wells

SQN started conducting an investigation of tritium releases to the groundwater in 2003 due to identification of tritium in one of the on-site monitoring wells. This study involved pressure testing of the radwaste discharge line, installation and sampling of groundwater wells, visual inspection under the refueling water storage tanks (RWSTs) and inspection of drain lines. In addition to the one on-site Radiological Environmental Monitoring Program (REMP) groundwater monitoring well, SQN also, has 18 non-REMP monitoring wells to support monitoring the onsite groundwater plume and for the presence or increase of radioactivity. These wells are sampled periodically for tritium. The tritium concentrations obtained in 2013 from these non-REMP wells are listed below. Initial and follow up analyses for the semi-annual sampling procedure indicated no gamma activity.

Well ID	Date	Activity in pCi/L	Date	Activity in pCi/L
Well-24	1/1/2013	<233	10/30/2013	<222
Well-25	1/1/2013	<233	10/30/2013	<222
Well-26	1/1/2013	<233	10/30/2013	<222
Well-27	1/1/2013	<233	10/30/2013	<222
Well-28	1/1/2013	<233	10/30/2013	<222
Well-29	3/6/2013	418	4/16/2013	414
Well-29	7/10/2013	263	10/30/2013	501
Well-30	1/1/2013	<233	4/16/2013	<231
Well-30	7/10/2013	<219	N/A	N/A
Well-31	3/6/2013	537	4/16/2013	1536
Well-31	7/10/2013	1526	10/30/2013	1352
Well-32	1/1/2013	<233	10/30/2013	<222
Well-34	1/1/2013	<233	10/30/2013	477
Well-35	1/1/2013	<233	10/30/13	<222
GP-7A	1/1/2013	304	3/6/2013	<219
GP-7A	4/16/2013	430	7/10/2013	464
GP-10	3/6/2013	<219	7/10/2013	<219
GP-10	10/30/2013	<222	N/A	N/A
GP-13	1/1/2013	5577	4/16/2013	5303
GP-13	7/10/2013	3830	10/30/2013	4526
W-9	1/1/2013	<233	4/16/2013	<231
W-9	7/10/2013	<219	10/30/2013	<222
WE-10	1/1/2013	22606	3/6/2013	27959
WE-10	4/16/2013	29630	5/25/2013	26780
WE-10	6/9/2013	26120	7/10/2013	25291
WE-10	8/17/2013	23280	10/30/2013	19888

Doses from I-131 Water Ingestion Pathway

The REMP requirements as specified in Table 3.12-1 from NUREG 1301, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors," dated April 1991, requires an I-131 specific analysis for drinking water pathway samples if the annual dose from I-131 is greater than 1 mrem. In order to evaluate the need for implementation of this additional analysis, the drinking water pathway dose from I-131 to the maximum organ and age group was calculated. The results being reported confirm that the drinking water pathway dose from I-131 was less than the 1 mrem limit and that the performance of the I-131 specific analysis is not required for SQN REMP drinking water samples.

Quarter	1	2	3	4	Totals
I-131 Ci	0.00E+01	0.00E+01	1.68E-05	1.24E-06	1.80E-05
Infant/Thyroid (mrem)	0.00E+01	0.00E+01	2.70E-06	2.10E-07	2.91E-06
Population/Thyroid (mrem)	0.00E+01	0.00E+01	8.30E-05	6.60E-06	8.96E-05



## V. BATCH RELEASES

	1st Half	Value	Units
		2nd Half	
1. <u>Liquid (Radwaste only)</u>			
a. Number of releases	59	86	Each
b. Total time period of releases	9391.98	13972.00	Minutes
c. Maximum time period of release	823	359.00	Minutes
d. Average time period of releases	159.19	162.47	Minutes
e. Minimum time period of release	4.98	10.00	Minutes
f. Average dilution stream flow during release periods	60,715.0	45,022.0	CFS
2. <u>Gaseous (Batches only - containment purges, and waste gas decay tanks)</u>			
a. Number of releases	69	73	Each
b. Total time period of releases	41186.00	215883.98	Minutes
c. Maximum time period of release	1111.00	39165.00	Minutes
d. Average time period of releases	596.90	2957.31	Minutes
e. Minimum time period of release	8.00	24.00	Minutes

## VI. ABNORMAL RELEASES

	1st Half	Value	Units
		2nd Half	
1. <u>Liquid</u>			
a. Number of releases	0	0	
b. Total activity released	0.00E-01	0.00E-01	Ci
2. <u>Gaseous</u>			
a. Number of releases	2	2	
b. Total activity released	3.33E-03	9.29E-04	Ci

Release Type: Gaseous (Steam)

Release Point: Unit 2 Power Operated Relief Valves (PORVs)

Date(s) of Release: 1st Quarter, 02/24/2013 1200 through 02/24/2013 1718

This evaluation is for the release to the environment that occurred from the Unit 2 PORV's following a manual reactor trip on February 24, 2013. Following the reactor trip, the Steam Generator PORVs were open for periods of time during the shut down. The following is data used to determine the curies and dose impacts as a result of the release:

- While all the PORVs were not open continuously during this period, the evaluation assumed the release was continuous from all four PORVs.
- There have been no gamma emitting radionuclides identified in any Secondary Coolant samples prior to the Shut Down.

The volume of each steam generator was taken from Westinghouse Guidelines for Secondary Water Chemistry. The listed normal water level value of 3379 ft<sup>3</sup> was used as a conservative value. This calculation assumes that the total volume of all four generators was released and that all the tritium present in that initial volume was released. The calculation for the total tritium activity released is as follows:

$$3379 \text{ ft}^3/\text{generator} * 2.832\text{E}+04 \text{ ml/ft}^3 * 4 \text{ generators} = 3.828\text{E}+08 \text{ ml}$$

$$6.966\text{E}-06 \text{ } \mu\text{Ci/ml} * 3.828\text{E}+08 \text{ ml} = 2.667\text{E}+03 \text{ } \mu\text{Ci of H3 or } 2.667\text{E}-03 \text{ Ci of H3}$$

The activity of 2.667E-03 curies was added to the 1st Quarter Table "Curies Released in Gaseous Ground Level Releases," and the 1st Quarter doses in Table "Doses from Airborne Effluents."

#### **Individual Doses**

<b>Pathway External</b>	<b>Dose</b>	<b>Quarterly Limit</b>	<b>Percent of Limit</b>	<b>Location Sector/Distance/Unit</b>
Gamma Air	0.00E+00 mrad	5 mrad	<1	N/950/meters
Beta Air	0.00E+00 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	0.00E+00 mrad	10 mrad	<1	N/1389/meters
Skin	0.00E+00 mrad	10 mrad	<1	N/1389/meters
<b>Organ Dose</b>				
Child/Thyroid	7.01E-07 mrem	7.5 mrem	<1	NNE/3271/meters
Child/Total Body	7.01E-07 mrem	7.5 mrem	<1	NNE/3271/meters

#### **Population Doses**

Total Body Dose 9.60E-06 man-rem  
Maximum Organ Dose (organ) 9.60E-06 man-rem (Thyroid)

Release Type: Gaseous (Steam)

Release Point: Unit 2 PORV 1

Date(s) of Release: 1st Quarter, 02/24/2013 1715 through 02/25/2013 0917

This evaluation is for the release to the environment that occurred from the Unit 2 PORV's following a manual reactor trip on February 24, 2013. Following the reactor trip, the Steam Generator PORV 1 was open for a period of time by itself during the Shut Down. The following is data used to determine the curies and dose impacts as a result of the release:

- The evaluation assumed the release was continuous from PORV 1 only.
- There have been no gamma emitting radionuclides identified in any Secondary Coolant samples prior to the Shut Down.

The volume of each steam generator was taken from Westinghouse Guidelines for Secondary Water Chemistry. The listed normal water level value of 3379 ft<sup>3</sup> was used as a conservative value. This calculation assumes that the total volume of all four generators was released and that all the tritium present in that initial volume was released. The calculation for the total tritium activity released is as follows:

$$3379 \text{ ft}^3/\text{generator} * 2.832\text{E}+04 \text{ ml/ft}^3 * 1 \text{ generator} = 9.569\text{E}+07 \text{ ml}$$

$$6.966\text{E}-06 \text{ } \mu\text{Ci/ml} * 9.569\text{E}+07 \text{ ml} = 6.666\text{E}+02 \text{ } \mu\text{Ci of H3 or } 6.666\text{E}-04 \text{ Ci of H3}$$

The activity of 6.666E-04 curies was added to the 1st Quarter Table "Curies Released in Gaseous Ground Level Releases," and the 1st Quarter doses in Table "Doses from Airborne Effluents."

#### **Individual Doses**

<b>Pathway External</b>	<b>Dose</b>	<b>Quarterly Limit</b>	<b>Percent of Limit</b>	<b>Location Sector/Distance/Unit</b>
Gamma Air	0.00E+00 mrad	5 mrad	<1	N/950/meters
Beta Air	0.00E+00 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	0.00E+00 mrad	10 mrad	<1	N/1389/meters
Skin	0.00E+00 mrad	10 mrad	<1	N/1389/meters
<b>Organ Dose</b>				
Child/Thyroid	1.75E-07 mrem	7.5 mrem	<1	NNE/3271/meters
Child/Total Body	1.75E-07 mrem	7.5 mrem	<1	NNE/3271/meters

#### **Population Doses**

Total Body Dose 2.40E-06 man-rem  
Maximum Organ Dose (organ) 2.40E-06 man-rem (Thyroid)

Release Type: Gaseous (Steam)

Release Point: Unit 1 PORV's 1 & 3

Date(s) of Release: 4th Quarter, 11/09/2013 0422 through 11/10/2013 1838

This evaluation is for the release to the environment that occurred from the Unit 1 PORV's 1 and 3 during the Unit 1 Cycle 19 Refueling Outage. Following the reactor trip, the Steam Generator PORVs were open for periods of time during the Outage. The following is data used to determine the curies and dose impacts as a result of the release:

- The evaluation assumed the release was continuous from PORV's 1 and 3 only.
- There have been no gamma emitting radionuclides identified in any Secondary Coolant samples during the previous cycle.

The volume of each steam generator was taken from Westinghouse Guidelines for Secondary Water Chemistry. The listed normal water level value of 3516 ft<sup>3</sup> was used as a conservative value. This calculation assumes that the total volume of all four generators was released and that all the tritium present in that initial volume was released. The calculation for the total tritium activity released is as follows:

$$3379 \text{ ft}^3/\text{generator} * 2.832\text{E}+04 \text{ ml/ft}^3 * 2 \text{ generators} = 1.914\text{E}+08 \text{ ml}$$

$$2.428\text{E}-06 \text{ } \mu\text{Ci/ml} * 1.914\text{E}+08 \text{ ml} = 4.647\text{E}+02 \text{ } \mu\text{Ci of H3 or } 4.647\text{E}-04 \text{ Ci of H3}$$

The activity of 4.647E-04 curies was added to the 3rd Quarter Table "Curies Released in Gaseous Ground Level Releases," and the 3rd Quarter doses in Table "Doses from Airborne Effluents."

#### **Individual Doses**

<b>Pathway</b>	<b>Dose</b>	<b>Quarterly Limit</b>	<b>Percent of Limit</b>	<b>Location Sector/Distance/Unit</b>
<b>External</b>				
Gamma Air	0.00E+00 mrad	5 mrad	<1	N/950/meters
Beta Air	0.00E+00 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	0.00E+00 mrad	10 mrad	<1	N/1389/meters
Skin	0.00E+00 mrad	10 mrad	<1	N/1389/meters
<b>Organ Dose</b>				
Child/Thyroid	1.70E-07 mrem	7.5 mrem	<1	SSW/4532/meters
Child/Total Body	1.70E-07 mrem	7.5 mrem	<1	SSW/4532/meters

#### **Population Doses**

Total Body Dose 2.37E-06 man-rem  
Maximum Organ Dose (organ) 2.37E-06 man-rem (Thyroid)

Release Type: Gaseous (Steam)

Release Point: Unit 2 PORV's

Date(s) of Release: 4th Quarter, 11/18/2013 2035 through 11/19/2013 0028

This evaluation is for the release to the environment that occurred from the Unit 1 PORV's 1 and 3 during the Unit 1 Cycle 19 Refueling Outage. Following the reactor trip, the Steam Generator PORVs were open for periods of time during the Outage. The following is data used to determine the curies and dose impacts as a result of the release:

- While all the PORVs were not open continuously during this period, the evaluation assumed the release was continuous from all four PORVs.
- There have been no gamma emitting radionuclides identified in any Secondary Coolant samples during the previous cycle.

