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Enclosure

2014 Annual Radioactive Effluent Release Report

Hope Creek Generating Station

Salem Nuclear Generating Station, Unit Nos. 1 and 2

PSEG NUCLEAR LLC
2014 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
For
The Salem and Hope Creek
Generating Stations

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I. Introduction

This report, SGS-RERR-63/HCGS-RERR-37, summarizes information pertaining to the releases of radioactive materials in liquid, gaseous and solid form from the Salem Generating Station Unit 1 and Unit 2, and the Hope Creek Generating Station Unit 1 for the period January 1, 2014, to December 31, 2014.

Salem Unit 1 is a Westinghouse Pressurized Water Reactor that has a licensed core thermal power of 3459 MWt and an approximate net electrical output of 1180 MWe. Salem Unit 1 achieved initial criticality on December 11, 1976, and went into commercial operation on June 30, 1977.

Salem Unit 2 is a Westinghouse Pressurized Water Reactor that has a licensed core thermal power of 3459 MWt and an approximate net electrical output of 1178 MWe. Salem Unit 2 achieved initial criticality on August 2, 1980, and went into commercial operation on October 13, 1981.

The Hope Creek Unit 1 is a General Electric Boiling Water Reactor that has an up rated core thermal power of 3840 MWt and an approximate net electrical output of 1212 MWe. Hope Creek Unit 1 achieved initial criticality on June 28, 1986 and went into commercial operation on December 20, 1986.

The electrical energy (gross) output for 2014 was as follows:

<i>Unit</i>	<i>MW-h electrical (gross)</i>
<i>Salem Unit 1</i>	<i>9,274,573</i>
<i>Salem Unit 2</i>	<i>7,782,171</i>
<i>Hope Creek Unit 1</i>	<i>10,832,900</i>

This report complies with the format described in Regulatory Guide 1.21, "Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants," Revision 1, June, 1974, as required by Control 6.9.1.8 of the Salem Unit 1 and Unit 2 Offsite Dose Calculation Manual (ODCM) and Control 6.9.1.7 of the Hope Creek Unit 1 ODCM.

Meteorological data was reported in the format specified in Regulatory Guide 1.23, Revision 1, "Meteorological Monitoring Programs For Nuclear Power Plants."

All vendor results were received and included in the report calculations. Therefore the 2014 report is complete.

II. Supplemental Information

1. Regulatory Limits

The regulatory limits for Salem Unit 1, Salem Unit 2 and Hope Creek Unit 1 are the same. The limits are as follows:

	Limit	Units	Receptor	ODCM and 10 CFR 50, Appendix I Design Objective Limits	
1. Noble Gases:					
	a.	≤ 500	mrem/Yr	Total Body	ODCM Control 3.11.2.1.a
		≤ 3000	mrem/Yr	Skin	
	b.	≤ 5	mRad	Air Gamma	Quarterly air dose limits
		≤ 10	mRad	Air Beta	ODCM Control 3.11.2.2.a
	c.	≤ 10	mRad	Air Gamma	Yearly air dose limits
		≤ 20	mRad	Air Beta	ODCM Control 3.11.2.2.b
	d.	≤ 10	mrem	Total Body (Gamma)	10 CFR 50, Appendix I, Section II.B.2(b)
		≤ 30	mrem	Skin (Beta)	
2. Iodines, Tritium, Particulates with Half Life > 8 days:					
	a.	≤ 1500	mrem/Yr	Any Organ	ODCM Control 3.11.2.1.b
	b.	≤ 7.5	mrem	Any Organ	Quarterly dose limits ODCM Control 3.11.2.3.a
	c.	≤ 15	mrem	Any Organ	Yearly dose limits ODCM Control 3.11.2.3.b
3. Liquid Effluents					
	a.	The concentration limits in 10 CFR 20, Appendix B, Table II Col. 2 (pre 1994). For dissolved or entrained noble gases, the concentration shall be limited to 2 E-04 microcuries/ml.			ODCM Control 3.11.1.1
	b.	≤ 1.5	mrem	Total Body	Quarterly dose limits
		≤ 5	mrem	Any Organ	ODCM Control 3.11.1.2.a
	c.	≤ 3	mrem	Total Body	Yearly dose limits
		≤ 10	mrem	Any Organ	ODCM Control 3.11.1.2.b
4. Total Dose Limits					
		≤ 25	mrem	Total Body or Organ	Yearly dose limits
		≤ 75	mrem	Thyroid	ODCM Control 3.11.4

2. Maximum Permissible Concentration (MPC) Limits

Gaseous dose rates rather than maximum permissible concentration limits are used to calculate permissible release rates for gaseous releases. The maximum permissible dose rates for gaseous releases are defined in the Salem and Hope Creek ODCMs Controls 3.11.2.1.a and 3.11.2.1.b as 500 mrem/yr (Total Body), 3000 mrem/yr (Skin) and 1500 mrem/yr (Organ).

The Maximum Permissible Concentration Limit specified in 10 CFR 20, Appendix B, Table II, Column 2 (pre 1994) for identified nuclides, were used to calculate permissible release rates and concentrations for liquid release per the Salem and the Hope Creek ODCMs Control 3.11.1.1. The total activity concentration for all dissolved or entrained gases was limited to $< 2\text{E-}04$ uCi/ml.

3. Average Energy

The Salem and Hope Creek ODCM limits the instantaneous 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 average beta and gamma energies of the radionuclide mixture in releases of fission and activation gases as described in Regulatory Guide 1.21, "Measuring, Evaluation, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," may be used to calculate doses in lieu of more sophisticated software. The Salem and Hope Creek radioactive effluent programs employs the methodologies presented in U.S. NRC Regulatory Guide 1.109 "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants, October 1978. Therefore, average energies are not applicable to Salem and Hope Creek.

4. Measurements and Approximations of Total Radioactivity

a. Liquid Effluents

Liquid effluents are monitored in accordance with Table 4.11-1 of the Salem ODCM and Table 4.11.1.1-1 of the Hope Creek ODCM.

During the period of record, all batch liquid wastes were routed to the sampling tanks for monitoring prior to release. The ODCMs requires these tanks to be uniformly mixed for sampling and analysis before being released.

Batch releases are defined as:

- For Hope Creek, releases from the Equipment Sample Tanks, Floor Drain Sample tanks, and Detergent Drain Tanks.*
- For Salem, releases from the Service Water Drums, which are collected and disposed via the Chemical Waste Basin, and the Chemical Volume Control System Monitor Tanks. During the period of record, all batch liquid wastes from the Chemical Drain Tank and Laundry and Hot Shower*

Tanks were routed to Waste Monitor Holdup Tanks for monitoring prior to release. For process flexibility of liquid effluents, the Salem Unit 1 and 2 Liquid Radwaste System is cross-connected.

Continuous releases are defined as:

- For Hope Creek, a continuous liquid effluent release path exists through the Circulating Water Dewatering Sump Discharge.*
- For Salem, continuous liquid release pathways include condensate releases for blow-down of the Steam Generators, and through the Chemical Waste Basin.*

Representative samples were obtained in accordance with Table 4.11-1 of the Salem ODCM and Table 4.11.1.1.1-1 of the Hope Creek ODCM. The total liquid activity discharged is determined by multiplying the concentration (uCi/ml) of each radionuclide identified from the analyses by the volume of effluent discharged to the environment.

The detection requirements were in accordance with Table 4.11-1 of the Salem ODCM and Table 4.11.1.1.1-1 of the Hope Creek ODCM. Radionuclides that are measured at concentrations below the ODCM-specified lower limit of detection (LLD) are considered present. A radionuclide for which no activity was detected while meeting the required LLD is considered absent.

b. Gaseous Effluents

Salem Units 1 and 2:

Gaseous effluent streams at Salem are monitored and sampled in accordance with Table 4.11-2 of the ODCM. The plant vent is the final release point for planned gaseous effluent releases and is continuously monitored by installed radiation monitors. The vent is also continuously sampled for iodine and particulates with a charcoal cartridge and filter paper. The filter and charcoal are normally changed weekly, and analyzed on a multi-channel analyzer.

Sampling is also performed on all gas decay tanks and the containment atmosphere prior to release to the environment. The plant vent is normally sampled weekly for noble gases, particulates, radioiodine, and tritium.

The detection requirements of Table 4.11-2 of the ODCM are achieved or exceeded. A radionuclide detected at a concentration below the ODCM LLD is considered present. A radionuclide for which no activity was detected while meeting the required LLD is considered absent.

Continuous Mode gaseous releases are quantified by routine sampling and isotopic analyses of the plant vent, as required by the ODCM. Each concentration (uCi/cc) for the detected isotopes is multiplied by the total vent flow volume for the entire sampling period to determine the total activity released through the plant vent.

Batch Mode noble gas releases are quantified by sampling each decay tank or containment atmosphere prior to release. The total activity in a batch release

was determined by multiplying the concentration (uCi/cc) for detected isotopes by the total volume of the discharged gas in that batch release.

Elevated plant vent radiation monitoring system readings while the channel is in an alarm state are treated as batch mode releases. If no positive activity data from grab samples are available, then the release is quantified by the use of the plant vent radiation monitors. The monitor response is converted to a concentration (uCi/cc) using the UFSAR historical nuclide mix. The total activity discharged is determined by multiplying the concentration of each nuclide by the volume of effluent discharged while the channel was in an alarm state.

Hope Creek:

Gaseous effluent streams at Hope Creek are monitored and sampled in accordance with Table 4.11.2.1.2-1 of the ODCM. The North Plant Vent (NPV) and South Plant Vent (SPV) are the final release points for planned gaseous effluent releases. The NPV and SPV are continuously monitored for iodine, particulates and noble gases. These monitors have fixed particulate and charcoal filters. The particulate filters and charcoal cartridges are normally replaced and analyzed weekly. These analyses are performed on a multi-channel analyzer. The NPV and SPV are also normally sampled weekly for noble gases and tritium.

A small quantity of gaseous effluent is released via the Filtration, Recirculation, and Ventilation System (FRVS) vent during FRVS testing periods. The FRVS is continuously monitored for noble gases when in service, and has fixed particulate and charcoal filters. When the system is in vent mode for greater than two hours, samples are collected at the end of the release period. During periods of extended runs, samples are normally taken weekly.

The detection requirements of Tables 4.11.2.1.2-1 of the ODCM are achieved or exceeded. A radionuclide detected at a concentration below the ODCM LLD is considered present. A radionuclide for which no activity was detected while meeting the required LLD is considered absent.

Batch Mode noble gas releases (i.e. primary containment purge) are quantified by pre-release sampling and isotopic analysis. The total radioactivity released was estimated by multiplying the detected concentration (uCi/cc) for each of the detected isotopes by the containment volume.

Both the Salem and Hope Creek ODCMs required lower limit of detection for airborne and liquid releases as follows:

Airborne:	LLD
Gross Alpha, Sr-89, Sr-90	1E-11 uCi/cc
H-3	1E-06 uCi/cc
I-131	1E-12 uCi/cc
I-133	1E-10 uCi/cc
Principal Gamma Emitters (Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, I-131, Cs-134, Cs-137, Ce-141, Ce-144)	1E-11 uCi/cc
Noble Gas (Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, Xe-135m, Xe-138)	1E-04 uCi/cc

Liquid:	<i>LLD</i>
<i>Principal Gamma Emitters (Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, Ce-144)</i>	<i>5E-07 uCi/ml</i>
<i>I-131</i>	<i>1E-06 uCi/ml</i>
<i>Entrained Gases (Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, Xe-135m, Xe-138)</i>	<i>1E-05 uCi/ml</i>
<i>H-3</i>	<i>1E-05 uCi/ml</i>
<i>Gross Alpha</i>	<i>1E-07 uCi/ml</i>
<i>Sr-89, Sr-90</i>	<i>5E-08 uCi/ml</i>
<i>Fe-55</i>	<i>1E-06 uCi/ml</i>

5. Estimated Total Error

The estimated total error reported for continuous and batch liquid releases for all three plants were within 27%. The estimated total error for continuous and batch gaseous releases, and solid waste was within 35%.