The volume of each steam generator was taken from Westinghouse Guidelines for Secondary Water Chemistry. The listed normal water level value of 3516 ft<sup>3</sup> was used as a conservative value. This calculation assumes that the total volume of all four generators was released and that all the tritium present in that initial volume was released. The calculation for the total tritium activity released is as follows:

$$3379 \text{ ft}^3/\text{generator} * 2.832\text{E}+04 \text{ ml/ft}^3 * 2 \text{ generators} = 1.914\text{E}+08 \text{ ml}$$

$$2.428\text{E}-06 \text{ } \mu\text{Ci/ml} * 1.914\text{E}+08 \text{ ml} = 4.647\text{E}+02 \text{ } \mu\text{Ci of H3 or } 4.647\text{E}-04 \text{ Ci of H3}$$

The activity of 4.647E-04 curies was added to the 4th Quarter Table "Curies Released in Gaseous Ground Level Releases," and the 4th Quarter doses in Table "Doses from Airborne Effluents."

#### **Individual Doses**

<b>Pathway</b>	<b>Dose</b>	<b>Quarterly Limit</b>	<b>Percent of Limit</b>	<b>Location Sector/Distance/Unit</b>
<b>External</b>				
Gamma Air	0.00E+00 mrad	5 mrad	<1	N/950/meters
Beta Air	0.00E+00 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	0.00E+00 mrad	10 mrad	<1	N/1389/meters
Skin	0.00E+00 mrad	10 mrad	<1	N/1389/meters
<b>Organ Dose</b>				
Child/Thyroid	1.70E-07 mrem	7.5 mrem	<1	SSW/4532/meters
Child/Total Body	1.70E-07 mrem	7.5 mrem	<1	SSW/4532/meters

#### **Population Doses**

Total Body Dose 2.37E-06 man-rem

Maximum Organ Dose (organ) 2.37E-06 man-rem (Thyroid)

Liquid Effluents-Summation of Releases  
During the Period  
Starting: 1-Jan-2013 Ending: 30-Jun-2013

Type Of Effluent	Units	Quarter 1	Quarter 2	Est. Total Error %
<b>A. Fission &amp; Activation Products</b>				
1. Total Release (Not Including Tritium, Gases, Alpha)	Ci	1.41E-02	5.12E-03	18%
2. Average Diluted Concentration During Period	μCi/ml	7.55E-09	2.81E-09	
3. Percent Of Applicable Limit	%	*	*	
<b>B. Tritium</b>				
1. Total Release	Ci	1.67E+02	1.12E+02	18%
2. Average Diluted Concentration During Period	μCi/ml	8.94E-05	6.14E-05	
3. Percent Of Applicable Limit	%	*	*	
<b>C. Dissolved And Entrained Gases</b>				
1. Total Release	Ci	0.00E+01	0.00E+01	39%
2. Average Diluted Concentration During Period	μCi/ml	0.00E+01	0.00E+01	
3. Percent Of Applicable Limit	%	0.00E+01	0.00E+01	
<b>D. Gross Alpha Radioactivity</b>				
1. Total Release	Curies	0.00E+01**	0.00E+01	N/A***
<b>E. Total Waste Volume Released (Pre-Dilution)</b>				
	Liters	1.89E+08	1.75E+08	4%
<b>F. Volume Of Dilution Water Used</b>				
	Liters	1.68E+09	1.65E+09	4%
<b>G. Radwaste Volume Released</b>				
	Liters	1.27E+06	9.38E+05	N/A

\* Applicable Limits are expressed in terms of dose. See Tables 5-8 of the 2013 Radiological Impact Assessment Report.

\*\* Zeroes indicate that no radioactivity was present at detectable levels.

\*\*\* N/A - Errors in measurement are not reported for these values since none were identified during the reporting period.

Liquid Effluents-Summation of Releases  
 During the Period  
 Starting: 1-Jul-2013 Ending: 31-Dec-2013

Type Of Effluent	Units	Quarter 3	Quarter 4	Est. Total Error %
<b>A. Fission &amp; Activation Products</b>				
1. Total Release (Not Including Tritium, Gases, Alpha)	Ci	3.81E-03	4.66E-03	18%
2. Average Diluted Concentration During Period	μCi/ml	1.98E-09	2.04E-09	
3. Percent Of Applicable Limit	%	*	*	
<b>B. Tritium</b>				
1. Total Release	Ci	9.76E+02	3.16E+02	18%
2. Average Diluted Concentration During Period	μCi/ml	5.08E-04	1.38E-04	
3. Percent Of Applicable Limit	%	*	*	
<b>C. Dissolved And Entrained Gases</b>				
1. Total Release	Ci	4.06E-04	4.29E-04	39%
2. Average Diluted Concentration During Period	μCi/ml	2.11E-10	1.88E-10	
3. Percent Of Applicable Limit	%	1.06E-04	9.38E-05	
<b>D. Gross Alpha Radioactivity</b>				
1. Total Release	Curies	0.00E+01**	0.00E+01	N/A***
<b>E. Total Waste Volume Released (Pre-Dilution)</b>				
	Liters	6.17E+07	4.57E+08	4%
<b>F. Volume Of Dilution Water Used</b>				
	Liters	1.86E+09	1.83E+09	4%
<b>G. Radwaste Volume Released</b>				
	Liters	1.80E+06	2.05E+06	N/A

\* Applicable Limits are expressed in terms of dose. See Tables 5-8 of the 2013 Radiological Impact Assessment Report.

\*\* Zeroes indicate that no radioactivity was present at detectable levels.

\*\*\* N/A - Errors in measurement are not reported for these values since none were identified during the reporting period.

Curies Released in Liquid Effluents  
 During the period  
 Starting: 1-Jan-2013 Ending 31-Mar-2013

	Continuous	Batch	Total
Tritium	4.02E-01	1.67E+02	1.67E+02
<b>FISSION &amp; ACTIVATION PRODUCTS</b>			
Colbalt-57	0.00E+01	1.33E-06	1.33E-06
Colbalt-58	0.00E+01	6.56E-03	6.56E-03
Colbalt-60	0.00E+01	3.25E-04	3.25E-04
Cesium-137	0.00E+01	1.86E-06	1.86E-06
Iron-55	0.00E+01	7.03E-03	7.03E-03
Antimony-124	0.00E+01	5.36E-05	5.36E-05
Antimony-125	0.00E+01	1.56E-04	1.56E-04
TOTALS	0.00E-01	1.41E-02	1.41E-02
<b>DISSOLVED AND ENTRAINED GASES</b>			
TOTALS	0.00E+01	0.00E+01	0.00E+01

\*Zeroes indicate that no activity was present at detectable levels.



Curies Released in Liquid Effluents  
 During the period  
 Starting: 1-Apr-2013 Ending 30-Jun-2013

	Continuous	Batch	Total
Tritium	5.03E-01	1.11E+02	1.12E+02
<b>FISSION &amp; ACTIVATION PRODUCTS</b>			
Cobalt-57	0.00E+01	1.84E-05	1.84E-05
Cobalt-58	0.00E+01	4.25E-03	4.25E-03
Cobalt-60	0.00E+01	4.49E-04	4.49E-04
Iron-55	0.00E+01	3.96E-04	3.96E-04
Antimony-125	0.00E+01	4.80E-06	4.80E-06
TOTALS	0.00E+01	5.12E-03	5.12E-03
<b>DISSOLVED AND ENTRAINED GASES</b>			
TOTALS	0.00E+01	0.00+01	0.00+01

\*Zeroes indicate that no activity was present at detectable levels.

Curies Released in Liquid Effluents  
 During the period  
 Starting: 1-Jul-2013 Ending 30-Sep-2013

	Continuous	Batch	Total
Tritium	2.82E-01	9.76E+02	9.76E+02
<b>FISSION &amp; ACTIVATION PRODUCTS</b>			
Cobalt-57	0.00E+01	1.12E-05	1.12E-05
Cobalt-58	0.00E+01	2.03E-03	2.03E-03
Cobalt-60	0.00E+01	8.13E-04	8.13E-04
Cesium-137	0.00E+01	5.96E-06	5.96E-06
Iron-55	0.00E+01	8.18E-04	8.18E-04
Iodine-131	0.00E+01	1.68E-05	1.68E-05
Antimony-124	0.00E+01	1.68E-05	1.68E-05
Antimony-125	0.00E+01	1.01E-04	1.01E-04
TOTALS	0.00E+01	3.81E-03	3.81E-03
<b>DISSOLVED AND ENTRAINED GASES</b>			
Xenon-133	0.00E+01	3.97E-04	3.97E-04
Xenon-135	0.00E+01	8.32E-06	8.32E-06
TOTALS	0.00E+01	4.06E-04	4.06E-04

\*Zeroes indicate that no activity was present at detectable levels.

Curies Released in Liquid Effluents  
 During the period  
 Starting: 1-Oct-2013 Ending 31-Dec-2013

	Continuous	Batch	Total
Tritium	9.29E-01	3.16E+02	3.17E+02
<b>FISSION &amp; ACTIVATION PRODUCTS</b>			
Cobalt-58	0.00E+01	3.24E-04	3.24E-04
Cobalt-60	0.00E+01	2.19E-04	2.19E-04
Chromium-51	0.00E+01	1.77E-04	1.77E-04
Cesium-137	0.00E+01	3.79E-06	3.79E-06
Iron-55	0.00E+01	2.30E-03	2.30E-03
Iodine-131	0.00E+01	1.24E-06	1.24E-06
Antimony-124	0.00E+01	1.13E-03	1.13E-03
Antimony-125	0.00E+01	5.04E-04	5.04E-04
TOTALS	0.00E+01	4.66E-03	4.66E-03
<b>DISSOLVED AND ENTRAINED GASES</b>			
Xenon-133	0.00E+01	4.29E-04	4.29E-04
TOTALS	0.00E+01	4.29E-04	4.29E-04

\*Zeroes indicate that no activity was present at detectable levels.

TABLE A  
LIQUID "TYPICAL LLD" EVALUATION<sup>(1)</sup>

<u>Nuclide</u>	<u>ODCM LLD</u>	<u>Δt<sup>(2)</sup></u>		
		<u>1 hr</u>	<u>8 hr</u>	<u>32 hr</u>
Manganese-54	5.0E-07	3.36E-08	3.36E-08	3.37E-08
Cobalt-58	5.0E-07	2.53E-08	2.54E-08	2.56E-08
Iron-59	5.0E-07	5.26E-08	5.29E-08	5.37E-08
Cobalt-60	5.0E-07	4.63E-08	4.63E-08	4.64E-08
Zinc-65	5.0E-07	2.95E-08	2.95E-08	2.96E-08
Molybdenum-99	5.0E-07	1.55E-07	1.67E-07	2.15E-07
Cesium-134	5.0E-07	1.91E-08	1.91E-08	1.92E-08
Cesium-137	5.0E-07	3.87E-08	3.87E-08	3.87E-08
Cerium-141	5.0E-07	2.80E-08	2.81E-08	2.87E-08
Cerium-144	5.0E-06	1.11E-07	1.12E-07	1.12E-07
Iodine-131	1.0E-06	2.28E-08	2.34E-08	2.55E-08
Krypton-87	1.0E-05	1.16E-07	5.25E-07	(3)
Krypton-88	1.0E-05	9.95E-08	5.49E-07	(3)
Xenon-133	1.0E-05	4.19E-08	4.36E-08	4.98E-08
Xenon-133m	1.0E-05	1.42E-07	1.55E-07	2.13E-07
Xenon-135	1.0E-05	2.06E-08	3.50E-08	2.17E-07
Xenon-138	1.0E-05	8.37E-06	(3)	(3)
<u>Nuclide</u>	<u>ODCM LLD</u>	<u>Typical LLD</u>		
Tritium	1.0E-05	1.2E-06		
Gross Alpha	1.0E-07	2.0E-08		
Strontium-89/90	5.0E-08	3.8E-08/1.4E-08		
Iron-55	1.0E-06	1.3E-08		

NOTES: (1) LLD values are in μCi/ml.  
(2) Δt is the time between sample collection and counting time.  
(3) T ½ too short.