These errors were primarily due to variability of waste stream flow rates and changes in isotopic distributions of waste streams between sampling periods. Error estimates for releases where sample activity was below the detectable concentration levels were not included, because error estimates at the LLD were not defined.

6. Abnormal Releases

Salem Unit 1

1. Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Releases</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Total Activity Released (Ci)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
2. Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Releases</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>20</i>	<i>22</i>
<i>Total Activity Released (Ci)</i>	<i>5.97E-04</i>	<i>0</i>	<i>0</i>	<i>7.42E-03</i>	<i>8.02E-03</i>

There were zero abnormal liquid releases and 22 releases through the Containment Equipment Hatch. Radiation Protection has established routine sampling in that area. When activity is found, then a permit is created using conservative flow rate assumptions.

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Salem Unit 2:

1. Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Releases	0	0	0	0	0
Total Activity Released (Ci)	0	0	0	0	0
2. Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Releases	2	4	0	0	6
Total Activity Released (Ci)	0	4.70E-02	0	0	4.70E-02

There were zero abnormal liquid releases and 6 releases through the Containment Equipment Hatch. Radiation Protection has established routine sampling in that area. When activity is found, then a permit is created using conservative flowrate assumptions.

Hope Creek Unit 1:

1. Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Releases	0	1	9	1	11
Total Activity Released (Ci)	0	7.54E-02	8.37E-02	7.37E-07	1.59E-01
2. Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Releases	0	0	0	0	0
Total Activity Released (Ci)	0	0	0	0	0

There were 11 abnormal liquid releases and zero abnormal releases through the gaseous release paths. On July 1, 2014 the Low Volume Oily Waste (LVOW), a non-radiological system, was isolated due to the presence of tritium in the monthly water sample collected as part of the Station's NRC IE 80-10 compliance (Corrective Action No. 20655549). The initial concentration found was 8.56E-06 uCi/ml. This value was lower than the required LLD of 1.00E-05 uCi/ml. However, any statistically significant activity would constitute a release of radioactive material from a non-contaminated system such as the LVOW. The system was then resampled on July 3, 2014. The concentration of tritium was 1.83E-05 uCi/ml, which was above the required LLD. A system radiological evaluation in support of the restart of the low volume oily waste was prepared. An investigation into the source of this tritium has indicated that the source is recapture of permitted gaseous releases from the South Plant Vent (SPV). The Hope Creek Unit 1 is a ground level release plant. Significant concentrations were found in condensate from air conditioning units outside of the turbine building. This condensate is pumped to the clean side and eventually discharged through the LVOW discharge. All releases were documented in the Station's Chemistry radiological effluent software and the curies and doses calculated are included in the annual tables.

7. Spills

There were no spills to ground containing radioactive material in 2014 from Salem Unit 1, Salem Unit 2 or Hope Creek Unit 1.

8. Changes to the Offsite Dose Calculation Manual

There were no changes to either the Salem or Hope Creek Stations' Offsite Dose Calculation Manual.

9. Changes to the Process Control Program

There were no changes to either the Salem or Hope Creek Stations' Process Control Program.

10. Changes to the Radiological Environmental Monitoring Location

There were no changes to either the Salem or Hope Creek Stations' Radiological Environmental Monitoring Program locations.

11. Radioactive Effluent Monitoring Instrumentation Out of Service for More than 30 Days

Salem Unit 1

Steam generator blowdown line radiation monitor instrument, 1R19C, was declared inoperable on 8/22/2014 due to being found below the minimum flow specification of 0.7 gpm (20659946). The instrument had not been restored to Operable condition within 30 days due to unavailability of the required parts and not assigning the Work Order the correct priority. The instrument was returned to service on 12/10/14.

The Unit 1 liquid radwaste effluent line flowrate instrument, IFR1064, was declared inoperable on 10/17/2014 due to its failure to hold its calibration during Surveillance Test Work Order 50160608 and had not been restored to Operable condition within 30 days due to unavailability of the required parts (20669981) and not assigning the Work Order the correct priority. The instrument was returned to service on 12/4/14.

In both issues above, the required compensatory ACTIONS were implemented.

Salem Unit 2

Service water line discharge radiation monitor 2R13A was declared inoperable on 4/29/14 due to leakage in the well detector. The instrument was declared operable on 6/16/14 after repairs. Service water line discharge radiation monitor 2R13B was in service at all times.

The required compensatory ACTION was implemented.

Hope Creek Unit 1

None

12. Elevated Radiation Monitor Responses

During this reporting period, none of the effluent radiation monitors elicited an elevated response during the discharge of liquid and gaseous effluent from either of the Salem Unit 1 and Unit 2 or from the Hope Creek Unit 1.

13. Independent Spent Fuel Storage Installation (ISFSI)

An Independent Spent Fuel Storage Installation (ISFSI) was placed in service in the summer of 2006. Based upon the Radiation Protection Department routine survey data, there have been no gaseous or liquid releases from the ISFSI. In 2014 the dose to the nearest resident to the ISFSI was zero, based on the data from the environmental dosimeters used in the Radiological Environmental Monitoring Program. As reported in the 2014 Annual Radiological Environmental Operating Report (AREOR) a hypothetical dose analysis was performed where a member of the public remains in the area of the ISFSI pad for 20 days in 2014. This hypothetical dose was calculated as 5.1 mrem, which is well below the 40 CFR 190 and 10 CFR 72.104 total body dose limit of 25 mrem.

14. Effluent Trends

The following logarithmic trend graphs show the total curies of liquid and gaseous effluents released for Salem and Hope Creek from 2008 through 2014. Calculated doses in the graphs are to the hypothetical maximum exposed individual.

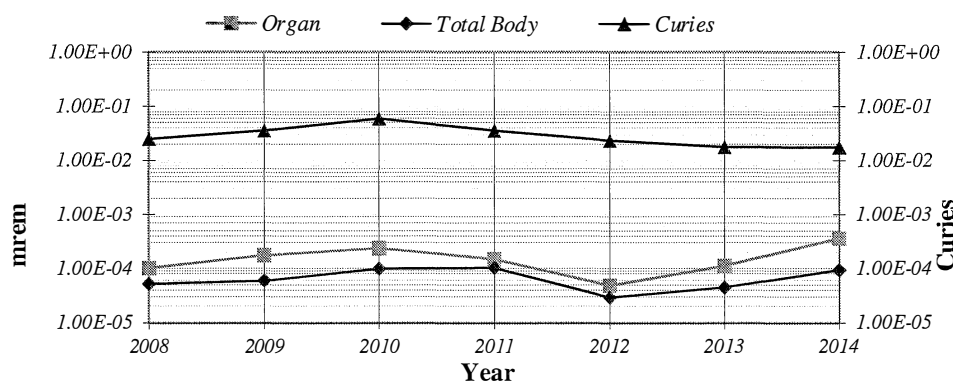


Figure 1 Annual Curies of Fission & Activation Products (Excluding Tritium) Released in Liquid Effluents and Calculated Doses, Salem Unit 1 and Unit 2, 2008 - 2014

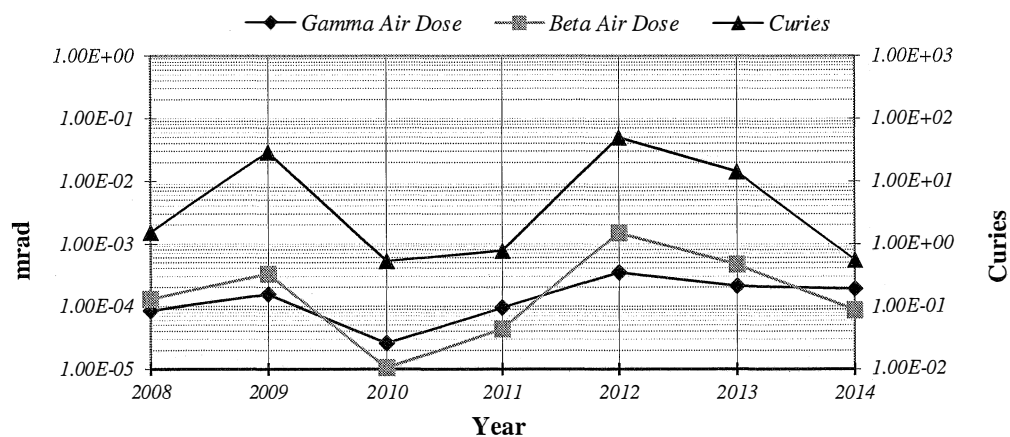


Figure 2 Annual Curies of Noble Gases Released in Gaseous Effluents and Calculated Doses, Salem Unit 1 and Unit 2, 2008 - 2014

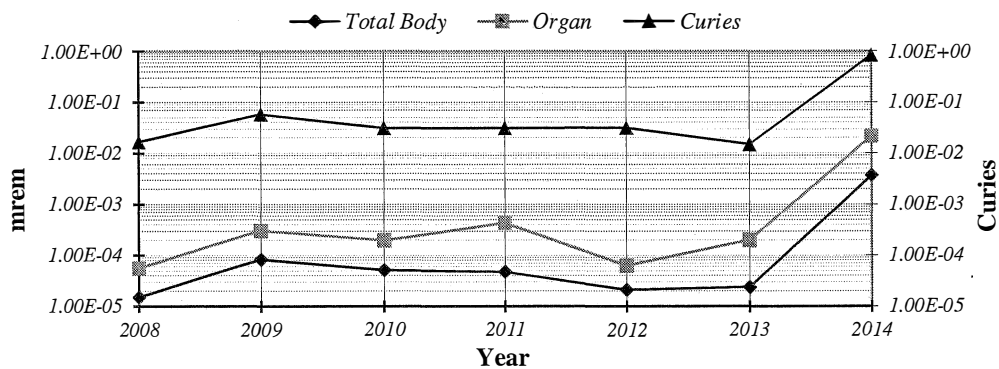


Figure 3. Annual Curies of Fission & Activation Products (Excluding Tritium) Released in Liquid Effluents and Calculated Doses, Hope Creek Unit 1, 2008 - 2014

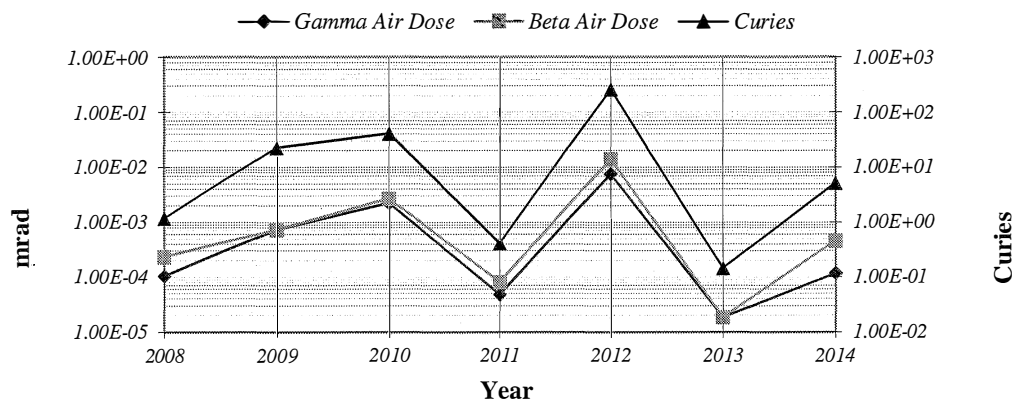


Figure 4. Annual Curies of Noble Gases Released in Gaseous Effluents and Calculated Doses, Hope Creek Unit 1, 2008 - 2014