Gaseous Effluents - Summation of Releases  
 During the Period  
 Starting: 1-Jan-2013 Ending: 30-Jun-2013

Type of Effluent	Units	Quarter 1	Quarter 2	Estimated Total Error %
<b>A. Fission and Activation Products</b>				
1. Total Release	Ci	2.51E-01	6.79E-01	11%
2. Average Release Rate For Period	μCi/sec	3.23E-02	8.63E-02	
3. Percent of Applicable Limit	%	*	*	
<b>B. Radioiodines</b>				
1. Total Iodine-131	Ci	0.00E+01	0.00E+01	N/A***
2. Average Release Rate For Period	μCi/sec	0.00E+01	0.00E+01	
3. Percent of Applicable Limit	%	*	*	
<b>C. Particulates</b>				
1. Particulates (Half-Lives > 8 Days)	Ci	0.00E+01	0.00E+01	N/A***
2. Average Release Rate For Period	μCi/sec	0.00E+01	0.00E+01	
3. Percent of Applicable Limit	%	*	*	
4. Gross Alpha Radioactiviy	Ci	0.00E+01	0.00E+01	
<b>D. Tritium</b>				
1. Total Release	Ci	6.76E+00	5.27E+00	15%
2. Average Release Rate For Period	μCi/sec	8.70E-01	6.70E-01	
3. Percent of Applicable Limit	%	*	*	
<b>E. Carbon-14</b>				
1. Total Release	Ci	1.05E+00	1.13E+00	N/A
2. Average Release Rate For Period	μCi/sec	1.35E-01	1.44E-01	
3. Percent of Applicable Limit	%	*	*	

\* Applicable Limits are expressed in terms of dose. See Tables 1-4 of the 2013 Radiological Impact Assessment Report.

\*\* Zeroes indicate that no radioactivity was present at detectable levels.

\*\*\* N/A - Errors in measurement are not reported for these values since none were identified during the reporting period.

Gaseous Effluents - Summation of Releases  
 During the Period  
 Starting: 1-Jul-2013 Ending: 31-Dec2013

Type of Effluent	Units	Quarter 3	Quarter 4	Estimated Total Error %
<b>A. Fission and Activation Products</b>				
1. Total Release	Ci	8.89E+00	4.40E+01	11%
2. Average Release Rate For Period	μCi/sec	1.12E+00	5.54E+00	
3. Percent of Applicable Limit	%	*	*	
<b>B. Radioiodines</b>				
1. Total Iodine-131	Ci	0.00E+01	0.00E+01	N/A***
2. Average Release Rate For Period	μCi/sec	0.00E+01	0.00E+01	
3. Percent of Applicable Limit	%	*	*	
<b>C. Particulates</b>				
1. Particulates (Half-Lives > 8 Days)	Ci	1.06E-07	1.79E-06	16%
2. Average Release Rate For Period	μCi/sec	1.34E-08	2.25E-07	
3. Percent of Applicable Limit	%	*	*	
4. Gross Alpha Radioactivity	Ci	0.00E+01	0.00E+01	
<b>D. Tritium</b>				
1. Total Release	Ci	4.66E+01	1.14E+02	15%
2. Average Release Rate For Period	μCi/sec	5.86E+00	1.43E+01	
3. Percent of Applicable Limit	%	*	*	
<b>E. Carbon-14</b>				
1. Total Release	Ci	1.36E+00	8.71E-01	N/A
2. Average Release Rate For Period	μCi/sec	1.36E-01	1.10E-01	
3. Percent of Applicable Limit	%	*	*	

\* Applicable Limits are expressed in terms of dose. See Tables 1-4 of the 2013 Radiological Impact Assessment Report.

\*\* Zeroes indicate that no radioactivity was present at detectable levels.

\*\*\* N/A - Errors in measurement are not reported for these values since none were identified during the reporting period.

Curies released Gaseous Ground Level Releases  
 During the period  
 Starting: 1-Jan-2013 Ending: 31-Mar-2013

	CONTINUOUS	BATCH	TOTAL
<u>FISSION GASES</u>			
Xenon-133	0.00E+01	5.91E-02	5.91E-02
Xenon-135	0.00E+01	1.72E-03	1.72E-03
Argon-41	0.00E+01	1.90E-01	1.90E-01
TOTALS	0.00E+01	2.51E-01	2.51E-01
<u>IODINES</u>			
Iodine-131	0.00E+01	0.00E+01	0.00E+01
TOTALS	0.00E+01	0.00E+01	0.00E+01
<u>PARTICULATES</u>			
TOTALS	0.00E+01	0.00E+01	0.00E+01
<u>TRITIUM</u>			
Tritium	6.63E+00	1.36E-01	6.76E+00
<u>CARBON-14</u>			
Carbon-14 (CO <sub>2</sub> form)	1.05E+00	0.00E+00	1.05E+00
Carbon-14 (Total)	5.37E+00	0.00E+00	5.37E+00

\*Zeros indicate that no radioactivity was present at detectable levels.

Curies released Gaseous Ground Level Releases  
 During the period  
 Starting: 1-Apr-2013 Ending: 30-Jun-2013

	CONTINUOUS	BATCH	TOTAL
<u>FISSION GASES</u>			
Xenon-133	0.00E+01	1.16E-01	1.16E-01
Xenon-135	0.00E+01	9.58E-03	9.58E-03
Argon-41	0.00E+01	5.53E-01	5.53E-01
TOTALS	0.00E+01	6.79E-01	6.79E-01
 <u>IODINES</u>			
TOTALS	0.00E+01	0.00E+01	0.00E+01
 <u>PARTICULATES</u>			
TOTALS	0.00E+01	0.00E+01	0.00E+01
 <u>TRITIUM</u>			
Tritium	3.01E+00	2.26E+00	5.27E+00
 <u>CARBON-14</u>			
Carbon-14 (CO <sub>2</sub> form)	1.13E+00	0.00E+00	1.13E+00
Carbon-14 (Total)	5.85E+00	0.00E+00	5.85E+00

\*Zeros indicate that no radioactivity was present at detectable levels.



Curies released Gaseous Ground Level Releases  
 During the period  
 Starting: 1-July-2013 Ending: 30-Sep-2013

	CONTINUOUS	BATCH	TOTAL
<u>FISSION GASES</u>			
Xenon-138	0.00E+01	4.74E-04	4.74E-04
Xenon-133	0.00E+01	9.53E-01	9.53E-01
Xenon-135	0.00E+01	2.35E-01	2.35E-01
Argon-41	0.00E+01	7.70E+00	7.70E+00
TOTALS	0.00E+01	8.89E+00	8.89E+00
 <u>IODINES</u>			
TOTALS	0.00E+01	0.00E+01	0.00E+01
 <u>PARTICULATES</u>			
Colbalt-58	1.06E-07	0.00E+01	1.06E-07
Bromine-82	1.08E-06	0.00E+01	1.08E-06
TOTALS	1.18E-06	0.00E+01	1.18E-06
 <u>TRITIUM</u>			
Tritium	6.96E+00	3.96E+01	4.66E+01
 <u>CARBON-14</u>			
Carbon-14 (CO <sub>2</sub> form)	1.08E+00	0.00E+00	1.08E+00
Carbon-14 (Total)	5.56E+00	0.00E+00	5.56E+00

\*Zeros indicate that no radioactivity was present at detectable levels.

Curies released Gaseous Ground Level Releases  
 During the period  
 Starting: 1-Oct-2013 Ending: 31-Dec-2013

	CONTINUOUS	BATCH	TOTAL
<u>FISSION GASES</u>			
Xenon-133	0.00E+01	2.53E+00	2.53E+00
Xenon-135	0.00E+01	9.58E-01	9.58E-01
Argon-41	0.00E+01	4.05E+01	4.05E+01
TOTALS	0.00E+01	4.40E+01	4.40E+01
 <u>IODINES</u>			
TOTALS	0.00E+01	0.00E+01	0.00E+01
 <u>PARTICULATES</u>			
Colbalt-58	1.78E-06	0.00E+01	1.78E-06
Bromine-82	1.85E-05	0.00E+01	1.85E-05
Copper-64	4.38E-04	0.00E+01	4.38E-04
TOTALS	4.58E-04	0.00E+01	4.58E-04
 <u>TRITIUM</u>			
Tritium	2.83E+01	8.52E+01	1.14E+02
 <u>CARBON-14</u>			
Carbon-14 (CO <sub>2</sub> form)	8.71E-01	0.00E+00	8.71E-01
Carbon-14 (Total)	4.48E+00	0.00E+00	4.48E+00

\*Zeros indicate that no radioactivity was present at detectable levels.

TABLE B  
GASEOUS "TYPICAL" LLD EVALUATION<sup>(1)</sup>

Noble Gas

<u>Nuclide</u>	<u>ODCM LLD</u>	$\Delta t^{(2)}$	
		<u>1 hr</u>	<u>1.5 hr</u>
Krypton-87	1.0E-04	2.08E-06	2.73E-06
Krypton-88	1.0E-04	1.61E-06	1.81E-06
Xenon-133	1.0E-04	6.61E-07	6.63E-07
Xenon-133m	1.0E-04	2.34E-06	2.35E-06
Xenon-135	1.0E-04	3.43E-07	3.56E-07
Xenon-138	1.0E-04	1.40E-04	6.10E-04

Particulate Sample<sup>(3)</sup>

		<u>1 hr</u>	<u>24 hr</u>	<u>7.0 day</u>
		Manganese-54	1.0E-10	7.47E-12
Cobalt-58	1.0E-10	5.62E-12	2.35E-13	3.46E-14
Iron-59	1.0E-10	1.20E-11	5.02E-13	7.49E-14
Cobalt-60	1.0E-10	1.07E-11	4.46E-13	6.38E-14
Zinc-65	1.0E-10	6.71E-12	2.80E-13	4.03E-14
Molybdenum-99	1.0E-10	3.43E-11	1.61E-12	4.70E-13
Cesium-134	1.0E-10	4.25E-12	1.77E-13	2.54E-14
Cesium-137	1.0E-10	8.48E-12	3.54E-13	5.05E-14
Cerium-141	1.0E-10	5.10E-12	2.15E-13	3.26E-14
Cerium-144	1.0E-10	2.01E-11	8.33E-13	1.20E-13
Iodine-131	1.0E-10	4.76E-12	2.07E-13	3.77E-14

Charcoal Sample

Iodine-131	1.0E-11	7.25E-12	3.15E-13	5.74E-14
------------	---------	----------	----------	----------

Note:

(1) LLD values are in  $\mu\text{Ci/ml}$ .

(2)  $\Delta t$  is the time between sample collection and counting time.

(3) LLD based on sample time + 30 min. sample to analysis.

TABLE B  
GASEOUS "TYPICAL" LLD EVALUATION<sup>(1)</sup> (continued)

<u>Nuclide</u>	<u>ODCM LLD</u>	<u>Typical LLD</u>
Tritium	1.0E-06	1.0E-11
Gross Alpha	1.0E-11	1.5E-14
Strontium-89	1.0E-11	1.0E-14
Strontium-90	1.0E-11	1.0E-15

NOTE:

(1) LLD values are in  $\mu\text{Ci/cc}$ .

## SOLID WASTE (RADIOACTIVE SHIPMENTS)

Solid Waste Shipped Offsite for Burial or Disposal (not Irradiated Fuel)

<u>1. Type of Waste</u>	<u>Unit</u>	<u>12 Month Period</u>	<u>Est. Tot. Error %</u>
a. Spent Resins, Filter Sludges, Evaporator Bottoms, etc.	m <sup>3</sup> Ci	14.72 3.99E+02	+1.00E+01 +2.29E+01
b. Dry Active Waste, Compressible Waste Contaminated Equipment, etc.	m <sup>3</sup> Ci	3.54E+02 3.51E+00	+1.00E+01 +2.29E+01
c. Irradiated Components, Control Rods, etc.	m <sup>3</sup> Ci	None None	N/A N/A
d. Other: Mechanical Filters	m <sup>3</sup> Ci	None None	N/A N/A

The reported volume is based on the defined volume of the packaging. During transit, the waste may settle resulting in an overall reduced volume. The reduction in disposal volume is estimated to be 10 percent less than the package volume.

The estimated total error (percent) for the total Curies shipped is based on calculating the square root of the sum of the squares method. Three parameters were considered as important for estimating the error. The parameters were variances with sample preparation and counting geometry, survey instrument accuracy for dose to Currie evaluations, and "in-field" sampling techniques. The assigned values for these parameters were 20, 10, and 5 percent, respectively.

$$\text{Total error (\%)} = (0.20^2 + 0.10^2 + 0.05^2)^{1/2} \times 100 = 22.9\%$$

## SOLID WASTE (RADIOACTIVE SHIPMENTS) (continued)

### 2. Estimate of Major Nuclide Composition (by type of waste)

#### a. Spent resins, filter sludges, evaporator bottoms, etc. (nuclides determined by measurement)

	<u>Curies</u>	<u>Percent</u>
1. Hydrogen-3	3.476E-02	0.009
2. Carbon-14	4.685E-02	0.012
3. Manganese-54	7.669E+00	1.922
4. Iron-55	3.616E+01	9.062
5. Cobalt-57	5.354E-01	0.134
6. Cobalt-58	8.948E-01	0.224
7. Cobalt-60	1.587E+02	39.773
8. Nickel-59	1.827E+00	0.458
9. Nickel-63	1.821E+02	45.637
10. Zinc-65	1.185E+00	0.297
11. Strontium-89	9.574E-03	0.002
12. Strontium-90	3.307E-02	0.008
13. Technicium-99	2.923E-03	0.001
14. Antimony-125	8.696E-03	0.002
15. Cesium-134	1.168E+00	0.293
16. Cesium-137	8.018E+00	2.009
17. Cerium-144	4.841E-01	0.121
18. Europium-152	2.829E-03	0.001
19. Europium-154	1.974E-03	0.000
20. Europium-155	5.657E-05	0.000
21. Plutonium-238	6.433E-04	0.000
22. Plutonium-239	1.792E-04	0.000
23. Plutonium-240	1.792E-04	0.000
24. Plutonium-241	1.377E-01	0.035
25. Americium-241	3.589E-04	0.000
26. Curium-242	1.560E-05	0.000
27. Curium-243	5.541E-04	0.000

SOLID WASTE (RADIOACTIVE SHIPMENTS) (continued)

b. Dry active waste, compressible waste, contaminated equipment, etc. (nuclides determined by estimate)

	<u>Curies</u>	<u>Percent</u>
1. Hydrogen-3	1.019E-03	0.029
2. Carbon-14	4.744E-02	1.351
3. Chromium-51	2.512E-03	0.072
4. Manganese-54	1.098E-01	3.126
5. Iron-55	5.418E-01	15.425
6. Iron-59	4.316E-03	0.123
7. Cobalt-57	1.326E-02	0.378
8. Cobalt-58	1.545E+00	43.998
9. Cobalt-60	1.121E+00	31.918
10. Nickel-59	1.457E-03	0.041
11. Nickel-63	7.730E-02	2.201
12. Zinc-65	1.439E-02	0.410
13. Zirconium-95	2.623E-06	0.000
14. Niobium-95	6.013E-03	0.171
15. Cesium-137	7.943E-03	0.226
16. Cesium-144	1.200E-02	0.342
17. Plutonium-238	1.022E-05	0.000
18. Plutonium-239	4.016E-06	0.000
19. Plutonium-240	4.016E-06	0.000
20. Plutonium-241	3.313E-03	0.094
21. Americium-241	7.913E-06	0.000

c. Irradiated Components  
None

Curies  
N/A

Percent  
N/A

d. Other: Mechanical Filters  
None

Curies  
N/A

Percent  
N/A

SOLID WASTE (RADIOACTIVE SHIPMENTS) (continued)

3. Solid Waste Disposition

a. Spent resins, filter sludges, evaporator bottoms, etc.

Number of Shipments	Type Quantity	Mode of Transportation	Destination
3	Type B	Motor Freight	Waste Control Specialists TSD Facility Andrews, TX
2	A-LSA II	Motor Freight	Waste Control Specialists TSD Facility Andrews, TX

b. Dry active waste, compressible waste, contaminated equipment, etc.

Number of Shipments	Type Quantity	Mode of Transportation	Destination
22	A-LSA II	Motor Freight	EnergySolutions Processing Facility Oak Ridge, TN
1	Limited Quantity	Motor Freight	EnergySolutions Processing Facility Kingston, TN
2	Limited Quantity	Motor Freight	EnergySolutions Processing Facility Oak Ridge, TN
1	Limited Quantity	Motor Freight	TVA-Hazardous Waste Storage Facility Muscle Shoals, AL
5	Exempt Quality	Motor Freight	EnergySolutions Processing Facility Oak Ridge, TN

c. Irradiated components, control rods, etc.

Number of Shipments	Type Quantity	Mode of Transportation	Destination
None	N/A	N/A	N/A

d. Other: Mechanical Filters

Number of Shipments	Type Quantity	Mode of Transportation	Destination
None	N/A	N/A	N/A

4. Irradiated Fuel Shipments (Disposition)

Number of Shipments	Type Quantity	Mode of Transportation	Destination
None	N/A	N/A	N/A

5. Solidification of Waste

Was solidification performed? No  
If yes, solidification media: N/A



## Independent Spent Fuel Storage Installation

SNQ implemented use of an independent spent fuel storage installation (ISFSI) on July 13, 2004, utilizing 10 CFR 72.214 Certificate of Compliance (CoC number 1014). The ISFSI is located on site, within the protected area and is designed to hold 90 spent fuel canisters. CoC 1014 Appendix A Section 5.4 requires an annual report in accordance with 10 CFR 72.44(d)(3). A report has been submitted providing the results of any releases during this monitoring period. CoC 1014 Section 5.4 also provides that the ISFSI operations may be considered part of plant operations for the purposes of the radiological environmental monitoring program.

CoC 1014 Section 5.4a states "The HI-STORM 100 Cask System does not create any radioactive material or have any radioactive waste treatment systems. Therefore, specific operating procedures for the control of radioactive effluents are not required. Specification 3.1.1, Multi-Purpose Canister (MPC), provides assurance that there are not radioactive effluents from spent fuel storage canister."

The Environmental Protection Agency limits for the total dose to the public in the vicinity of a nuclear power plant, established in the Environmental Dose Standard of 40 CFR 190, are as follows:

Total Body	$\leq 25$ mrem/year
Thyroid	$\leq 75$ mrem/year
Any other organ	$\leq 25$ mrem/year

Although CoC 1014 provides that the HI-STORM 100 Cask System does not create any radioactive material or have any radioactive waste treatment systems, for this report, total site releases include the SNQ ISFSI as part of the SNQ site and part of plant operations. These releases are within 40 CFR 190 limits and 10 CFR 72.104 limits.

ENCLOSURE 2

RADIOLOGICAL IMPACT ASSESSMENT REPORT

SEQUOYAH NUCLEAR PLANT

2013

2013  
SEQUOYAH NUCLEAR PLANT  
RADIOLOGICAL IMPACT ASSESSMENT REPORT

## INTRODUCTION

Potential doses to maximum individuals and the population around Sequoyah Nuclear Plant (SQN) are calculated for each quarter as required in Section 5.2 of the Offsite Dose Calculation Manual (ODCM). Measured plant releases for the reporting period are used to estimate these doses. Dispersion of radioactive effluents in the environment is estimated using meteorological data and riverflow data measured during the period. In this report, the doses resulting from releases are described and compared to limits established for SQN.

## DOSE LIMITS

The ODCM specifies limits for the release of radioactive effluents, as well as limits for doses to the general public from the release of radioactive effluents. These limits are set well below the technical specification limits which govern the concentrations of radioactivity and doses permissible in unrestricted areas. This ensures that radioactive effluent releases are "As Low As Reasonably Achievable."

The limits for doses in unrestricted areas from airborne noble gases released are:

Less than or equal to 5 mrad per quarter and  
10 mrad per year (per reactor unit) for gamma radiation,  
- and -  
Less than or equal to 10 mrad per quarter and  
20 mrad per year (per reactor unit) for beta radiation.

The limit for the dose to a member of the general public in an unrestricted area from iodines and particulates released in airborne effluents is:

Less than or equal to 7.5 mrem per quarter and  
15 mrem per year (per reactor unit) to any organ.

The limits for doses to a member of the general public from radioactive material in liquid effluents released to unrestricted areas are:

Less than or equal to 1.5 mrem per quarter and  
3 mrem per year (per reactor unit) to the total body,  
- and -  
Less than or equal to 5 mrem per quarter and  
10 mrem per year (per reactor unit) to any organ

The Environmental Protection Agency limits for total dose to the public in the vicinity of a nuclear power plant, established in the Environmental Dose Standard of 40 CFR 190 are:

Less than or equal to 25 mrem per year to the total body,  
Less than or equal to 75 mrem per year to the thyroid,  
- and -  
Less than or equal to 25 mrem per year to any other organ.

## DOSE CALCULATIONS

Estimated doses to the public are determined using computer models: Gaseous Effluent Licensing Code (GELC), and the Quarterly Water Dose Assessment Code (QWATA). These models are based on guidance provided by the NRC (in Regulatory Guides 1.109, 1.111 and 1.113) for determining the potential dose to individuals and populations living in the vicinity of the plant. The area around the plant is analyzed to determine the pathways through which the public may receive a dose. The doses calculated are a representation of the dose to a "maximum exposed individual." Some of the factors used in these calculations (such as ingestion rates) are maximum values. Many of these factors are obtained from NUREG/CR-1004. The values chosen will tend to overestimate the dose to this "maximum" person. The expected dose to actual individuals is lower. The calculated doses are presented in Tables 1 through 9.

## DOSES FROM AIRBORNE EFFLUENTS

For airborne effluents, the public can be exposed to radiation from several sources: direct radiation from the radioactivity in the air, direct radiation from radioactivity deposited on the ground, inhalation of airborne radioactivity, ingestion of vegetation which contains radioactivity deposited from the atmosphere, and ingestion of milk and beef which contains radioactivity deposited from the atmosphere onto vegetation and subsequently eaten by milk and beef animals.

### Airborne Discharge Points

Releases from SQN are considered ground-level releases. The ground-level Joint Frequency Distribution (JFD) is derived from windspeeds and directions measured 10 meters above ground and from the vertical temperature difference between 10 and 46 meters, and are presented for each quarter in Attachment 1.0.

### Meteorological Data

Meteorological variables at SQN are measured continuously. Measurements collected include wind speed, wind direction, and temperature at heights of 10, 46, and 91 meters above the ground. Quarterly joint frequency distributions (JFDs) are calculated for each release point using the appropriate levels of meteorological data. A JFD gives the percentage of the time in a quarter that the wind is blowing out of a particular upwind compass sector in a particular range of wind speeds for a given stability Class A through G. The wind speeds are divided into nine wind speed ranges. Calms are distributed by direction in proportion to the distribution of noncalm wind directions less than 0.7 m/s (1.5 mph). Stability classes are determined from the vertical temperature difference between two measurement levels.

### External Exposure Dose

Dose estimates for maximum external air dose (gamma-air and beta-air doses) are made for points at and beyond the unrestricted area boundary as described in the SQN ODCM. The highest of these doses is then selected.

### Submersion Dose

External doses to the skin and total body, due to submersion in a cloud of noble gases, are estimated for the nearest residence in each sector. The residence with the highest dose is then selected from all sectors.

### Organ Dose

Doses to organs due to releases of airborne effluents are estimated for the inhalation, ground contamination, and ingestion pathways. The ingestion pathway is further divided into four possible contributing pathways: ingestion of cow/goat milk, ingestion of beef, and ingestion of vegetables. Doses from applicable pathways are calculated for each real receptor location identified in the most recent land use survey. To determine the maximum organ dose, the doses from the pathways are summed for each receptor. For the ingestion dose, however, only those pathways that exist for each receptor are considered in the sum, i.e., milk ingestion doses are included only for locations where milk is consumed without commercial preparation and vegetable ingestion is included only for those locations where a garden is identified. To conservatively account for beef ingestion, a beef ingestion dose equal to that for the highest unrestricted area boundary location is added to each identified receptor. For ground contamination, the dose added to the organ dose being calculated is the total body dose calculated for that location, i.e., it is assumed that the dose to an individual organ is equal to the total body dose.

Doses from airborne effluents are presented in Tables 1-4.

## DOSES FROM LIQUID EFFLUENTS

For liquid effluents, the public can be exposed to radiation from three sources: the ingestion of water from the Tennessee River, the ingestion of fish caught in the Tennessee River, and direct exposure from radioactive material deposited on the river shoreline sediment (recreation).

The concentrations of radioactivity in the Tennessee River are estimated by a computer model which uses measured hydraulic data downstream of SQN. Parameters used to determine the doses are based on guidance given by the NRC (in Regulatory Guides 1.109) for maximum ingestion rates, exposure times, etc. Wherever possible, parameters used in the dose calculation are site specific use factors determined by TVA. The models that are used to estimate doses, as well as the parameters input to the models, are described in detail in the SQN ODCM.

### Liquid Release Points and River Data

Radioactivity concentrations in the Tennessee River are calculated assuming that releases in liquid effluents are continuous. Routine liquid releases from SQN, located at Tennessee River Mile 484, are made through diffusers which extend into the Tennessee River. It is assumed that releases to the river through these diffusers will initially be entrained in one-fifth of the water which flows past the plant. The QWATA code makes the assumption that this mixing condition holds true until the water is completely mixed at the first downstream dam, at Tennessee River Mile 471.