15. Significant EventsSalem Unit 1

None

Salem Unit 1

None

Hope Creek Unit 1

None

16. Modification to Previous Radioactive Effluent Release Reports – Errata Data Section*The following details corrections to the 2013 ARERR:*

Page No	2013 ARERR Statement with error underlined	Correction made
Title Page	SGS RERR-6 <u>1</u> HCGS RERR-3 <u>5</u>	SGS RERR-6 <u>2</u> HCGS RERR-3 <u>6</u>
24	<i>The doses from the estimated C-14 in gaseous effluents represent about 43% of the total dose from the Salem and Hope Creek site, but are less than 0.81% of the annual dose limit of 45 mrem (<u>30</u> mrem per unit) as specified in the Salem and Hope Creek ODCMs (3.11.2.3).</i>	<i>The doses from the estimated C-14 in gaseous effluents represent about 43% of the total dose from the Salem and Hope Creek site, but are less than 0.81% of the annual dose limit of 45 mrem (<u>15</u> mrem per unit) as specified in the Salem and Hope Creek ODCMs (3.11.2.3).</i>
35	<i>There were two Part J Sections with similar but different wording. In addition the second Part J Section came after Part K, which was incorrect.</i>	<i>The correct wording for Part J is: PART J. ENVIRONMENTAL MONITORING LOCATION CHANGES In January 2013, 2 new air samplers were installed, one in the NNW sector 16S1 and one in the SSE sector, 6S1, along with passive dosimeters (currently TLDs) around the site in sectors 8, 9, 10, 12, 13, 14 to complete the inner ring, one at 16S3 to better model the site boundary in the northern sector, and another in sector 8, 8F1 to complete the outer ring.</i>

17. Carbon-14 in Gaseous Effluents

The NRC has identified carbon-14 (C-14) as a potential principal radionuclide for gaseous effluent (refer to Regulatory Position 1.9 in Revision 2 of Regulatory Guide 1.21). Since the publication of Revision 1 to Regulatory Guide 1.21 in 1974, the radioactive effluents from commercial nuclear power plants have decreased to the point that C-14 is likely to be a principal radionuclide in gaseous effluents. Gaseous effluent releases from a boiling water reactor (BWR), such as the Hope Creek Unit 1, and pressurized water reactor (PWR), such as the Salem Unit 1 and Unit 2, can contain significant quantities of C-14, the NRC has recommended that licensees evaluate C-14 as a potential principal radionuclide for gaseous releases from their facility. Those evaluations have determined that C-14 is a “principal radionuclide” in gaseous effluent from each of the three Stations.

The assessment methodology used to estimate the quantity of C-14 discharged in gaseous effluent from the Salem and Hope Creek Stations involved the use of a normalized C-14 source term and scaling factors based on power generation from EPRI Technical Report 1021106. This method was selected based on guidance offered in Regulatory Guide 1.21, and incorporates dose models described in Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I, and approach recommendations offered from industry peers and the NRC staff during the 20th Annual RETS-REMP Workshop San Jose, CA (June 2010).

The following assumptions are incorporated into the method:

- Only C-14 in the form of CO₂ is incorporated into vegetation through photosynthesis, which causes dose via the ingestion exposure pathways.*
- The concentration of C-14 in vegetation is proportional to the concentration of C-14 in air (per equation C-8 in RG 1.109).*
- 95% of C-14 released from a BWR (i.e., Hope Creek) and 30% of C-14 released from a PWR (i.e., Salem Units 1 and 2) is in the form of CO₂ (EPRI Technical Report 1021106).*

Using scaling factors and 2014 power generation data, the estimated total C-14 released in 2014 was 10.6 Ci from Salem Unit 1, 8.9 Ci from Salem Unit 2, and 18.5 Ci from the Hope Creek Unit 1.

The dose contribution of C-14 was determined using the methodology detailed in the Hope Creek and Salem’s ODCM. The maximum total body and organ (bone) doses from C-14 occurred for a child receptor at 4.6 mile SW (Table 2).

The doses from the estimated C-14 in gaseous effluents represent about 99.9% of the total dose from the Salem site and 85.8% from the Hope Creek site.

III. Radiological Impact On Man

1. Effluent Doses

The doses from liquid and gaseous effluent represent the maximum potential radiation dose for a member of the general public following the methodology in the Station's ODCM and reported by the Station's EMS effluent database program.

The annual doses presented in the tables below represent calculations for the four quarters of the 12-month reporting interval. The radiological impacts from liquid and gaseous effluent discharges from the Salem Unit 1 and 2 and the Hope Creek Unit 1 are presented in Tables 1 and 2, respectively, and demonstrate compliance with applicable regulatory limits. Dose limit values presented in bold font are regulatory limits. The quarterly doses must not exceed the quarterly limit in any quarter and the summation of two or more quarterly doses must not exceed the annual dose limit.

a. Doses from Liquid Effluent

Quarterly and Annual doses (Table 1) from liquid effluent were calculated for the controlling locations using the calculational methodology, usage factors and dose conversion factors that are described in the Salem and Hope Creek ODCMs. Implementation of the ODCM methodology is provided by the Salem and Hope Creek's effluent control computer program Effluent Management System (EMS).

Table 1 2014 Doses from Liquid Effluent by Operating Unit

Salem Unit 1					
Liquid Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Total Body Dose Limit (mrem)	1.50E+00	1.50E+00	1.50E+00	1.50E+00	3.00E+00
Maximum Total Body Dose (mrem)	1.51E-05	6.86E-06	2.67E-06	1.34E-06	2.60E-05
% Dose Limit	1.01E-03	4.57E-04	1.78E-04	8.94E-05	8.65E-04
Organ Dose Limit (mrem)	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
Maximum Organ Dose (mrem)	2.70E-05	2.67E-05	3.69E-06	3.05E-06	6.05E-05
% Dose Limit	5.40E-04	5.34E-04	7.38E-05	6.11E-05	6.05E-04
Salem Unit 2					
Liquid Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Total Body Dose Limit (mrem)	1.50E+00	1.50E+00	1.50E+00	1.50E+00	3.00E+00
Maximum Total Body Dose (mrem)	1.02E-05	3.68E-05	7.35E-06	1.36E-05	6.80E-05
% Dose Limit	6.80E-04	2.46E-03	4.90E-04	9.08E-04	2.27E-03
Organ Dose Limit (mrem)	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
Maximum Organ Dose (mrem)	1.12E-05	2.57E-04	1.36E-05	2.10E-05	3.03E-04
% Dose Limit	2.23E-04	5.14E-03	2.72E-04	4.20E-04	3.03E-03

Table 1 2014 Doses from Liquid Effluent by Operating Unit

Hope Creek Unit 1					
Liquid Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Total Body Dose Limit (mrem)	1.50E+00	1.50E+00	1.50E+00	1.50E+00	3.00E+00
Maximum Total Body Dose (mrem)	4.69E-06	1.62E-05	3.66E-03	1.69E-06	3.68E-03
% Dose Limit	3.13E-04	1.08E-03	2.44E-01	1.13E-04	1.23E-01
Organ Dose Limit (mrem)	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
Maximum Organ Dose (mrem)	1.16E-05	3.33E-05	2.19E-02	2.70E-06	2.19E-02
% Dose Limit	2.31E-04	6.67E-04	4.38E-01	5.39E-05	2.19E-01
Salem-Hope Creek Site Total					
Liquid Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Total Body Dose Limit (mrem)	4.50E+00	4.50E+00	4.50E+00	4.50E+00	9.00E+00
Maximum Total Body Dose (mrem)	3.00E-05	5.99E-05	3.67E-03	1.66E-05	3.77E-03
% Dose Limit	6.66E-04	1.33E-03	8.16E-02	3.70E-04	4.19E-02
Organ Dose Limit (mrem)	1.50E+01	1.50E+01	1.50E+01	1.50E+01	3.00E+01
Maximum Organ Dose (mrem)	4.98E-05	3.17E-04	2.19E-02	2.68E-05	2.23E-02
% Dose Limit	3.32E-04	2.11E-03	1.46E-01	1.78E-04	7.42E-02

b. Doses from Gaseous Effluent

Quarterly and Annual doses (Table 2) from gaseous effluent were calculated for the controlling locations using the calculational methodology, usage factors and dose conversion factors that are described in the Salem and Hope Creek ODCMs. Implementation of the ODCM methodology is provided by the Salem and Hope Creek's effluent control computer program Effluent Management System (EMS).

Table 2 2014 Doses from Gaseous Effluent by Operating Unit

Salem Unit 1					
Gaseous Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Limit for Gamma Air Dose (mrad) from Noble Gases	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
Maximum Gamma Air Dose (mrad)	4.69E-05	1.25E-05	2.26E-05	1.16E-05	9.36E-05
% Dose Limit	9.38E-04	2.50E-4	4.52E-04	2.32E-04	9.36E-04
Limit for Beta Air Dose (mrad) for Noble Gases	1.00E+01	1.00E+01	1.00E+01	1.00E+01	2.00E+01
Maximum Beta Air Dose (mrad)	1.69E-05	4.95E-06	8.31E-06	9.14E-06	3.93E-05
% Dose Limit	1.69E-04	4.95E-05	8.31E-05	9.14E-05	1.97E-04
Limit for Organ Dose (mrem) from I-131, I-133, Tritium and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
ODCM Critical Receptor	3.11E-05	4.60E-05	4.40E-05	2.64E-04	3.85E-04
% Dose Limit	4.15E-04	6.14E-04	5.86E-04	3.51E-03	2.56E-03

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<i>Table 2 2014 Doses from Gaseous Effluent by Operating Unit</i>					
Limit for Organ Dose (mrem) from I-131, I-133, Tritium, C-14 and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
<i>ODCM Critical Receptor</i>	2.69E-02	2.72E-02	2.75E-02	2.78E-02	1.09E-01
<i>% Dose Limit</i>	3.59E-01	3.63E-01	3.67E-01	3.70E-01	7.29E-01
Salem Unit 2					
Gaseous Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Limit for Gamma Air Dose (mrad) from Noble Gases	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
<i>Maximum Gamma Air Dose (mrad)</i>	4.16E-05	2.90E-05	9.35E-06	1.67E-05	9.66E-05
<i>% Dose Limit</i>	8.32E-04	5.80E-04	1.87E-04	3.34E-04	9.66E-04
Limit for Beta Air Dose (mrad) for Noble Gases	1.00E+01	1.00E+01	1.00E+01	1.00E+01	2.00E+01
<i>Maximum Beta Air Dose (mrad)</i>	1.62E-05	2.14E-05	3.31E-06	6.03E-06	4.70E-05
<i>% Dose Limit</i>	1.62E-04	2.14E-04	3.31E-05	6.03E-05	2.35E-04
Limit for Organ Dose (mrem) from I-131, I-133, Tritium and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
<i>ODCM Critical Receptor</i>	1.62E-05	1.65E-05	2.92E-05	3.47E-07	6.22E-05
<i>% Dose Limit</i>	2.16E-04	2.20E-04	3.89E-04	4.63E-06	4.14E-04
Limit for Organ Dose (mrem) from I-131, I-133, Tritium, C-14 and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
<i>ODCM Critical Receptor</i>	2.26E-02	2.29E-02	2.31E-02	2.31E-02	9.16E-02
<i>% Dose Limit</i>	3.01E-01	3.05E-01	3.08E-01	3.08E-01	6.11E-01
Hope Creek					
Gaseous Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Limit for Gamma Air Dose (mrad) from Noble Gases	5.00E+00	5.00E+00	5.00E+00	5.00E+00	1.00E+01
<i>Maximum Gamma Air Dose (mrad)</i>	6.96E-05	0.00E+00	4.78E-05	3.86E-10	1.17E-04
<i>% Dose Limit</i>	1.39E-03	0.00E+00	9.56E-04	7.72E-09	1.17E-03
Limit for Beta Air Dose (mrad) for Noble Gases	1.00E+01	1.00E+01	1.00E+01	1.00E+01	2.00E+01
<i>Maximum Beta Air Dose (mrad)</i>	3.15E-04	0.00E+00	1.42E-04	1.15E-09	4.57E-04
<i>% Dose Limit</i>	3.15E-03	0.00E+00	1.42E-03	1.15E-08	2.29E-03
Limit for Organ Dose (mrem) from I-131, I-133, Tritium and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
<i>ODCM Critical Receptor</i>	3.69E-03	7.26E-03	1.00E-02	1.11E-02	3.21E-02
<i>% Dose Limit</i>	4.92E-02	9.68E-02	1.33E-01	1.48E-01	2.14E-01

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<i>Table 2 2014 Doses from Gaseous Effluent by Operating Unit</i>					
Limit for Organ Dose (mrem) from I-131, I-133, Tritium, C-14 and particulate nuclides (>8 days half-life)	7.50E+00	7.50E+00	7.50E+00	7.50E+00	1.50E+01
<i>ODCM Critical Receptor</i>	<i>5.06E-02</i>	<i>5.47E-02</i>	<i>5.80E-02</i>	<i>5.91E-02</i>	<i>2.22E-01</i>
<i>% Dose Limit</i>	<i>6.75E-01</i>	<i>7.30E-01</i>	<i>7.73E-01</i>	<i>7.88E-01</i>	<i>1.48E+00</i>
Salem-Hope Creek Site Total					
Gaseous Effluent Parameter	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Annual
Limit for Gamma Air Dose (mrad) from Noble Gases	1.50E+01	1.50E+01	1.50E+01	1.50E+01	3.00E+01
<i>Maximum Gamma Air Dose (mrad)</i>	<i>1.58E-04</i>	<i>4.15E-05</i>	<i>7.98E-05</i>	<i>2.83E-05</i>	<i>3.07E-04</i>
<i>% Dose Limit</i>	<i>1.05E-03</i>	<i>2.77E-04</i>	<i>5.32E-04</i>	<i>1.89E-04</i>	<i>1.02E-03</i>
Limit for Beta Air Dose (mrad) for Noble Gases	3.00E+01	3.00E+01	3.00E+01	3.00E+01	6.00E+01
<i>Maximum Beta Air Dose (mrad)</i>	<i>3.48E-04</i>	<i>2.64E-05</i>	<i>1.54E-04</i>	<i>1.52E-05</i>	<i>5.43E-04</i>
<i>% Dose Limit</i>	<i>1.16E-03</i>	<i>8.78E-05</i>	<i>5.12E-04</i>	<i>5.06E-05</i>	<i>9.06E-04</i>
Limit for Organ Dose (mrem) from I-131, I-133, Tritium and particulate nuclides (>8 days half-life)	2.25E+01	2.25E+01	2.25E+01	2.25E+01	4.50E+01
<i>ODCM Critical Receptor</i>	<i>3.74E-03</i>	<i>7.32E-03</i>	<i>1.01E-02</i>	<i>1.14E-02</i>	<i>3.25E-02</i>
<i>% Dose Limit</i>	<i>1.66E-02</i>	<i>3.25E-02</i>	<i>4.48E-02</i>	<i>5.05E-02</i>	<i>7.23E-02</i>
Limit for Organ Dose (mrem) from I-131, I-133, Tritium, C-14 and particulate nuclides (>8 days half-life)	2.25E+01	2.25E+01	2.25E+01	2.25E+01	4.50E+01
<i>ODCM Critical Receptor</i>	<i>1.00E-01</i>	<i>1.05E-01</i>	<i>1.09E-01</i>	<i>1.10E-01</i>	<i>4.23E-01</i>
<i>% Dose Limit</i>	<i>4.45E-01</i>	<i>4.66E-01</i>	<i>4.83E-01</i>	<i>4.88E-01</i>	<i>9.41E-01</i>

As a check on the use of conservative historical meteorological dispersion (X/Q) and deposition values (D/Q), the 2014 gaseous release curies for the three units and the 2014 annual average dispersion and deposition data were used to calculate doses to the critical receptors and pathways identified by the 2014 Land Use Census (LUC). The 2014 annual atmospheric dispersion factors used in the dose calculations and the active exposure pathways by receptor location are summarized below in Table 3.

Table 3 2014 Annual Average Undepleted X/Q, Depleted X/Q and D/Q and Active Exposure Pathways

<i>Receptor Location</i>	<i>Undepleted X/Q</i>	<i>Depleted X/Q</i>	<i>D/Q</i>	<i>Active Exposure Pathways</i>
<i>Hope Creek Site Boundary, 0.5mi N</i>	<i>1.6E-06</i>	<i>1.5E-06</i>	<i>1.2E-08</i>	<i>Plume immersion Ground deposition Inhalation</i>
<i>Salem Site Boundary, 0.83mi N</i>	<i>7.7E-07</i>	<i>6.8E-07</i>	<i>5.1E-09</i>	<i>Plume immersion Ground deposition Inhalation</i>
<i>Dairy, 4.9mi W</i>	<i>6.4E-08</i>	<i>4.8E-08</i>	<i>1.2E-10</i>	<i>Plume immersion Ground deposition Inhalation Milk ingestion</i>
<i>Resident, 3.7mi NW</i>	<i>1.4E-07</i>	<i>1.1E-07</i>	<i>5.7E-10</i>	<i>Plume immersion Ground Deposition Inhalation</i>
<i>Resident, 4.4mi WSW</i>	<i>8.1E-08</i>	<i>6.2E-08</i>	<i>1.9E-10</i>	<i>Plume immersion Ground Deposition Inhalation Vegetable ingestion</i>
<i>Meat, 4.2mi NNE</i>	<i>7.6E-08</i>	<i>5.8E-08</i>	<i>2.8E-10</i>	<i>Plume immersion Ground Deposition Inhalation Meat ingestion</i>
<i>Meat, 4.6mi SW</i>	<i>8.6E-08</i>	<i>6.5E-08</i>	<i>2.3E-10</i>	<i>Plume immersion Ground Deposition Inhalation Meat ingestion Vegetable ingestion</i>

Figure 5 provides a visual representations of site meteorology and receptor locations in relation to the Salem and Hope Creek Site.



Figure 5 Locations of Dose Calculation Receptors with 2014 Wind Rose Overlay

Note: Wind rose depicts fraction of time wind transports gaseous effluents towards each of the sixteen compass sectors.

The total body and organ doses from gaseous effluent were calculated using the GASPAR computer program included in the NRC Dose computer program package (version 2.3.20). The methods used to determine gaseous doses are consistent with the methods described in Salem and Hope Creek ODCMs and in Regulatory Guide 1.109.

Table 4 2014 Total Body and Critical Organ Doses at Real Receptor Locations Using the Annual Meteorological Dispersion and Deposition Data with Gaseous Effluent Releases from Each Generating Station

Generating Station	ODCM Site Boundary 0.5 / 0.8 mi N			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	1.35E-03	1.33E-03	1.35E-03	1.33E-03
Salem Unit 2	2.27E-03	2.25E-03	2.27E-03	2.25E-03
Hope Creek Unit 1	2.63E-02	1.69E-02	2.63E-02	1.69E-02
Site Total	2.99E-02	2.05E-02	2.99E-02	2.05E-02
Generating Station	ODCM Dairy 4.9 mi W			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	2.65E-04	2.64E-04	7.00E-02	1.53E-02
Salem Unit 2	4.48E-04	4.47E-04	5.87E-02	1.30E-02
Hope Creek Unit 1	6.34E-03	1.32E-05	1.22E-01	2.74E-02
Site Total	7.05E-03	7.24E-04	2.51E-01	5.57E-02
Generating Station	Nearest Resident 3.7 mi NW			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	2.45E-04	2.42E-04	2.45E-02	2.42E-04
Salem Unit 2	4.12E-04	4.09E-04	4.12E-04	4.09E-04
Hope Creek Unit 1	8.95E-04	1.56E-05	1.92E-03	1.18E-03
Site Total	1.55E-03	6.67E-04	2.68E-02	1.83E-03

*Table 4 2014 Total Body and Critical Organ Doses at Real Receptor Locations
Using the Annual Meteorological Dispersion and Deposition Data with
Gaseous Effluent Releases from Each Generating Station (continued)*

Generating Station	Nearest Resident + Garden 4.4 mi WSW			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	5.66E-04	5.64E-04	9.63E-02	1.98E-02
Salem Unit 2	9.59E-04	9.57E-04	8.07E-02	1.71E-02
Hope Creek Unit 1	2.65E-03	1.11E-05	1.68E-01	3.64E-02
Site Total	4.18E-03	1.53E-03	3.45E-01	7.33E-02
Generating Station	Meat Animal 4.2 mi NNE			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	1.65E-04	1.64E-04	1.36E-02	2.87E-03
Salem Unit 2	2.79E-04	2.77E-04	1.14E-02	2.53E-03
Hope Creek Unit 1	5.41E-04	8.10E-06	2.38E-02	5.44E-03
Site Total	9.85E-04	4.49E-04	4.88E-02	1.08E-02
Generating Station	Meat Animal + Garden 4.6 mi SW			
	Excluding Carbon-14		Including Carbon-14	
	Organ (mrem)	Total Body (mrem)	Organ (mrem)	Total Body (mrem)
Salem Unit 1	6.27E-04	6.26E-04	1.17E-01	2.41E-02
Salem Unit 2	1.06E-03	1.06E-03	9.86E-02	2.08E-02
Hope Creek Unit 1	3.17E-03	1.30E-05	2.03E-01	4.36E-02
Site Total	4.86E-03	1.70E-03	4.19E-01	8.85E-02

As set forth in 10 CFR 50 Appendix I, the estimated annual external dose from gaseous effluent to any individual in an unrestricted area should not exceed 5 mrem. In addition, the 10 CFR 50 Appendix I ALARA requirement for gaseous effluent is met if a licensee demonstrates that the estimated annual external dose from gaseous effluent to any individual in unrestricted areas does not exceed 5 mrem to the total body or 15 mrem to the skin. Compliance to these limits is

demonstrated for 2014 gaseous effluents by the calculated total body and skin doses from external exposure pathways (i.e., plume and ground deposition) at the controlling site boundary location in the north sector. The calculated total body dose and skin dose from the combined gaseous releases for the three generating stations represent less than 0.07% and less than 0.03%, of the respective dose limits, which confirm that no single unit release effluent that exceeded the Appendix I dose limits. These doses (presented below) were calculated using the GASPARG computer program, which is consistent with the methods described in Regulatory Guide 1.109.

Dose Parameter	Annual Dose
Total Body Dose from Noble Gases – Site Boundary:	3.66E-03
Percent of Appendix I Annual Limit (5 mrem):	7.32E-02
Skin Dose from Noble Gases – Site Boundary:	4.52E-03
Percent of Appendix I Annual Limit (15 mrem):	3.01E-02

Population doses are not required to be calculated.