Doses are calculated for locations within a 50-mile radius downstream of the plant site. The maximum potential recreation dose is calculated for a location immediately downstream from the plant outfall. The maximum individual dose from ingestion of fish is assumed to be that calculated for the consumption of fish caught anywhere between the plant and the first downstream dam (Chickamauga Dam). The maximum individual dose from drinking water is assumed to be that calculated at the nearest downstream public water supply (East Side Utilities). This could be interpreted as indicating that the maximum individual, as assumed for liquid releases from Sequoyah, is an individual who obtains all of his drinking water at East Side Utilities, consumes fish caught from the Tennessee River between SQN and Chickamauga Dam, and spends 500 hours per year on the shoreline just below the outfall from Sequoyah. Dose estimates for the maximum individual due to liquid effluents for each quarter in the period are presented in Tables 5-8, along with the average river flows past the plant site for the periods.

Population doses are calculated assuming that each individual consumes milk, vegetables, and meat produced within the sector annulus in which he resides. Doses from external pathways and inhalation are based on the 50-mile human population distribution.

#### POPULATION DOSES

Population doses for the highest exposed organ due to airborne effluents are calculated for an estimated 1,060,000 persons living within a 50-mile radius of the plant site. Doses from external pathways and inhalation are based on the 50-mile human population distribution.

Ingestion population doses for total body and the maximum exposed organ due to liquid effluents are calculated for the entire downstream Tennessee River population. Water ingestion population doses are calculated using actual population figures for downstream public water supplies. Fish ingestion population doses are calculated assuming that all sport fish caught in the Tennessee River are consumed by the Tennessee River population. Recreation population doses are calculated using actual recreational data on the number of shoreline visits at downstream locations.

Population dose estimates for airborne and liquid effluents are presented in Tables 1-4 and Tables 5-8.

#### DIRECT RADIATION

External gamma radiation levels were measured by dosimeters deployed around SQN as part of the offsite REMP. The quarterly gamma radiation levels determined from these dosimeters during this reporting period averaged approximately 14.75 mrem/quarter at onsite (at or near the site boundary) stations and approximately 13.50 mrem/quarter at offsite stations, or approximately 1.25 mrem/quarter higher at onsite than at offsite stations. This difference is consistent with levels measured for preoperation and construction phases of the TVA nuclear plant site where the average radiation levels onsite were generally 2-6 mrem/quarter higher than the levels offsite. This may be attributable to natural variations in environmental radiation levels, earth moving activities onsite, the mass of concrete employed in the construction of the plants, or other undetermined influences. Fluctuations in natural background dose rates and in dosimeter readings tend to mask any small increments which may be due to plant operations.

Thus, there was no identifiable increase in dose rate levels attributable to direct radiation from plant equipment and/or gaseous effluents.

#### DOSE TO A MEMBER OF THE PUBLIC INSIDE THE UNRESTRICTED AREA BOUNDARY

As stated in the SQN ODCM, an evaluation of the dose to a member of the public inside the unrestricted area boundary is performed for a hypothetical TVA employee who works just outside the restricted area fence for an entire work year (2000/8760 hours). Results from onsite dosimeter measurements for the calendar year in question indicate that the highest onsite dosimeter reading was 102 mrem. Using this value, and subtracting an annual background value of 59 mrem/year (from perimeter dosimeters around Sequoyah from Area dosimeter posting data for the year), and multiplying by the ratio of the occupancy times (2000/8760), the external dose was 9.8 mrem. The doses due to radioactive effluents released to the atmosphere calculated in this report would not add a significant amount to this measured dose. This dose is well below the 10 CFR 20 annual limit of 100 mrem.

#### TOTAL DOSE

To determine compliance with 40 CFR 190, annual total dose contributions to the maximum individual from SQN radioactive effluents and other nearby uranium fuel cycle sources are considered.

The annual dose to any organ other than thyroid for the maximum individual is conservatively estimated by summing the following doses: the total body air submersion dose for each quarter, the critical organ dose (for any organ other than the thyroid) from airborne effluents for each quarter from ground contamination, inhalation and ingestion, the total body dose from liquid effluents for each quarter, the maximum organ dose (for any organ other than the thyroid) from liquid effluents for each quarter, and any identifiable increase in direct radiation dose levels as measured by the environmental monitoring program. This dose is compared to the 40 CFR 190 limit for total body or any organ dose (other than thyroid) to determine compliance.

The annual thyroid dose to the maximum individual is conservatively estimated by summing the following doses: the total body air submersion dose for each quarter, the thyroid dose from airborne effluents for each quarter, the total body dose from liquid effluents for each quarter, the thyroid dose from liquid effluents for each quarter, and any identifiable increase in direct radiation dose levels as measured by the environmental monitoring program. This dose is compared to the 40 CFR 190 limit for thyroid dose to determine compliance.

Cumulative annual total doses are presented in Table 9.

Tables 1 and 2  
Doses from Airborne Effluents

**First Quarter**

**Individual Doses**

Pathway	Dose	Quarterly Limit	Percent of Limit	Location Sector/Distance/Unit
<b>External</b>				
Gamma Air	1.95E-04 mrad	5 mrad	<1	SSW/1840/meters
Beta Air	7.62E-05 mrad	10 mrad	<1	SSW/1840/meters
<b>Submersion</b>				
Total Body	1.46E-04 mrad	10 mrad	<1	SSW/2129/meters
Skin	2.16E-04 mrad	10 mrad	<1	SSW/2129/meters
<b>Organ Doses<sup>1</sup></b>				
(Max) Child/Bone	2.72E-01 mrem	7.5 mrem	3.63	NNE/3271/meters
Child/Thyroid	5.59E-02 mrem	7.5 mrem	<1	NNE/3271/meters
Child/Total Body	5.59E-02 mrem	7.5 mrem	<1	NNE/3271/meters

**Population Doses**

Total Body Dose                      3.80E-01 man-rem  
 Maximum Organ Dose (organ)      1.80E+00 man-rem (Bone)

**Second Quarter**

**Individual Doses**

Pathway	Dose	Quarterly Limit	Percent of Limit	Location Sector/Distance/Unit
<b>External</b>				
Gamma Air	1.15E-03 mrad	5 mrad	1.26	N/950/meters
Beta Air	4.38E-04 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	6.06E-04 mrad	10 mrad	<1	NNW/864/meters
Skin	8.98E-04 mrad	10 mrad	<1	NNW/864/meters
<b>Organ Doses<sup>1</sup></b>				
(Max) Child/Bone	4.95E-01 mrem	7.5 mrem	6.60	NNE/3271/meters
Child/Thyroid	1.01E-01 mrem	7.5 mrem	1.35	NNE/3271/meters
Child/Total Body	1.01E-01 mrem	7.5 mrem	1.35	NNE/3271/meters

**Population Doses**

Total Body Dose                      4.62E-01 man-rem  
 Maximum Organ Dose (organ)      2.22E+00 man-rem (Bone)

*Population doses can be compared to the natural background dose for the entire 50-mile population of about 95,400 man-rem/year (based on 90 mrem/year for natural background).*

<sup>1</sup>Organ Doses include contributions from Carbon-14 in the form of Carbon Dioxide.



Tables 3 and 4  
Doses from Airborne Effluents

**Third Quarter**

**Individual Doses**

Pathway	Dose	Quarterly Limit	Percent of Limit	Location Sector/Distance/Unit
<b>External</b>				
Gamma Air	1.37E-02 mrad	5 mrad	<1	N/950/meters
Beta Air	5.12E-03 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	8.75E-03 mrad	10 mrad	<1	NNW/864/meters
Skin	1.30E-02 mrad	10 mrad	<1	NNW/864/meters
<b>Organ Doses<sup>1</sup></b>				
(Max) Child/Bone	4.70E-01 mrem	7.5 mrem	6.27	NNW/1586/meters
Child/Thyroid	1.12E-01 mrem	7.5 mrem	1.49	NNW/1586/meters
Child/Total Body	1.12E-01 mrem	7.5 mrem	1.49	NNW/1586/meters

**Population Doses**

Total Body Dose 6.74E-01 man-rem  
Maximum Organ Dose (organ) 2.50E+00 man-rem (Bone)

**Fourth Quarter**

**Individual Doses**

Pathway	Dose	Quarterly Limit	Percent of Limit	Location Sector/Distance/Units
<b>External</b>				
Gamma Air	6.30E-02 mrad	5 mrad	1.26	N/950/meters
Beta Air	2.30E-02 mrad	10 mrad	<1	N/950/meters
<b>Submersion</b>				
Total Body	4.23E-02 mrad	10 mrad	<1	SSW/2129/meters
Skin	6.26E-02 mrad	10 mrad	<1	SSW/2129/meters
<b>Organ Doses<sup>1</sup></b>				
(Max) Child/Bone	3.70E-01 mrem	7.5 mrem	4.93	SSW/4532/meters
Child/Thyroid	1.16E-01 mrem	7.5 mrem	1.55	SSW/4532/meters
Child/Total Body	1.16E-01 mrem	7.5 mrem	1.55	SSW/4532/meters

**Population Doses**

Total Body Dose 1.04E+00 man-rem  
Maximum Organ Dose (organ) 2.71E+00 man-rem (Bone)

*Population doses can be compared to the natural background dose for the entire 50-mile population of about 95,400 man-rem/year (based on 90 mrem/year for natural background).*

<sup>1</sup>Organ Doses include contributions from Carbon-14 in the form of Carbon Dioxide.

Tables 5 and 6  
Doses from Liquid Effluents

**First Quarter**

**Individual Doses (mrem)**

Age Group	Organ	Dose	Quarterly Limit	Percent of Limit
Child	Total Body	4.60E-04	1.5 mrem	< 1 %
Child	Liver	4.60E-04	5 mrem	< 1 %
Child	Thyroid	4.60E-04	5 mrem	< 1 %

Average Riverflow past SQN (cubic feet per second): 72016

**Population Doses**

Total Body Dose 3.00E-02 man-rem  
Maximum Organ Dose (organ) 3.00E-02 man-rem (GIT, Bone, Thyroid, Liver, Kidney, Lung)

**Second Quarter**

**Individual Doses (mrem)**

Age Group	Organ	Dose	Quarterly Limit	Percent of Limit
Child	Total Body	4.50E-04	1.5 mrem	< 1 %
Child	Liver	4.50E-04	5 mrem	< 1 %
Child	Thyroid	4.50E-04	5 mrem	< 1 %

Average Riverflow past SQN (cubic feet per second): 49413

**Population Doses**

Total Body Dose 3.00E-02 man-rem  
Maximum Organ Dose (organ) 3.00E-02 man-rem (Bone, Liver, GIT, Thyroid, Kidney, Lung)

*Population doses can be compared to the natural background dose for the entire 50-mile population of about 95,400 man-rem/year (based on 90 mrem/year for natural background).*

Tables 7 and 8  
Doses from Liquid Effluents

**Third Quarter**

**Individual Doses (mrem)**

Age Group	Organ	Dose	Quarterly Limit	Percent of Limit
Child	Total Body	4.10E-03	1.5 mrem	< 1 %
Child	Liver	4.10E-03	5 mrem	< 1 %
Child	Thyroid	4.10E-03	5 mrem	< 1 %

Average Riverflow past SQN (cubic feet per second): 46127

**Population Doses**

Total Body Dose 2.70E-01 man-rem  
Maximum Organ Dose (organ) 2.80E-01 man-rem (GIT)

**Fourth Quarter**

**Individual Doses (mrem)**

Age Group	Organ	Dose	Quarterly Limit	Percent of Limit
Child	Total Body	1.40E-03	1.5 mrem	< 1 %
Child	Liver	1.40E-03	5 mrem	< 1 %
Child	Thyroid	1.40E-03	5 mrem	< 1 %

Average Riverflow past SQN (cubic feet per second): 43916

**Population Doses**

Total Body Dose 9.50E-02 man-rem  
Maximum Organ Dose (organ) 9.50E-02 man-rem (Bone, Liver, GIT, Thyroid, Kidney, Lung)

*Population doses can be compared to the natural background dose for the entire 50-mile population of about 95,400 man-rem/year (based on 90 mrem/year for natural background).*