2. Total Dose Resulting from Radioactive Effluent Releases and Radiation from Uranium Fuel Cycle Sources

An annual dose to a member of the public due to effluent releases and all other uranium fuel cycle sources presented on site was calculated as required by section 3.11.4 of the Salem and Hope Creek ODCMs. This calculation was performed to demonstrate compliance with radiation limits established in 40 CFR 190 and 10 CFR 72.104. The doses from the gaseous and liquid effluents released from Salem Unit 1, Salem Unit 2 and Hope Creek in 2014 resulted in a calculated total body and an organ dose as follows:

Table 5 2014 Total Body and Organ Dose due to Liquid and Gaseous Effluents and Direct Shine ISFSI Dose

Generating Station	Total Body Dose (mrem)		Critical Organ Dose (mrem)		ISFSI (mrem)
	Liquid	Gaseous*	Liquid	Gaseous*	
Salem Unit 1	2.60E-05	2.22E-02	6.05E-05	1.09E-01	
Salem Unit 2	6.80E-05	1.84E-02	3.03E-04	9.16E-02	
Hope Creek Unit 1	3.68E-03	4.08E-02	2.19E-02	2.22E-01	
Total	3.77E-03	8.14E-02	2.23E-02	4.23E-01	
Total of Liquid and Gaseous	8.52E-02		4.45E-01		5.1E+00

* Includes Carbon-14 dose.

The Total Body and Critical Organ/Age Group doses for the total of all three sites was 8.52E-02 mrem and 4.45E-01 mrem, respectively to the maximum exposed Member of the Public. The majority of this dose was due to Carbon-14. The direct shine dose from the ISFSI to a Member of the Public was conservatively estimated at 5.1 mrem using the

dosimetry results of the Radiological Environmental Monitoring Program. The doses calculated are below the limits of 40 CFR 190 and 10 CFR 72.104 of 25 mrem to the total body and critical organ.

3. Dose to Members of the Public Due to Activities inside the Site Boundary

Dose to members of the public is limited to 100 mrem total effective dose equivalent (TEDE) in a year in accordance with 10 CFR 20.1301. The dose from radioactive liquid and gaseous effluents to a member of the public performing activities inside the site boundary was calculated as required by Salem ODCM Control 6.9.1.8 and by Hope Creek ODCM Control 6.9.1.7. For the purpose of these dose calculations, an adult member of the public was assumed to be a full-time employee whose assigned duties do not involve exposure to radiation or to radioactive material (i.e., an unmonitored employee working 2000 hours in a year). The active exposure pathways to a member of the public inside the site boundary are external exposure due to plume immersion and ground deposition and inhalation of airborne radioactivity in gaseous effluent. The onsite receptor was assumed to be located 0.15 miles from the gaseous release points for Salem Units 1 and 2 and 0.47 miles Hope Creek Unit 1, respectively. The SE sector was determined to have the highest annual atmospheric dispersion factors for an onsite location. The GASPAR computer program was used to calculate the doses. The atmospheric dispersion factors used in the dose calculations are provided below.

<i>Plant</i>	<i>Undepleted X/Q</i>	<i>Depleted X/Q</i>	<i>D/Q</i>
<i>Salem</i>	<i>2.4E-05</i>	<i>2.3E-05</i>	<i>1.5E-07</i>
<i>Hope Creek</i>	<i>3.4E-06</i>	<i>3.1E-06</i>	<i>2.7E-08</i>

The calculated TEDE dose for the 12-month reporting period, January 1, 2014 to December 31, 2014 was calculated using the output data from the GASPAR program and summing the total body and highest organ doses. The site TEDE dose and percent of the limit were:

Parameter	
<i>TEDE Dose from radioactive liquid and gaseous effluents to Member of the Public Inside Site Boundary (mrem)</i>	<i>7.02E-02</i>
<i>% of 100 mrem Limit</i>	<i>7.02E-02</i>

APPENDIX A-1

Effluent & Waste Disposal Summary, Salem Unit 1

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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TABLE 1A-1
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Salem Unit 1Period: 2014

A. Fission & Activation Gases	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
Total Release	Ci	7.78E-02	2.73E-02	3.98E-02	7.95E-02	2.24E-01	3.40E+01
Average release rate for the period	μCi/sec	1.00E-02	3.47E-03	5.01E-03	1.00E-02	7.11E-03	
Percent of limit (ODCM 3.11.2.2(a))	Gamma Air %	9.38E-04	2.50E-04	4.52E-04	2.32E-04	9.36E-04	
	Beta Air %	1.69E-04	4.95E-05	8.31E-05	9.14E-05	1.97E-04	
B. Iodine							
Total Iodine – 131.	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.00E+01
Average release rate for the period	μCi/sec	< LLD	< LLD	< LLD	< LLD	< LLD	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
C. Particulates							
Particulates with half-lives > 8 days	Ci	7.55E-07	< LLD	< LLD	1.19E-07	8.74E-07	3.00E+01
Average release rate for the period	μCi/sec	9.71E-08	< LLD	< LLD	1.49E-08	2.77E-08	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
Gross alpha radioactivity	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	
D. Tritium							
Total Release	Ci	5.93E+00	8.89E+00	8.49E+00	5.09E+01	7.42E+01	3.10E+01
Average release rate for the period	μCi/sec	7.63E-01	1.13E+00	1.07E+00	6.40E+00	2.35E+00	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
E. Carbon-14							
Total Release	Ci	2.61E+00	2.64E+00	2.67E+00	2.67E+00	1.06E+01	N/A ^a
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
F. I-131, I-133, H-3 & Particulates > 8 day half-life							
Percent of limit (ODCM 3.11.2.3(a))	%	4.15E-04	6.14E-04	5.86E-04	3.51E-03	2.56E-03	
G. I-131, I-133, H-3, Particulates > 8 day half-life & C-14							
Percent of limit (ODCM 3.11.2.3(a))	%	4.15E-04	6.14E-04	5.87E-04	3.52E-03	2.57E-03	

* Iodine, Tritium, Carbon-14, and Particulates are treated as a group. Although listed separately in the above table, the percent ODCM Limit is based on most limiting nuclide and organ dose for the group (even in cases when a sub-group member was not identified in effluent).

^a It is not necessary to calculate uncertainties for C-14 or to include C-14 uncertainty in any subsequent calculation of overall uncertainty (Regulatory Guide 1.21 revision 2).

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 1B-1

GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Facility: Salem Unit 1

Period: 2014

Nuclides Released	Unit	Continuous Mode					Batch Mode				
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
1. Fission gases											
Ar-41	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	7.21E-02	1.90E-02	3.47E-02	1.33E-02	1.39E-01
Kr-85m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.05E-04	2.05E-04
Xe-133	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	5.64E-03	8.26E-03	5.18E-03	5.23E-02	7.14E-02
Xe-133m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.59E-03	1.59E-03
Xe-135	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.20E-02	1.20E-02
Total	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	7.77E-02	2.72E-02	3.98E-02	7.95E-02	2.24E-01
2. Iodines											
None											
3. Particulates											
Co-58	Ci	< LLD	< LLD	< LLD	1.05E-07	1.05E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Nb-95	Ci	< LLD	< LLD	< LLD	1.35E-08	1.35E-08	< LLD	< LLD	< LLD	< LLD	< LLD
Cs-137	Ci	7.55E-07	< LLD	< LLD	< LLD	7.55E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Total	Ci	7.55E-07	< LLD	< LLD	1.19E-07	8.74E-07	< LLD	< LLD	< LLD	< LLD	< LLD
4. Tritium	Ci	5.77E+00	8.59E+00	8.16E+00	5.07E+01	7.32E+01	1.68E-01	2.91E-01	3.24E-01	1.37E-01	9.20E-01
5. Carbon-14	Ci	2.61E+00	2.64E+00	2.67E+00	2.67E+00	1.06E+01	< LLD	< LLD	< LLD	< LLD	< LLD

Note: Only radionuclides with positive activity reported in this table.

TABLE 2A-1

LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Salem Unit 1Period: 2014

A. Fission & Activation Products	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci	2.62E-03	2.74E-03	6.05E-04	1.64E-03	7.61E-03	2.70E+01
2. Average diluted concentration during period	µCi/ml	5.07E-12	5.38E-12	1.12E-12	5.03E-12	4.02E-12	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	5.40E-04	5.34E-04	7.38E-05	6.11E-05	8.65E-04	
	Total Body%	1.01E-03	4.57E-04	1.78E-04	8.94E-05	6.05E-04	
B. Tritium							
1. Total Release	Ci	2.98E+02	2.05E+02	1.09E+02	3.88E+01	6.51E+02	2.70E+01
2. Average diluted concentration during period	µCi/ml	5.76E-07	4.03E-07	2.03E-07	1.19E-07	3.44E-07	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	5.40E-04	5.34E-04	7.38E-05	6.11E-05	8.65E-04	
	Total Body%	1.01E-03	4.57E-04	1.78E-04	8.94E-05	6.05E-04	
C. Dissolved & Entrained Gases							
1. Total Release	Ci	1.28E-04	2.99E-06	1.35E-06	1.07E-04	2.39E-04	2.70E+01
2. Average diluted concentration during period	µCi/ml	2.48E-13	5.86E-15	2.51E-15	3.29E-13	1.27E-13	
3. Percent of applicable limit (ODCM 3.11.1.1)	%	6.20E-10	1.47E-11	6.28E-12	8.23E-10	3.16E-16	
D. Gross Alpha Activity							
Total Release	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.70E+01
E. Volume Of Waste Released (prior to dilution)	Liters	8.17E+07	8.29E+07	8.39E+07	7.30E+07	3.22E+08	
F. Volume Of Dilution Water Used During Period	Liters	5.17E+11	5.10E+11	5.39E+11	3.26E+11	1.89E+12	

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 2B-1
LIQUID EFFLUENTS

Facility: Salem Unit 1

Period: 2014

Nuclides Released	Unit	Continuous Mode					Batch Mode				
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
H-3	<i>Ci</i>	7.83E-01	1.53E-01	1.15E-01	9.44E-02	1.15E+00	2.97E+02	2.05E+02	1.09E+02	3.87E+01	6.50E+02
Fission & Activation Products											
<i>Cr-51</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	4.83E-05	5.28E-04	< LLD	< LLD	5.76E-04
<i>Mn-54</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	9.80E-05	1.39E-05	< LLD	< LLD	1.12E-04
<i>Fe-59</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	8.05E-06	< LLD	< LLD	8.05E-06
<i>Co-57</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	1.18E-05	3.95E-06	2.20E-06	< LLD	1.80E-05
<i>Co-58</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	2.12E-04	1.47E-03	3.00E-04	1.52E-03	3.50E-03
<i>Co-60</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	2.12E-03	4.15E-04	1.43E-04	8.65E-05	2.76E-03
<i>Zn-69m</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.16E-06	1.96E-06	< LLD	6.12E-06
<i>Nb-95</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	1.28E-05	1.53E-04	3.23E-06	< LLD	1.69E-04
<i>Nb-97</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.21E-06	< LLD	2.89E-06
<i>Zr-95</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.08E-05	< LLD	< LLD	3.08E-05
<i>Zr-97</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.97E-06	4.97E-06
<i>Ru-105</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.33E-05	< LLD	< LLD	2.33E-05
<i>Ag-110m</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	6.82E-06	< LLD	< LLD	6.82E-06
<i>Sb-125</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	1.24E-04	7.99E-05	1.38E-04	3.23E-05	3.74E-04
<i>I-131</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.42E-06	< LLD	2.42E-06
<i>Cs-134</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.70E-06	< LLD	< LLD	4.70E-06
<i>Cs-137</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.36E-06	7.06E-06	< LLD	1.04E-05
<i>Other</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.89E-06	< LLD	2.89E-06
<i>Total for Period</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	2.62E-03	2.74E-03	6.05E-04	1.64E-03	7.61E-03
Dissolved and Entrained Noble Gases											
<i>Kr-85m</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.35E-06	< LLD	1.35E-06
<i>Xe-131m</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	1.22E-04	< LLD	< LLD	< LLD	1.22E-04
<i>Xe-133</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	5.83E-06	< LLD	< LLD	8.17E-05	8.75E-05
<i>Xe-135</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.99E-06	< LLD	2.55E-05	2.85E-05
<i>Total for Period</i>	<i>Ci</i>	< LLD	< LLD	< LLD	< LLD	< LLD	1.28E-04	2.99E-06	1.35E-06	1.07E-04	2.39E-04

Note: Only radionuclides with positive activity reported in this table.

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 4A-1

*SUMMARY SHEET FOR GASEOUS RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODE*

Facility: Salem Unit 1

Period: 2014

Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Batch Releases</i>	194	125	99	89	507
<i>Total time period for batch releases (min)</i>	18739	11077	7805	16239	53860
<i>Maximum time period for batch release (min)</i>	203	225	211	2102	2102
<i>Average time period for batch release (min)</i>	97	89	79	182	112
<i>Minimum time period for batch release (min)</i>	40	28	37	2	2

TABLE 4B-1

*SUMMARY SHEET FOR LIQUID RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODE*

Facility: Salem Unit 1

Period: 2014

Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Batch Releases</i>	18	25	26	25	94
<i>Total time period for batch releases (min)</i>	6400	5732	5251	12941	30324
<i>Maximum time period for batch release (min)</i>	540	616	568	1816	1816
<i>Average time period for batch release (min)</i>	356	229	202	518	326
<i>Minimum time period for batch release (min)</i>	248	1	30	1	1
<i>Average stream flow during periods of release of effluents into a flowing stream (Lpm)</i>	8.08E+07	8.90E+07	1.03E+08	2.52E+07	6.23E+07

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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APPENDIX A-2

Effluent & Waste Disposal Summary, Salem Unit 2

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 1A-2

GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Salem Unit 2

Period: 2014

A. Fission & Activation Gases	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
Total Release	Ci	8.51E-02	1.91E-01	1.45E-02	2.79E-02	3.19E-01	3.40E+01
Average release rate for the period	µCi/sec	1.09E-02	2.43E-02	1.83E-03	3.51E-03	1.01E-02	
Percent of limit (ODCM 3.11.2.2(a))	Gamma Air %	8.32E-04	5.80E-04	1.87E-04	3.34E-04	9.66E-04	
	Beta Air %	1.62E-04	2.14E-04	3.31E-05	6.03E-05	2.35E-04	
B. Iodine							
Total Iodine – 131.	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.00E+01
Average release rate for the period	µCi/sec	< LLD	< LLD	< LLD	< LLD	< LLD	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
C. Particulates							
Particulates with half-lives > 8 days	Ci	< LLD	8.61E-07	1.27E-07	< LLD	9.88E-07	3.00E+01
Average release rate for the period	µCi/sec	< LLD	1.10E-07	1.60E-08	< LLD	3.15E-08	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
Gross alpha radioactivity	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	
D. Tritium							
Total Release	Ci	3.12E+00	3.18E+00	5.63E+00	6.70E-02	1.20E+01	3.10E+01
Average release rate for the period	µCi/sec	4.01E-01	4.05E-01	7.08E-01	8.43E-03	3.81E-01	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
E. Carbon-14							
Total Release	Ci	2.19E+00	2.22E+00	2.24E+00	2.24E+00	8.90E+00	N/A ^a
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
F. I-131, I-133, H-3 & Particulates > 8 day half-life							
Percent of limit (ODCM 3.11.2.3(a))	%	2.16E-04	2.20E-04	3.89E-04	4.63E-06	4.15E-04	
G. I-131, I-133, H-3, Particulates > 8 day half-life & C-14							
Percent of limit (ODCM 3.11.2.3(a))	%	2.16E-04	2.20E-04	3.90E-04	4.93E-06	4.15E-04	

* Iodine, Tritium, Carbon-14, and Particulates are treated as a group. Although listed separately in the above table, the percent ODCM Limit is based on most limiting nuclide and organ dose for the group (even in cases when a sub-group member was not identified in effluent).

^a. It is not necessary to calculate uncertainties for C-14 or to include C-14 uncertainty in any subsequent calculation of overall uncertainty (Regulatory Guide 1.21 revision 2).

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 1B-2

GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Facility: Salem Unit 2

Period: 2014

Nuclides Released		Continuous Mode					Batch Mode				
1. Fission gases	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Ar-41	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	6.29E-02	3.58E-02	1.44E-02	2.57E-02	1.39E-01
Kr-85m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.71E-05	2.16E-04	< LLD	< LLD	2.53E-04
Xe-131m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.70E-05	< LLD	< LLD	< LLD	2.70E-05
Xe-133	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.94E-02	1.34E-01	< LLD	2.21E-03	1.56E-01
Xe-133m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.56E-04	2.86E-03	< LLD	< LLD	3.22E-03
Xe-135	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.29E-03	1.76E-02	1.36E-04	< LLD	2.00E-02
Total	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	8.51E-02	1.91E-01	1.45E-02	2.79E-02	3.19E-01
2. Iodines											
None											
3. Particulates											
Cr-51	Ci	< LLD	1.35E-07	< LLD	< LLD	1.35E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Mn-54	Ci	< LLD	6.07E-09	< LLD	< LLD	6.07E-09	< LLD	< LLD	< LLD	< LLD	< LLD
Co-58	Ci	< LLD	1.14E-07	1.76E-08	< LLD	1.32E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Co-60	Ci	< LLD	1.08E-07	2.58E-08	< LLD	1.34E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Zn-69m	Ci	< LLD	8.69E-09	< LLD	< LLD	8.69E-09	< LLD	< LLD	< LLD	< LLD	< LLD
As-76	Ci	< LLD	9.03E-06	< LLD	< LLD	9.03E-06	< LLD	< LLD	< LLD	< LLD	< LLD
Zr-95	Ci	< LLD	1.57E-07	2.24E-08	< LLD	1.79E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Nb-95	Ci	< LLD	3.18E-07	6.14E-08	< LLD	3.79E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Cs-137	Ci	< LLD	7.37E-09	< LLD	< LLD	7.37E-09	< LLD	< LLD	< LLD	< LLD	< LLD
Other	Ci	< LLD	1.48E-08	< LLD	< LLD	1.48E-08	< LLD	< LLD	< LLD	< LLD	< LLD
Total	Ci	< LLD	9.90E-06	1.27E-07	< LLD	1.00E-05	< LLD	< LLD	< LLD	< LLD	< LLD
4. Tritium	Ci	2.95E+00	2.84E+00	5.56E+00	< LLD	1.14E+01	1.69E-01	3.43E-01	6.73E-02	6.70E-02	6.46E-01
5. Carbon-14	Ci	2.19E+00	2.22E+00	2.24E+00	2.24E+00	8.90E+00	< LLD	< LLD	< LLD	< LLD	< LLD

Note: Only radionuclides with positive activity reported in this table.

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 2A-2

LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Salem Unit 2

Period: 2014

A. Fission & Activation Products	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci	3.37E-04	4.28E-03	8.54E-04	4.32E-03	9.79E-03	2.70E+01
2. Average diluted concentration during period	µCi/ml	6.51E-13	8.39E-12	1.75E-12	9.23E-12	4.94E-12	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	2.23E-04	5.14E-03	2.72E-04	4.20E-04	2.27E-03	
	Total Body%	6.80E-04	2.46E-03	4.90E-04	9.08E-04	3.03E-03	
B. Tritium							
1. Total Release	Ci	2.00E+02	2.68E+02	1.55E+02	1.94E+02	8.17E+02	2.70E+01
2. Average diluted concentration during period	µCi/ml	3.87E-07	5.24E-07	3.18E-07	4.14E-07	4.12E-07	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	2.23E-04	5.14E-03	2.72E-04	4.20E-04	2.27E-03	
	Total Body%	6.80E-04	2.46E-03	4.90E-04	9.08E-04	3.03E-03	
C. Dissolved & Entrained Gases							
1. Total Release	Ci	1.13E-04	4.38E-06	1.01E-05	2.95E-05	1.57E-04	2.70E+01
2. Average diluted concentration during period	µCi/ml	2.18E-13	8.58E-15	2.05E-14	6.30E-14	7.92E-14	
3. Percent of applicable limit (ODCM 3.11.1.1)	%	5.46E-10	2.15E-11	5.16E-11	1.58E-10	7.48E-12	
D. Gross Alpha Activity							
Total Release	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.70E+01
E. Volume Of Waste Released (prior to dilution)	Liters	5.02E+07	2.46E+07	5.13E+07	5.15E+07	1.78E+08	
F. Volume Of Dilution Water Used During Period	Liters	5.17E+11	5.10E+11	4.89E+11	4.67E+11	5.25E+13	

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 2B-2
LIQUID EFFLUENTS

Facility: Salem Unit 2

Period: 2014

Nuclides Released		Continuous Mode					Batch Mode				
	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
H-3	Ci	2.60E-01	2.68E-02	8.85E-02	3.85E-02	4.14E-01	2.00E+02	2.68E+02	1.55E+02	1.93E+02	8.16E+02
Fission and Activation Products											
Cr-51	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	7.99E-04	< LLD	4.20E-05	8.41E-04
Mn-54	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.30E-05	< LLD	< LLD	4.30E-05
Co-57	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	7.52E-06	7.52E-06
Co-58	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	9.41E-05	2.13E-03	4.45E-04	3.75E-03	6.42E-03
Co-60	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.33E-04	6.57E-04	2.37E-04	1.87E-04	1.21E-03
Zr-95	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	7.95E-05	< LLD	< LLD	7.95E-05
Nb-95	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.32E-04	2.80E-05	< LLD	2.60E-04
Nb-97	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.42E-05	3.29E-06	< LLD	1.75E-05
Ru-103	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.62E-06	< LLD	< LLD	3.62E-06
Ru-105	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.54E-05	1.92E-05	1.38E-05	5.84E-05
Ag-110m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.62E-05	< LLD	< LLD	1.62E-05
Sn-117m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.91E-05	4.47E-06	< LLD	2.36E-05
Sb-125	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	9.04E-05	1.65E-04	1.13E-04	3.12E-04	6.80E-04
Te-132	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	5.09E-06	< LLD	< LLD	5.09E-06
I-131	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.38E-06	< LLD	< LLD	2.38E-06
I-133	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.14E-05	< LLD	< LLD	1.14E-05
Cs-134	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.52E-06	< LLD	3.52E-06
Cs-137	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.02E-05	4.20E-06	< LLD	< LLD	1.44E-05
Ba-140	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.44E-05	< LLD	< LLD	1.44E-05
Ce-141	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.66E-06	< LLD	< LLD	< LLD	3.66E-06
Ce-143	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	5.02E-06	7.35E-06	< LLD	< LLD	1.24E-05
Other	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.72E-05	< LLD	< LLD	4.72E-05
Total for Period	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	3.36E-04	4.28E-03	8.53E-04	4.31E-03	9.78E-03
Dissolved and Entrained Noble Gases											
Xe-131m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.13E-04	< LLD	< LLD	< LLD	1.13E-04
Xe-133	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.38E-06	4.25E-06	2.95E-05	3.81E-05
Xe-135m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	5.80E-06	< LLD	5.80E-06
Total for Period	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.13E-04	4.38E-06	1.01E-05	2.95E-05	1.57E-04

Note: Only radionuclides with positive activity reported in this table.