Table 9

## Total Dose from Fuel Cycle

Dose	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
Total Body or any Organ (except thyroid)					
Total body air submersion	1.46E-04	6.06E-04	8.75E-03	4.23E-02	
Critical organ dose (air)	2.72E-01	4.95E-01	4.70E-01	3.70E-01	
Total body dose (liquid)	4.60E-04	4.50E-04	4.10E-03	1.40E-03	
Maximum organ dose (liquid)	4.60E-04	4.50E-04	4.10E-03	1.40E-03	
Direct Radiation Dose	0.00E-00	0.00E-00	0.00E-00	0.00E-00	
Total	2.73E-01	4.97E-01	4.87E-01	4.15E-01	
Cumulative Total Dose (Total body or any other organ) mrem					1.67E+00
<i>Annual Dose Limit (mrem)</i>					25
Percent of Limit					6.68
Thyroid Dose (mrem)					
Total body air submersion	1.46E-04	6.06E-04	8.75E-03	4.23E-02	
Thyroid dose (airborne)	5.59E-02	1.01E-01	1.12E-01	1.16E-01	
Total body dose (liquid)	4.60E-04	4.50E-04	4.10E-03	1.40E-03	
Thyroid dose (liquid)	4.60E-04	4.50E-04	4.10E-03	1.40E-03	
Direct Radiation Dose	0.00E-00	0.00E-00	0.00E-00	0.00E-00	
Total	5.70E-02	1.03E-01	1.29E-01	1.61E-01	
Cumulative Total Dose (Thyroid) mrem					4.50E-01
<i>Annual Dose Limit (mrem)</i>					75
Percent of Limit					0.60

Attachment 1.0

Joint Frequency Distribution Tables

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS A (DELTA T<=-1.9 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.000	0.237	0.047	0.000	0.000	0.000	0.284
NNE	0.000	0.000	0.000	0.379	0.568	0.379	0.047	0.000	0.000	1.373
NE	0.000	0.000	0.095	0.237	0.331	0.189	0.000	0.000	0.000	0.852
ENE	0.000	0.000	0.000	0.237	0.000	0.000	0.000	0.000	0.000	0.237
E	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.047
ESE	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.047
SE	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.000	0.095
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.000	0.000	0.047	0.095	0.000	0.000	0.000	0.142
SW	0.000	0.000	0.000	0.047	0.047	0.047	0.000	0.000	0.000	0.142
WSW	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.047
W	0.000	0.000	0.000	0.000	0.000	0.189	0.000	0.000	0.000	0.189
WNW	0.000	0.000	0.000	0.000	0.095	0.284	0.000	0.000	0.000	0.379
NW	0.000	0.000	0.000	0.142	0.331	0.379	0.000	0.000	0.000	0.852
NNW	0.000	0.000	0.000	0.000	0.189	0.331	0.000	0.000	0.000	0.521
SUBTOTAL	0.000	0.000	0.142	1.136	1.894	1.989	0.047	0.000	0.000	5.208

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS A 110  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 110  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 7.11

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS B (-1.9< DELTA T<=-1.7 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.047	0.095	0.047	0.142	0.000	0.000	0.000	0.331
NNE	0.000	0.000	0.000	0.237	0.142	0.237	0.047	0.000	0.000	0.663
NE	0.000	0.000	0.189	0.047	0.047	0.142	0.000	0.000	0.000	0.426
ENE	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.047
S	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.095
SSW	0.000	0.000	0.000	0.000	0.047	0.331	0.000	0.000	0.000	0.379
SW	0.000	0.000	0.000	0.000	0.047	0.095	0.000	0.000	0.000	0.142
WSW	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.047
W	0.000	0.000	0.000	0.047	0.000	0.095	0.000	0.000	0.000	0.142
WNW	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.047
NW	0.000	0.000	0.000	0.047	0.284	0.095	0.000	0.000	0.000	0.426
NNW	0.000	0.000	0.000	0.000	0.047	0.237	0.000	0.000	0.000	0.284
SUBTOTAL	0.000	0.000	0.284	0.521	0.758	1.468	0.047	0.000	0.000	3.078

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS B 65  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 65  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 7.26

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS C (-1.7 < DELTA T <= -1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.047	0.331	0.000	0.000	0.000	0.000	0.379
NNE	0.000	0.000	0.000	0.331	0.237	0.237	0.047	0.000	0.000	0.852
NE	0.000	0.000	0.237	0.379	0.237	0.095	0.000	0.000	0.000	0.947
ENE	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
E	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.095
SSE	0.000	0.000	0.000	0.095	0.000	0.047	0.000	0.000	0.000	0.142
S	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.095
SSW	0.000	0.000	0.000	0.000	0.426	0.521	0.000	0.000	0.000	0.947
SW	0.000	0.000	0.000	0.000	0.142	0.095	0.000	0.000	0.000	0.237
WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	0.000	0.000	0.000	0.000	0.000	0.284	0.000	0.000	0.000	0.284
WNW	0.000	0.000	0.000	0.000	0.142	0.189	0.000	0.000	0.000	0.331
NW	0.000	0.000	0.000	0.047	0.189	0.142	0.000	0.000	0.000	0.379
NNW	0.000	0.000	0.000	0.189	0.047	0.142	0.000	0.000	0.000	0.379
SUBTOTAL	0.000	0.000	0.331	1.184	1.799	1.799	0.047	0.000	0.000	5.161

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS C 109  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 109  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 6.67

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS



JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.5 < DELTA T <= -0.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.047	0.947	1.042	1.752	0.473	0.000	0.000	0.000	4.261
NNE	0.000	0.142	1.373	2.936	2.841	1.894	0.284	0.047	0.000	9.517
NE	0.000	0.000	0.379	0.805	0.000	0.237	0.000	0.000	0.000	1.420
ENE	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
E	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
ESE	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.095
SE	0.000	0.047	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.095
SSE	0.000	0.047	0.095	0.142	0.000	0.095	0.000	0.000	0.000	0.379
S	0.000	0.000	0.284	0.331	0.331	0.947	0.047	0.000	0.000	1.941
SSW	0.000	0.000	1.089	2.557	1.563	0.758	0.000	0.000	0.000	5.966
SW	0.000	0.095	1.136	1.089	0.758	0.473	0.000	0.000	0.000	3.551
WSW	0.000	0.047	0.616	0.473	0.331	0.568	0.047	0.000	0.000	2.083
W	0.000	0.047	0.379	0.189	0.521	0.805	0.047	0.000	0.000	1.989
WNW	0.000	0.047	0.521	0.331	0.616	0.473	0.047	0.000	0.000	2.036
NW	0.000	0.000	0.521	0.710	1.136	0.284	0.000	0.000	0.000	2.652
NNW	0.000	0.047	0.521	0.947	0.805	0.663	0.000	0.000	0.000	2.983
SUBTOTAL	0.000	0.616	8.097	11.600	10.653	7.670	0.473	0.047	0.000	39.157

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS D 827  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 827  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 5.58

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E (-0.5< DELTA T<= 1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.189	2.557	1.563	0.473	0.284	0.000	0.000	0.000	5.066
NNE	0.000	0.568	3.314	2.273	1.136	0.189	0.000	0.000	0.000	7.481
NE	0.000	0.189	0.663	0.189	0.047	0.047	0.000	0.000	0.000	1.136
ENE	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
E	0.000	0.142	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.237
ESE	0.000	0.142	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.189
SE	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
SSE	0.000	0.047	0.331	0.095	0.047	0.047	0.000	0.000	0.000	0.568
S	0.000	0.331	0.900	0.900	0.095	1.468	0.000	0.000	0.000	3.693
SSW	0.000	0.284	2.794	1.373	0.663	0.189	0.000	0.000	0.000	5.303
SW	0.000	0.237	1.610	0.758	0.616	0.331	0.000	0.000	0.000	3.551
WSW	0.000	0.000	0.331	0.142	0.000	0.095	0.047	0.000	0.000	0.616
W	0.000	0.142	0.331	0.047	0.047	0.047	0.000	0.000	0.000	0.616
WNW	0.000	0.047	0.568	0.284	0.189	0.000	0.000	0.000	0.000	1.089
NW	0.000	0.189	0.284	0.758	0.095	0.000	0.000	0.000	0.000	1.326
NNW	0.000	0.047	0.663	0.521	0.142	0.047	0.000	0.000	0.000	1.420
SUBTOTAL	0.000	2.557	14.631	8.902	3.551	2.746	0.047	0.000	0.000	32.434

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS E 693  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 685  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 3.86

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F ( 1.5< DELTA T<= 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.047	0.426	0.000	0.000	0.047	0.000	0.000	0.000	0.521
NNE	0.000	0.095	2.652	0.379	0.047	0.000	0.000	0.000	0.000	3.172
NE	0.000	0.047	1.373	0.189	0.000	0.000	0.000	0.000	0.000	1.610
ENE	0.000	0.142	0.095	0.047	0.000	0.000	0.000	0.000	0.000	0.284
E	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
ESE	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
SE	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
SSE	0.000	0.047	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.237
S	0.000	0.284	0.284	0.047	0.000	0.000	0.000	0.000	0.000	0.616
SSW	0.000	0.000	1.563	0.331	0.000	0.000	0.000	0.000	0.000	1.894
SW	0.000	0.142	1.326	0.521	0.095	0.000	0.000	0.000	0.000	2.083
WSW	0.000	0.047	0.331	0.095	0.000	0.000	0.000	0.000	0.000	0.473
W	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.047
WNW	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
NW	0.000	0.047	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.237
NNW	0.000	0.000	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.142
SUBTOTAL	0.000	0.947	8.759	1.610	0.189	0.047	0.000	0.000	0.000	11.553

TOTAL HOURS OF VALID STABILITY OBSERVATIONS	2127
TOTAL HOURS OF STABILITY CLASS F	249
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F	244
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS	2112
TOTAL HOURS CALM	0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 2.60

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA T > 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 2013 - MAR 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNE	0.000	0.000	0.616	0.000	0.000	0.000	0.000	0.000	0.000	0.616
NE	0.000	0.047	0.900	0.047	0.000	0.000	0.000	0.000	0.000	0.994
ENE	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
E	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.095
ESE	0.000	0.000	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
SE	0.000	0.095	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.142
SSE	0.000	0.000	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.142
S	0.000	0.142	0.142	0.047	0.000	0.000	0.000	0.000	0.000	0.331
SSW	0.000	0.047	0.379	0.000	0.000	0.000	0.000	0.000	0.000	0.426
SW	0.000	0.000	0.379	0.000	0.000	0.000	0.000	0.000	0.000	0.379
WSW	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
W	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.047
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.047
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.426	2.841	0.142	0.000	0.000	0.000	0.000	0.000	3.409

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2127  
 TOTAL HOURS OF STABILITY CLASS G 74  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 72  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/05/10

MEAN WIND SPEED = 2.17.

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS A (DELTA T<=-1.9 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.046	0.139	0.139	0.000	0.000	0.000	0.325
NNE	0.000	0.000	0.093	0.557	0.650	0.232	0.000	0.000	0.000	1.532
NE	0.000	0.000	0.093	0.743	0.650	0.279	0.000	0.000	0.000	1.764
ENE	0.000	0.000	0.046	0.464	0.000	0.000	0.000	0.000	0.000	0.511
E	0.000	0.000	0.046	0.093	0.000	0.000	0.000	0.000	0.000	0.139
ESE	0.000	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.000	0.093
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.046	0.186	0.046	0.000	0.000	0.000	0.000	0.279
SW	0.000	0.000	0.046	0.000	0.279	0.046	0.000	0.000	0.000	0.371
WSW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
W	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
WNW	0.000	0.000	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.093
NW	0.000	0.000	0.000	0.000	0.046	0.093	0.000	0.000	0.000	0.139
NNW	0.000	0.000	0.000	0.093	0.232	0.000	0.000	0.000	0.000	0.325
SUBTOTAL	0.000	0.000	0.371	2.275	2.228	0.789	0.000	0.000	0.000	5.664

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS A 122  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 122  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 5.71

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS B (-1.9 < DELTA T <= -1.7 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.093
NNE	0.000	0.000	0.046	0.464	0.093	0.046	0.000	0.000	0.000	0.650
NE	0.000	0.000	0.093	0.186	0.093	0.000	0.000	0.000	0.000	0.371
ENE	0.000	0.000	0.139	0.046	0.000	0.000	0.000	0.000	0.000	0.186
E	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.093
ESE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
S	0.000	0.000	0.000	0.000	0.139	0.186	0.000	0.000	0.000	0.325
SSW	0.000	0.000	0.000	0.046	0.464	0.139	0.000	0.000	0.000	0.650
SW	0.000	0.000	0.000	0.093	0.325	0.046	0.000	0.000	0.000	0.464
WSW	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.093
W	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
WNW	0.000	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.000	0.093
NW	0.000	0.000	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.093
NNW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
SUBTOTAL	0.000	0.000	0.418	1.068	1.393	0.418	0.000	0.000	0.000	3.296