TABLE 3A-2

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(Not Irradiated Fuel)

Facility: Salem Units 1 and 2Period: 2014

a. Waste Stream; Resins, Filters, and Evaporator Bottoms
Liquid Waste Processing Resin

Waste	Volume		Curies	% Error
Class	ft ³	m ³	Shipped	(Ci)
A	3.67E+02	1.04E+01	1.44E+01	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	3.67E+02	1.04E+01	1.44E+01	+/-25%

Major Nuclides for Above Table:

Percent Cutoff 1%

*Resins, Filters and Evaporator Bottoms**Waste Class A*

Nuclide Name	Percent Abundance	Curies
H-3	1.4%	2.04E-01
C-14	3.0%	4.35E-01
Fe-55	15.9%	2.28E+00
Co-58	14.7%	2.11E+00
Co-60	11.7%	1.69E+00
Ni-63	43.7%	6.28E+00
Sb-125	6.3%	9.10E-01

Resins, Filters and Evaporator Bottoms**Waste Class All**

Nuclide Name	Percent Abundance	Curies
H-3	1.4%	2.04E-01
C-14	3.0%	4.35E-01
Fe-55	15.9%	2.28E+00
Co-58	14.7%	2.11E+00
Co-60	11.7%	1.69E+00
Ni-63	43.7%	6.28E+00
Sb-125	6.3%	9.10E-01

TABLE 3A-2

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)
(Not Irradiated Fuel)

b. Waste Stream; Dry Active Waste
Seavan DAW

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	3.48E+04	9.86E+02	1.91E+00	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	3.48E+04	9.86E+02	1.91E+00	+/-25%

Major Nuclides for Above Table:

Percent Cutoff 1%

Dry Active Waste		
Waste Class A		
Nuclide Name	Percent Abundance	Curies
H-3	8.4%	1.60E-01
Mn-54	1.1%	2.05E-02
Fe-55	27.1%	5.17E-01
Co-58	18.9%	3.60E-01
Co-60	15.5%	2.95E-01
Ni-63	18.7%	3.56E-01
Sr-90	1.3%	2.57E-02
Zr-95	1.2%	2.25E-02
Sb-125	1.6%	2.97E-02
Cs-137	3.7%	7.10E-02
Ce-144	1.0%	1.91E-02
Dry Active Waste		
Waste Class All		
Nuclide Name	Percent Abundance	Curies
H-3	8.4%	1.60E-01
Mn-54	1.1%	2.05E-02
Fe-55	27.1%	5.17E-01
Co-58	18.9%	3.60E-01
Co-60	15.5%	2.95E-01
Ni-63	18.7%	3.56E-01
Sr-90	1.3%	2.57E-02
Zr-95	1.2%	2.25E-02
Sb-125	1.6%	2.97E-02
Cs-137	3.7%	7.10E-02
Ce-144	1.0%	1.91E-02

TABLE 3A-2

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)
(Not Irradiated Fuel)

c. Waste Stream; Irradiated Components

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	0.00E+00	0.00E+00	0.00E+00	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	0.00E+00	0.00E+00	0.00E+00	+/-25%

Major Nuclides for Above Table: None

d. Waste Stream; Other Waste

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	1.20E+03	3.40E+01	6.87E-01	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	1.20E+03	3.40E+01	6.87E-01	+/-25%

Major Nuclides for Above Table: None

e. Waste Stream; Sum of All 4 Categories
Seavan DAW, Liquid Waste Processing Resin

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	3.64E+04	1.03E+03	1.70E+01	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	3.64E+04	1.03E+03	1.70E+01	+/-25%

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 3A-2

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)
(Not Irradiated Fuel)

Major Nuclides for Above Table:

Percent Cutoff 1%

Sum of All 4 Categories		
Waste Class A		
Nuclide Name	Percent Abundance	Curies
H-3	11.1%	7.64E-02
Fe-55	28.0%	1.92E-01
Co-58	4.7%	3.24E-02
Co-60	18.7%	1.28E-01
Ni-63	26.5%	1.82E-01
Sr-90	1.9%	1.28E-02
Sb-125	1.6%	1.11E-02
Cs-137	5.2%	3.55E-02

Sum of all 4 Categories		
Waste Class All		
Nuclide Name	Percent Abundance	Curies
H-3	2.6%	4.40E-01
C-14	2.6%	4.35E-01
Fe-55	17.6%	2.99E+00
Co-58	14.8%	2.50E+00
Co-60	12.5%	2.11E+00
Ni-63	40.2%	6.82E+00
Sb-125	5.6%	9.51E-01
Cs-137	1.1%	1.78E-01

Number of Shipments	Mode Of Transportation	Destination
2	Hittman Transport Services, Inc.	Barnwell Processing Facility
6	Hittman Transport Services, Inc.	Energy Solutions Services Inc.
1	Landstar Inway For Hittman	Energy Solutions Services Inc.
1	Southern Pines Trucking	Energy Solutions Services Inc.
7	Hittman Transport Services Inc	Memphis Processing Facility (Studsvik)

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 4A-2

*SUMMARY SHEET FOR GASEOUS RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODE*

Facility: Salem Unit 2

Period: 2014

Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Batch Releases</i>	197	51	64	71	383
<i>Total time period for batch releases (min)</i>	18256	4824	4568	5473	33121
<i>Maximum time period for batch release (min)</i>	180	176	140	240	240
<i>Average time period for batch release (min)</i>	93	95	71	77	84
<i>Minimum time period for batch release (min)</i>	30	17	17	11	11

TABLE 4B-2

*SUMMARY SHEET FOR LIQUID RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODE*

Facility: Salem Unit 2

Period: 2014

Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
<i>Number of Batch Releases</i>	21	34	21	22	98
<i>Total time period for batch releases (min)</i>	7182	15852	7800	7744	38578
<i>Maximum time period for batch release (min)</i>	543	2797	1803	465	2797
<i>Average time period for batch release (min)</i>	342	466	371	352	383
<i>Minimum time period for batch release (min)</i>	1	65	73	304	1
<i>Average stream flow during periods of release of effluents into a flowing stream (Lpm)</i>	7.20E+07	3.22E+07	6.27E+07	6.03E+07	1.36E+09

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APPENDIX A-3

Effluent & Waste Disposal Summary, Hope Creek Unit 1

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 1A-3

GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Hope Creek Unit 1

Period: 2014

A. Fission & Activation Gases	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
Total Release	Ci	3.14E+00	< LLD	2.00E+00	1.61E-05	5.14E+00	3.40E+01
Average release rate for the period	µCi/sec	4.04E-01	< LLD	2.51E-01	2.03E-06	2.18E-01	
Percent of limit (ODCM 3.11.2.2(a))	Gamma Air %	1.39E-03	N/A	9.56E-04	7.72E-09	1.17E-03	
	Beta Air %	3.15E-03	N/A	1.42E-03	1.15E-08	2.29E-03	
B. Iodine							
Total Iodine – 131.	Ci	2.81E-04	5.15E-04	8.18E-04	9.86E-04	2.60E-03	3.00E+01
Average release rate for the period	µCi/sec	3.61E-05	6.54E-05	1.03E-04	1.24E-04	8.21E-05	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
C. Particulates							
Particulates with half-lives > 8 days	Ci	1.19E-04	8.10E-05	1.28E-04	1.01E-04	4.29E-04	3.00E+01
Average release rate for the period	µCi/sec	1.53E-05	1.03E-05	1.61E-05	1.28E-05	1.36E-05	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
Gross alpha radioactivity	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	
D. Tritium							
Total Release	Ci	5.58E+01	1.28E+02	1.14E+02	6.39E+01	3.62E+02	3.10E+01
Average release rate for the period	µCi/sec	7.17E+00	1.63E+01	1.43E+01	8.04E+00	1.15E+01	
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
E. Carbon-14							
Total Release	Ci	4.56E+00	4.61E+00	4.66E+00	4.66E+00	1.85E+01	N/A ^a
Percent of limit (ODCM 3.11.2.3(a))	%	*	*	*	*	*	
F. I-131, I-133, H-3 & Particulates > 8 day half-life							
Percent of limit (ODCM 3.11.2.3(a))	%	4.92E-02	9.68E-02	1.33E-01	1.48E-01	2.14E-01	
G. I-131, I-133, H-3, Particulates > 8 day half-life & C-14							
Percent of limit (ODCM 3.11.2.3(a))	%	4.92E-02	9.68E-02	1.33E-01	1.48E-01	2.14E-01	

* Iodine, Tritium, Carbon-14, and Particulates are treated as a group. Although listed separately in the above table, the percent ODCM Limit is based on most limiting nuclide and organ dose for the group (even in cases when a sub-group member was not identified in effluent).

^a. It is not necessary to calculate uncertainties for C-14 or to include C-14 uncertainty in any subsequent calculation of overall uncertainty (Regulatory Guide 1.21 revision 2).

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 1B-3

GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Facility: Hope Creek Unit 1

Period: 2014

Nuclides Released		Continuous Mode					Batch Mode				
1. Fission gases	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Xe-133	Ci	< LLD	< LLD	1.98E+00	1.61E-05	1.98E+00	< LLD	< LLD	1.55E-02	< LLD	1.55E-02
Xe-133m	Ci	3.14E+00	< LLD	< LLD	< LLD	3.14E+00	< LLD	< LLD	< LLD	< LLD	< LLD
Xe-135	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	4.39E-05	< LLD	4.39E-05
Total	Ci	3.14E+00	< LLD	1.98E+00	1.61E-05	5.12E+00	< LLD	< LLD	1.55E-02	< LLD	1.55E-02
2. Iodines											
I-131	Ci	2.81E-04	5.14E-04	8.18E-04	9.86E-04	2.60E-03	< LLD	< LLD	< LLD	< LLD	< LLD
I-133	Ci	6.09E-03	1.46E-02	1.39E-02	1.22E-02	4.68E-02	< LLD	< LLD	< LLD	< LLD	< LLD
Total	Ci	6.37E-03	1.51E-02	1.47E-02	1.32E-02	4.94E-02	< LLD	< LLD	< LLD	< LLD	< LLD
3. Particulates											
Co-60	Ci	8.61E-05	8.03E-05	1.15E-04	1.01E-04	3.82E-04	< LLD	< LLD	< LLD	< LLD	< LLD
Mo-99	Ci	< LLD	1.29E-05	< LLD	< LLD	1.29E-05	< LLD	< LLD	< LLD	< LLD	< LLD
Tc-99m	Ci	< LLD	1.32E-05	< LLD	< LLD	1.32E-05	< LLD	< LLD	< LLD	< LLD	< LLD
Cs-137	Ci	3.31E-05	7.06E-07	< LLD	< LLD	3.38E-05	< LLD	< LLD	< LLD	< LLD	< LLD
Ce-143	Ci	1.12E-04	< LLD	< LLD	< LLD	1.12E-04	< LLD	< LLD	< LLD	< LLD	< LLD
Other	Ci	< LLD	< LLD	1.34E-05	< LLD	1.34E-05	< LLD	< LLD	< LLD	< LLD	< LLD
Total	Ci	2.31E-04	1.07E-04	1.28E-04	1.01E-04	5.67E-04	< LLD	< LLD	< LLD	< LLD	< LLD
4. Tritium	Ci	5.58E+01	1.28E+02	1.14E+02	6.39E+01	3.62E+02	< LLD	< LLD	< LLD	< LLD	< LLD
5. Carbon-14	Ci	4.56E+00	4.61E+00	4.66E+00	4.66E+00	1.85E+01	< LLD	< LLD	< LLD	< LLD	< LLD

Note: Only radionuclides with positive activity reported in this table.