TOTAL HOURS OF VALID STABILITY OBSERVATIONS	2167
TOTAL HOURS OF STABILITY CLASS B	71
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B	71
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS	2154
TOTAL HOURS CALM	0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 5.63

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS C (-1.7 < DELTA T <= -1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.093	0.093	0.000	0.000	0.000	0.000	0.186
NNE	0.000	0.000	0.139	0.279	0.000	0.186	0.000	0.000	0.000	0.604
NE	0.000	0.000	0.279	0.139	0.093	0.000	0.000	0.000	0.000	0.511
ENE	0.000	0.000	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.232
E	0.000	0.000	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.139
ESE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
SE	0.000	0.000	0.093	0.046	0.046	0.000	0.000	0.000	0.000	0.186
SSE	0.000	0.000	0.046	0.139	0.093	0.000	0.000	0.000	0.000	0.279
S	0.000	0.000	0.000	0.186	0.464	0.000	0.000	0.000	0.000	0.650
SSW	0.000	0.000	0.139	0.418	0.789	0.186	0.000	0.000	0.000	1.532
SW	0.000	0.000	0.093	0.789	0.232	0.046	0.000	0.000	0.000	1.161
WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	0.000	0.000	0.000	0.046	0.093	0.046	0.000	0.000	0.000	0.186
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.000	0.186	0.000	0.000	0.000	0.000	0.186
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.000	1.207	2.136	2.089	0.464	0.000	0.000	0.000	5.896

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS C 127  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 127  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 5.04

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.5 < DELTA T <= -0.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.046	0.325	0.789	0.232	0.000	0.000	0.000	0.000	1.393
NNE	0.000	0.046	0.975	1.486	0.511	0.464	0.000	0.000	0.000	3.482
NE	0.000	0.046	0.696	0.464	0.046	0.046	0.000	0.000	0.000	1.300
ENE	0.000	0.046	0.279	0.093	0.000	0.000	0.000	0.000	0.000	0.418
E	0.000	0.000	0.232	0.046	0.000	0.000	0.000	0.000	0.000	0.279
ESE	0.000	0.000	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.139
SE	0.000	0.046	0.232	0.093	0.093	0.000	0.000	0.000	0.000	0.464
SSE	0.000	0.093	0.836	0.557	0.186	0.000	0.000	0.000	0.000	1.671
S	0.000	0.186	1.996	2.553	0.975	0.604	0.000	0.000	0.000	6.314
SSW	0.000	0.000	2.925	5.617	1.764	0.418	0.000	0.000	0.000	10.724
SW	0.000	0.000	0.929	2.321	1.114	0.186	0.000	0.000	0.000	4.550
WSW	0.000	0.046	0.139	0.325	0.046	0.046	0.000	0.000	0.000	0.604
W	0.000	0.046	0.139	0.186	0.325	0.093	0.000	0.000	0.000	0.789
WNW	0.000	0.000	0.186	0.186	0.139	0.046	0.000	0.000	0.000	0.557
NW	0.000	0.000	0.093	0.371	0.139	0.000	0.000	0.000	0.000	0.604
NNW	0.000	0.046	0.232	0.371	0.418	0.000	0.000	0.000	0.000	1.068
SUBTOTAL	0.000	0.650	10.353	15.460	5.989	1.903	0.000	0.000	0.000	34.355

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS D 743  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 740  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 4.40

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS



JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E (-0.5< DELTA T<= 1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.004	0.604	1.346	0.789	0.232	0.000	0.000	0.000	0.000	2.975
NNE	0.007	0.836	2.832	1.068	0.186	0.000	0.000	0.000	0.000	4.928
NE	0.003	0.511	1.161	0.186	0.000	0.000	0.000	0.000	0.000	1.860
ENE	0.001	0.046	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.372
E	0.001	0.139	0.139	0.046	0.000	0.000	0.000	0.000	0.000	0.326
ESE	0.001	0.232	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.419
SE	0.002	0.418	0.371	0.139	0.000	0.000	0.000	0.000	0.000	0.930
SSE	0.002	0.371	0.650	0.325	0.139	0.093	0.000	0.000	0.000	1.581
S	0.004	0.279	1.950	0.882	0.418	0.232	0.046	0.000	0.000	3.811
SSW	0.010	0.325	4.689	1.671	0.232	0.093	0.000	0.000	0.000	7.020
SW	0.005	0.093	2.368	1.346	0.325	0.000	0.000	0.000	0.000	4.137
WSW	0.002	0.046	0.743	0.139	0.046	0.000	0.000	0.000	0.000	0.977
W	0.001	0.000	0.325	0.139	0.139	0.000	0.000	0.000	0.000	0.604
WNW	0.001	0.139	0.279	0.139	0.046	0.000	0.000	0.000	0.000	0.604
NW	0.002	0.186	0.604	0.093	0.000	0.000	0.000	0.000	0.000	0.884
NNW	0.002	0.279	0.743	0.325	0.186	0.046	0.000	0.000	0.000	1.581
SUBTOTAL	0.046	4.503	18.709	7.289	1.950	0.464	0.046	0.000	0.000	33.008

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS E 717  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 711  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 2.92

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F ( 1.5< DELTA T<= 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.093	0.418	0.000	0.000	0.000	0.000	0.000	0.000	0.511
NNE	0.000	0.511	3.110	0.093	0.000	0.000	0.000	0.000	0.000	3.714
NE	0.000	0.464	0.929	0.046	0.000	0.000	0.000	0.000	0.000	1.439
ENE	0.000	0.186	0.325	0.000	0.046	0.000	0.000	0.000	0.000	0.557
E	0.000	0.186	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.371
ESE	0.000	0.139	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.325
SE	0.000	0.232	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.325
SSE	0.000	0.186	0.511	0.000	0.000	0.000	0.000	0.000	0.000	0.696
S	0.000	0.139	1.207	0.046	0.000	0.000	0.000	0.000	0.000	1.393
SSW	0.000	0.139	1.578	0.046	0.000	0.000	0.000	0.000	0.000	1.764
SW	0.000	0.000	0.696	0.093	0.000	0.000	0.000	0.000	0.000	0.789
WSW	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.093
W	0.000	0.000	0.093	0.046	0.000	0.000	0.000	0.000	0.000	0.139
WNW	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
NW	0.000	0.046	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.139
NNW	0.000	0.093	0.279	0.093	0.000	0.000	0.000	0.000	0.000	0.464
SUBTOTAL	0.000	2.414	9.703	0.604	0.046	0.000	0.000	0.000	0.000	12.767

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS F 279  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 275  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 2.08

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA T > 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 2013 - JUN 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.093
NNE	0.000	0.046	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.371
NE	0.000	0.000	0.696	0.000	0.000	0.000	0.000	0.000	0.000	0.696
ENE	0.000	0.139	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.371
E	0.000	0.093	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.325
ESE	0.000	0.232	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.371
SE	0.000	0.139	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.279
SSE	0.000	0.186	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.371
S	0.000	0.325	0.418	0.000	0.000	0.000	0.000	0.000	0.000	0.743
SSW	0.000	0.093	0.836	0.000	0.000	0.000	0.000	0.000	0.000	0.929
SW	0.000	0.000	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.325
WSW	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
NNW	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
SUBTOTAL	0.000	1.300	3.621	0.093	0.000	0.000	0.000	0.000	0.000	5.014

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2167  
 TOTAL HOURS OF STABILITY CLASS G 108  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 108  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2154  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/08/15

MEAN WIND SPEED = 1.84

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS A (DELTA T<=-1.9 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.045	0.182	0.136	0.000	0.000	0.000	0.000	0.364
NNE	0.000	0.000	0.227	0.864	0.500	0.182	0.000	0.000	0.000	1.774
NE	0.000	0.045	0.182	0.864	0.227	0.000	0.000	0.000	0.000	1.319
ENE	0.000	0.000	0.136	0.045	0.000	0.000	0.000	0.000	0.000	0.182
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.045	0.591	1.955	0.864	0.182	0.000	0.000	0.000	3.638

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS A 80  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 80  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 4.82

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS B (-1.9 < DELTA T <= -1.7 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.045	0.091	0.091	0.000	0.000	0.000	0.000	0.227
NNE	0.000	0.000	0.318	0.546	0.273	0.091	0.000	0.000	0.000	1.228
NE	0.000	0.000	0.273	0.409	0.000	0.000	0.000	0.000	0.000	0.682
ENE	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.091
E	0.000	0.000	0.091	0.000	0.045	0.000	0.000	0.000	0.000	0.136
ESE	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.045
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SW	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.045
WSW	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.045
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.000	0.864	1.137	0.409	0.091	0.000	0.000	0.000	2.501

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS B 55  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 55  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 4.35

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS C (-1.7< DELTA T<=-1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.045	0.273	0.091	0.000	0.000	0.000	0.000	0.409
NNE	0.000	0.000	0.364	0.591	0.182	0.000	0.000	0.000	0.000	1.137
NE	0.000	0.000	0.318	0.273	0.045	0.000	0.000	0.000	0.000	0.637
ENE	0.000	0.000	0.045	0.136	0.000	0.000	0.000	0.000	0.000	0.182
E	0.000	0.000	0.045	0.136	0.000	0.000	0.000	0.000	0.000	0.182
ESE	0.000	0.000	0.091	0.045	0.000	0.000	0.000	0.000	0.000	0.136
SE	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.045
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.000	0.182	0.182	0.000	0.000	0.000	0.000	0.364
SW	0.000	0.000	0.000	0.455	0.045	0.000	0.000	0.000	0.000	0.500
WSW	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.091
W	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.045
WNW	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.045
NW	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.045
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.000	1.000	2.228	0.591	0.000	0.000	0.000	0.000	3.820

TOTAL HOURS OF VALID STABILITY OBSERVATIONS	2199
TOTAL HOURS OF STABILITY CLASS C	84
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C	84
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS	2199
TOTAL HOURS CALM	0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 4.28

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.5 < DELTA T <= -0.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.003	0.136	1.228	0.409	0.318	0.045	0.000	0.000	0.000	2.140
NNE	0.003	0.091	1.182	1.000	1.046	0.000	0.000	0.000	0.000	3.322
NE	0.002	0.182	0.773	0.182	0.000	0.000	0.000	0.000	0.000	1.139
ENE	0.001	0.091	0.591	0.091	0.045	0.000	0.000	0.000	0.000	0.820
E	0.001	0.000	0.546	0.136	0.000	0.000	0.000	0.000	0.000	0.683
ESE	0.001	0.045	0.364	0.136	0.000	0.000	0.000	0.000	0.000	0.547
SE	0.002	0.045	0.682	0.273	0.000	0.000	0.000	0.000	0.000	1.002
SSE	0.004	0.182	1.683	0.728	0.227	0.000	0.000	0.000	0.000	2.824
S	0.008	0.227	3.638	2.774	0.318	0.000	0.000	0.000	0.000	6.966
SSW	0.009	0.136	4.047	5.548	0.910	0.000	0.000	0.000	0.000	10.650
SW	0.007	0.182	2.819	2.274	0.136	0.000	0.000	0.000	0.000	5.418
WSW	0.001	0.136	0.546	0.136	0.000	0.000	0.000	0.000	0.000	0.820
W	0.001	0.091	0.227	0.136	0.000	0.000	0.000	0.000	0.000	0.455
WNW	0.000	0.045	0.091	0.182	0.000	0.000	0.000	0.000	0.000	0.319
NW	0.000	0.182	0.045	0.091	0.045	0.000	0.000	0.000	0.000	0.364
NNW	0.001	0.182	0.500	0.273	0.091	0.045	0.000	0.000	0.000	1.093
SUBTOTAL	0.045	1.955	18.963	14.370	3.138	0.091	0.000	0.000	0.000	38.563

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS D 848  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 848  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 3.40

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E (-0.5 < DELTA T <= 1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.006	1.273	3.502	1.091	0.091	0.000	0.000	0.000	0.000	5.964
NNE	0.007	1.091	4.593	1.728	0.045	0.000	0.000	0.000	0.000	7.465
NE	0.003	1.000	1.637	0.045	0.000	0.000	0.000	0.000	0.000	2.687
ENE	0.001	0.273	0.500	0.045	0.000	0.000	0.000	0.000	0.000	0.820
E	0.001	0.364	0.318	0.045	0.000	0.000	0.000	0.000	0.000	0.729
ESE	0.002	0.591	0.728	0.045	0.000	0.000	0.000	0.000	0.000	1.366
SE	0.001	0.409	0.546	0.182	0.000	0.000	0.000	0.000	0.000	1.138
SSE	0.003	0.728	1.319	0.045	0.000	0.000	0.000	0.000	0.000	2.095
S	0.004	0.728	2.365	0.273	0.000	0.000	0.000	0.000	0.000	3.369
SSW	0.004	0.546	2.729	0.318	0.091	0.000	0.000	0.000	0.000	3.688
SW	0.005	0.227	3.320	1.228	0.000	0.000	0.000	0.000	0.000	4.780
WSW	0.003	0.591	1.410	0.227	0.000	0.000	0.000	0.000	0.000	2.231
W	0.001	0.364	0.637	0.091	0.000	0.000	0.000	0.000	0.000	1.093
WNW	0.001	0.364	0.227	0.091	0.045	0.000	0.000	0.000	0.000	0.728
NW	0.001	0.273	0.318	0.091	0.000	0.000	0.000	0.000	0.000	0.683
NNW	0.002	0.409	1.182	0.000	0.000	0.000	0.000	0.000	0.000	1.594
SUBTOTAL	0.045	9.231	25.330	5.548	0.273	0.000	0.000	0.000	0.000	40.427

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS E 889  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 889  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 2.27

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS



JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F ( 1.5< DELTA T<= 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.546	1.683	0.227	0.000	0.000	0.000	0.000	0.000	2.456
NNE	0.000	0.637	3.092	0.182	0.045	0.000	0.000	0.000	0.000	3.956
NE	0.000	0.273	0.728	0.000	0.000	0.000	0.000	0.000	0.000	1.000
ENE	0.000	0.091	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.364
E	0.000	0.045	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.318
ESE	0.000	0.273	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.455
SE	0.000	0.045	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.227
SSE	0.000	0.045	0.318	0.000	0.000	0.000	0.000	0.000	0.000	0.364
S	0.000	0.136	0.318	0.045	0.000	0.000	0.000	0.000	0.000	0.500
SSW	0.000	0.091	0.227	0.091	0.000	0.000	0.000	0.000	0.000	0.409
SW	0.000	0.000	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.136
WSW	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.045
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.091	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.136
NNW	0.000	0.091	0.227	0.045	0.000	0.000	0.000	0.000	0.000	0.364
SUBTOTAL	0.000	2.365	7.731	0.591	0.045	0.000	0.000	0.000	0.000	10.732

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS F 236  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 236  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 2.04

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA T > 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

JUL 1, 2013 - SEP 30, 2013

WIND DIRECTION	CALM	WIND SPEED (MPH)								TOTAL	
		0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NE	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045
ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
E	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SSW	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.091
SW	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.091
WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045
NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUBTOTAL	0.000	0.045	0.182	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.318

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2199  
 TOTAL HOURS OF STABILITY CLASS G 7  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 7  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2199  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2013/11/12

MEAN WIND SPEED = 2.44

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS A (DELTA T<=-1.9 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.046	0.182	0.046	0.000	0.000	0.000	0.273
NNE	0.000	0.000	0.091	0.455	0.910	0.683	0.000	0.000	0.000	2.139
NE	0.000	0.000	0.182	0.455	0.182	0.091	0.000	0.000	0.000	0.910
ENE	0.000	0.046	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.137
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.182	0.000	0.000	0.000	0.000	0.182
SSW	0.000	0.000	0.000	0.046	0.182	0.000	0.000	0.000	0.000	0.228
SW	0.000	0.000	0.000	0.046	0.091	0.000	0.000	0.000	0.000	0.137
WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.046
NW	0.000	0.000	0.000	0.000	0.091	0.046	0.000	0.000	0.000	0.137
NNW	0.000	0.000	0.000	0.000	0.000	0.091	0.000	0.000	0.000	0.091
SUBTOTAL	0.000	0.046	0.364	1.092	1.821	1.001	0.000	0.000	0.000	4.324

TOTAL HOURS OF VALID STABILITY OBSERVATIONS	2197
TOTAL HOURS OF STABILITY CLASS A	95
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A	95
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS	2197
TOTAL HOURS CALM	0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 6.13

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS B (-1.9< DELTA T<=-1.7 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.228	0.182	0.137	0.000	0.000	0.000	0.546
NNE	0.000	0.000	0.046	0.546	0.137	0.364	0.000	0.000	0.000	1.092
NE	0.000	0.000	0.046	0.273	0.000	0.000	0.000	0.000	0.000	0.319
ENE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SE	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
SSE	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
S	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.091
SSW	0.000	0.000	0.000	0.137	0.319	0.091	0.000	0.000	0.000	0.546
SW	0.000	0.000	0.000	0.137	0.228	0.000	0.000	0.000	0.000	0.364
WSW	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.091
NNW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
SUBTOTAL	0.000	0.000	0.228	1.457	0.956	0.637	0.000	0.000	0.000	3.277

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS B 72  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 72  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 5.87

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS C (-1.7 < DELTA T <= -1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.091	0.228	0.228	0.046	0.000	0.000	0.592
NNE	0.000	0.000	0.046	0.273	0.410	0.273	0.046	0.000	0.000	1.047
NE	0.000	0.000	0.273	0.137	0.091	0.000	0.000	0.000	0.000	0.501
ENE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
SE	0.000	0.000	0.000	0.137	0.000	0.000	0.000	0.000	0.000	0.137
SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
SSW	0.000	0.000	0.046	0.455	0.319	0.091	0.000	0.000	0.000	0.910
SW	0.000	0.000	0.091	0.501	0.319	0.000	0.000	0.000	0.000	0.910
WSW	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
W	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
WNW	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.046
NW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.046
NNW	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.091
SUBTOTAL	0.000	0.000	0.546	1.775	1.502	0.592	0.091	0.000	0.000	4.506

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS C 99  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 99  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 5.66

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.5< DELTA T<=-0.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.137	0.546	1.229	1.457	1.457	0.000	0.000	0.000	4.825
NNE	0.000	0.046	2.367	1.821	1.821	2.777	0.137	0.000	0.000	8.967
NE	0.000	0.046	1.411	0.319	0.137	0.000	0.000	0.000	0.000	1.912
ENE	0.000	0.046	0.410	0.046	0.000	0.000	0.000	0.000	0.000	0.501
E	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046
ESE	0.000	0.137	0.228	0.000	0.000	0.000	0.000	0.000	0.000	0.364
SE	0.000	0.091	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.273
SSE	0.000	0.091	0.182	0.091	0.046	0.000	0.000	0.000	0.000	0.410
S	0.000	0.137	1.502	0.774	0.501	0.182	0.000	0.000	0.000	3.095
SSW	0.000	0.000	1.912	3.050	0.546	0.137	0.000	0.000	0.000	5.644
SW	0.000	0.091	2.003	1.912	0.683	0.046	0.000	0.000	0.000	4.734
WSW	0.000	0.000	0.319	0.046	0.000	0.000	0.000	0.000	0.000	0.364
W	0.000	0.000	0.091	0.091	0.046	0.000	0.000	0.000	0.000	0.228
WNW	0.000	0.046	0.046	0.046	0.137	0.000	0.000	0.000	0.000	0.273
NW	0.000	0.046	0.182	0.273	0.410	0.091	0.000	0.000	0.000	1.001
NNW	0.000	0.046	0.182	0.455	0.910	0.364	0.000	0.000	0.000	1.957
SUBTOTAL	0.000	1.001	11.561	10.150	6.691	5.052	0.137	0.000	0.000	34.593

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS D 760  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 760  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 4.85

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E (-0.5< DELTA T<= 1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.007	0.546	3.186	1.730	0.637	0.091	0.000	0.000	0.000	6.197
NNE	0.009	0.865	4.005	1.684	0.455	0.182	0.000	0.000	0.000	7.200
NE	0.002	0.546	0.455	0.137	0.046	0.000	0.000	0.000	0.000	1.185
ENE	0.001	0.410	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.456
E	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.091
ESE	0.000	0.137	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.182
SE	0.000	0.137	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.228
SSE	0.002	0.546	0.319	0.046	0.000	0.000	0.000	0.000	0.000	0.912
S	0.005	0.910	1.684	0.364	0.046	0.592	0.000	0.000	0.000	3.600
SSW	0.008	0.455	4.142	1.047	0.228	0.137	0.000	0.000	0.000	6.016
SW	0.005	0.137	2.503	0.728	0.046	0.046	0.000	0.000	0.000	3.464
WSW	0.002	0.091	0.865	0.091	0.046	0.000	0.000	0.000	0.000	1.094
W	0.001	0.137	0.455	0.046	0.000	0.046	0.000	0.000	0.000	0.684
WNW	0.000	0.091	0.137	0.091	0.046	0.000	0.000	0.000	0.000	0.365
NW	0.001	0.091	0.455	0.137	0.000	0.046	0.000	0.000	0.000	0.729
NNW	0.003	0.364	1.274	0.637	0.273	0.137	0.000	0.000	0.000	2.688
SUBTOTAL	0.046	5.553	19.663	6.736	1.821	1.274	0.000	0.000	0.000	35.093

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS E 771  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 771  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 3.00

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F ( 1.5< DELTA T<= 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.410	2.685	0.182	0.000	0.000	0.000	0.000	0.000	3.277
NNE	0.000	0.774	5.644	0.137	0.000	0.000	0.000	0.000	0.000	6.554
NE	0.000	0.637	0.865	0.000	0.000	0.000	0.000	0.000	0.000	1.502
ENE	0.000	0.273	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.455
E	0.000	0.137	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.228
ESE	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.091
SE	0.000	0.273	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.319
SSE	0.000	0.228	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.410
S	0.000	0.364	0.319	0.046	0.000	0.000	0.000	0.000	0.000	0.728
SSW	0.000	0.182	0.774	0.000	0.000	0.000	0.000	0.000	0.000	0.956
SW	0.000	0.046	0.774	0.000	0.000	0.000	0.000	0.000	0.000	0.819
WSW	0.000	0.000	0.273	0.046	0.000	0.000	0.000	0.000	0.000	0.319
W	0.000	0.046	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.182
WNW	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.091
NW	0.000	0.091	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.228
NNW	0.000	0.046	0.228	0.046	0.000	0.000	0.000	0.000	0.000	0.319
SUBTOTAL	0.000	3.596	12.335	0.546	0.000	0.000	0.000	0.000	0.000	16.477

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS F 362  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 362  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 2.04

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS



JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA T > 4.0 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 2013 - DEC 31, 2013

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5	
N	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNE	0.000	0.000	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.273
NE	0.000	0.046	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.228
ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ESE	0.000	0.228	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.228
SE	0.000	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.137
SSE	0.000	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.137
S	0.000	0.137	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.273
SSW	0.000	0.046	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.228
SW	0.000	0.046	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.137
WSW	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NNW	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.046
SUBTOTAL	0.000	0.728	1.001	0.000	0.000	0.000	0.000	0.000	0.000	1.730

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2197  
 TOTAL HOURS OF STABILITY CLASS G 38  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 38  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2197  
 TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON DELTA-T BETWEEN 9.25 AND 45.99 METERS  
 WIND SPEED AND DIRECTION MEASURED AT 9.73 METER LEVEL

DATE PRINTED: 2014/02/26

MEAN WIND SPEED = 1.76

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

Attachment 2.0

Deviations from ODCM Controls/Surveillance Requirements

Date	ODCM Requirement	Description of Deviation
December 17, 2013	1/2.1.1 Table 1.1-1 Item 2a,	During the performance of Chemistry Surveillance Instruction 0-SI-CEM-040-421.1, Turbine Building Sump or ERCW Inoperable Radiation Monitors, Chemistry personnel missed a 12 hour sample requirement. PER 824084.

Attachment 3.0

Radiation Monitors Inoperable for Greater than 30 days

Date	Description of Inoperability
June 11, 2012	Unit 1 Shield Building Exhaust System Radiation Monitor, 1-RM-90-400 was declared inoperable on June 11, 2012, due to the inoperability of the Kurz system. It was removed from service to replace sampling pumps. The Kurz system allows Monitor operation in the mid and high ranges. The monitor still maintains low range detection functions. The ADAM microprocessor failed. It has not been returned to operability. The station is going to replace the radiation monitor.
June 5, 2013	Unit 2 Shield Building Exhaust System Radiation Monitor, 2-RM-90-400 was declared inoperable on June 5, 2013. The Vent Flow Monitor was declared inoperable. A card was ordered from the Vendor and replaced. The monitor was returned to service July 18, 2013.