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 2A-3

LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

Facility: Hope Creek Unit 1

Period: 2014

A. Fission & Activation Products	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci	3.82E-03	8.12E-04	2.49E-01	5.82E-01	8.36E-01	2.70E+01
2. Average diluted concentration during period	µCi/ml	3.00E-10	5.61E-11	1.20E-08	7.01E-10	3.26E-09	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	2.31E-04	6.67E-04	4.38E-01	5.39E-05	2.19E-01	
	Total Body%	3.13E-04	1.08E-03	2.44E-01	1.13E-04	1.12E-01	
B. Tritium							
1. Total Release	Ci	7.80E+00	1.26E+01	1.18E+02	4.95E+00	1.43E+02	2.70E+01
2. Average diluted concentration during period	µCi/ml	6.13E-07	8.69E-07	5.67E-06	5.96E-07	1.94E-06	
3. Percent of applicable limit (ODCM 3.11.1(a) & (b))	Organ %	2.31E-04	6.67E-04	4.38E-01	5.39E-05	2.19E-01	
	Total Body%	3.13E-04	1.08E-03	2.44E-01	1.13E-04	1.12E-01	
C. Dissolved & Entrained Gases							
1. Total Release	Ci	< LLD	1.72E-07	1.37E-05	< LLD	1.39E-05	2.70E+01
2. Average diluted concentration during period	µCi/ml	< LLD	1.19E-14	6.59E-13	< LLD	3.35E-13	
3. Percent of applicable limit (ODCM 3.11.1.1)	%	N/A	2.98E-11	1.65E-09	N/A	8.38E-10	
D. Gross Alpha Activity							
Total Release	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.70E+01
E. Volume Of Waste Released (prior to dilution)	Liters	1.54E+07	1.55E+07	4.38E+07	1.72E+07	9.19E+07	
F. Volume Of Dilution Water Used During Period	Liters	1.27E+10	1.45E+10	2.08E+10	8.31E+09	5.63E+10	

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 2B-3
LIQUID EFFLUENTS

Facility: Hope Creek Unit 1

Period: 2014

Nuclides Released		Continuous Mode					Batch Mode				
	Unit	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
H-3	Ci	2.99E-01	8.12E-01	7.02E+01	5.80E-01	7.19E+01	7.50E+00	1.17E+01	4.75E+01	4.37E+00	7.11E+01
Fission and Activation Products											
Na-24	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.91E-03	< LLD	2.91E-03
Cr-51	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	1.73E-05	5.83E-06	< LLD	9.61E-06	3.27E-05
Mn-54	Ci	< LLD	5.57E-06	< LLD	< LLD	5.57E-06	3.02E-04	6.92E-05	1.03E-02	5.87E-04	1.13E-02
Fe-55	Ci	< LLD	< LLD	7.83E-02	< LLD	7.83E-02	1.04E-03	< LLD	3.89E-02	< LLD	3.99E-02
Co-58	Ci	< LLD	3.46E-07	< LLD	< LLD	3.46E-07	< LLD	1.11E-05	2.24E-03	1.72E-04	2.42E-03
Fe-59	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	5.95E-06	< LLD	5.95E-06
Co-60	Ci	< LLD	2.13E-05	< LLD	< LLD	2.13E-05	2.26E-03	6.08E-04	5.44E-02	4.48E-03	6.17E-02
Ni-63	Ci	< LLD	< LLD	5.34E-03	< LLD	5.34E-03	< LLD	< LLD	2.65E-03	< LLD	2.65E-03
Zn-65	Ci	< LLD	9.40E-06	< LLD	< LLD	9.40E-06	1.65E-04	6.92E-05	4.48E-03	1.57E-04	4.87E-03
Zn-69m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.14E-04	< LLD	3.14E-04
As-76	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	5.67E-06	< LLD	5.67E-06
Zr-97	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	5.48E-07	1.84E-06	< LLD	2.39E-06
Mo-99	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	8.91E-07	< LLD	8.91E-07
Tc-99m	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	9.07E-07	< LLD	9.07E-07
Ru-103	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.01E-06	< LLD	< LLD	1.01E-06
Sb-125	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	9.54E-05	< LLD	9.54E-05
I-131	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.58E-07	< LLD	2.58E-07
Cs-134	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	9.93E-06	6.17E-07	1.39E-02	4.54E-05	1.40E-02
Cs-137	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	2.35E-05	8.57E-07	3.52E-02	3.40E-04	3.56E-02
Ba-140	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.70E-05	2.36E-05	4.06E-05
La-140	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.35E-06	< LLD	< LLD	1.35E-06
La-142	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.68E-07	< LLD	1.68E-07
Ce-141	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	2.69E-06	< LLD	< LLD	2.69E-06
W-187	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.74E-06	< LLD	1.74E-06
Other	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.52E-06	1.55E-06	4.80E-06
Total for Period	Ci	< LLD	4.08E-05	8.36E-02	< LLD	8.37E-02	3.82E-03	7.71E-04	1.65E-01	5.82E-03	1.76E-01
Dissolved and Entrained Noble Gases											
Kr-87	Ci	< LLD	1.72E-07	< LLD	< LLD	1.72E-07	< LLD	< LLD	< LLD	< LLD	< LLD
Xe-133	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	1.05E-05	< LLD	1.05E-05
Xe-135	Ci	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	3.16E-06	< LLD	3.16E-06
Total for Period	Ci	< LLD	1.72E-07	< LLD	< LLD	1.72E-07	< LLD	< LLD	1.37E-05	< LLD	1.37E-05

Note: Only radionuclides with positive activity reported in this table.

TABLE 3B-3

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

Facility: Hope Creek Unit 1Period: 2014

a. Waste Stream; Resins, Filters, and Evaporator Bottoms

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	2.48E+03	7.02E+01	5.17E+01	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	2.48E+03	7.02E+01	5.17E+01	+/-25%

Major Nuclides for Above Table:

Percent Cutoff: 1%

Resins, Filters and Evaporator Bottoms		
Waste Class A		
Nuclide Name	Percent Abundance	Curies
C-14	3.1%	1.61E+00
Mn-54	3.4%	1.76E+00
Fe-55	49.5%	2.56E+01
Co-60	33.0%	1.71E+01
Ni-63	7.1%	3.66E+00
Zn-65	1.7%	8.66E-01
Cs-137	1.0%	5.37E-01

Resins, Filters and Evaporator Bottoms		
Waste Class All		
Nuclide Name	Percent Abundance	Curies
C-14	3.1%	1.61E+00
Mn-54	3.4%	1.76E+00
Fe-55	49.5%	2.56E+01
Co-60	33.0%	1.71E+01
Ni-63	7.1%	3.66E+00
Zn-65	1.7%	8.66E-01
Cs-137	1.0%	5.37E-01

TABLE 3A-3

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)
(Not Irradiated Fuel)

a. Waste Stream; Dry Active Waste

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	2.40E+03	6.80E+01	7.54E-02	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	2.40E+03	6.80E+01	7.54E-02	+/-25%

Major Nuclides for Above Table:

Percent Cutoff: 1%

Dry Active Waste		
Waste Class A		
Nuclide Name	Percent Abundance	Curies
H-3	13.4%	1.60E-02
C-14	4.1%	4.84E-03
Mn-54	4.3%	5.12E-03
Fe-55	29.2%	3.48E-02
Co-60	26.7%	3.18E-02
Tc-99	17.3%	2.07E-02
I-129	2.0%	2.41E-03

Dry Active Waste		
Waste Class All		
Nuclide Name	Percent Abundance	Curies
H-3	13.4%	1.60E-02
C-14	4.1%	4.84E-03
Mn-54	4.3%	5.12E-03
Fe-55	29.2%	3.48E-02
Co-60	26.7%	3.18E-02
Tc-99	17.3%	2.07E-02
I-129	2.0%	2.41E-03

TABLE 3A-3

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)
(Not Irradiated Fuel)

b. Waste Stream; Irradiated Components

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	0.00E+00	0.00E+00	0.00E+00	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	0.00E+00	0.00E+00	0.00E+00	+/-25%

Major Nuclides for Above Table: None

c. Waste Stream; Other Waste

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	0.00E+00	0.00E+00	0.00E+00	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	0.00E+00	0.00E+00	0.00E+00	+/-25%

Major Nuclides for Above Table: None

d. Waste Stream; Sum of All 4 Categories

Waste Class	Volume		Curies Shipped	% Error (Ci)
	ft ³	m ³		
A	4.88E+03	1.38E+02	5.17E+01	+/-25%
B	0.00E+00	0.00E+00	0.00E+00	+/-25%
C	0.00E+00	0.00E+00	0.00E+00	+/-25%
All	4.88E+03	1.38E+02	5.17E+01	+/-25%

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

TABLE 3A-3

SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (continued)

(Not Irradiated Fuel)

Major Nuclides for Above Table:

Percent Cutoff: 1%

Sum of All 4 Categories		
Waste Class A		
Nuclide Name	Percent Abundance	Curies
C-14	3.1%	1.61E+00
Mn-54	3.4%	1.76E+00
Fe-55	49.4%	2.56E+01
Co-60	33.0%	1.71E+01
Ni-63	7.1%	3.67E+00
Zn-65	1.7%	8.67E-01
Cs-137	1.0%	5.37E-01
Sum of All 4 Categories		
Waste Class All		
Nuclide Name	Percent Abundance	Curies
C-14	3.1%	1.61E+00
Mn-54	3.4%	1.76E+00
Fe-55	49.4%	2.56E+01
Co-60	33.0%	1.71E+01
Ni-63	7.1%	3.67E+00
Zn-65	1.7%	8.67E-01
Cs-137	1.0%	5.37E-01

Number of Shipments	Mode Of Transportation	Destination
14	Hittman Transport Services, Inc.	Barnwell Processing Facility Duratec Consolidation and Services Facility
1	R&R Trucking	Memphis Processing Facility (Studsvik) 2550 Channel Avenue

TABLE 4A-3

SUMMARY SHEET FOR GASEOUS RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODEFacility: Hope Creek Unit 1Period: 2014

Gaseous	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Batch Releases	0	0	2	0	2
Total time period for batch releases (min)	0	0	2532	0	2532
Maximum time period for batch release (min)	0	0	1960	0	1960
Average time period for batch release (min)	0	0	1266	0	1266
Minimum time period for batch release (min)	0	0	572	0	572

TABLE 4B-3

SUMMARY SHEET FOR LIQUID RADIOACTIVE EFFLUENTS
RELEASED IN A BATCH MODEFacility: Hope Creek Unit 1Period: 2014

Liquid	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Total
Number of Batch Releases	16	26	110	14	166
Total time period for batch releases (min)	1125	1625	7299	995	11044
Maximum time period for batch release (min)	520	82	129	81	520
Average time period for batch release (min)	700	63	66	71	225
Minimum time period for batch release (min)	52	31	29	38	29
Average stream flow during periods of release of effluents into a flowing stream (Lpm)	1.13E+07	8.92E+06	2.85E+06	8.35E+06	5.10E+06

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APPENDIX B

*Meteorological
Data*

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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Salem/Hope Creek Meteorological Tower

Joint Frequency Distribution of Wind Direction and Speed

By Atmospheric Stability Class

33 Foot Wind Level

300 – 33 Foot Delta Temperature

January – March 2014

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	0	2	0	2	2	0	0	6
11.25 - 33.75	NNE	0	0	0	0	0	0	0	0	0	1	0	1
33.75 - 56.25	NE	0	0	0	0	0	1	4	1	0	2	0	8
56.25 - 78.75	ENE	0	0	0	0	0	0	2	1	0	0	0	3
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	0	0	1	1	3	0	0	5
146.25 - 168.75	SSE	0	0	0	0	0	1	1	0	0	0	0	2
168.75 - 191.25	S	0	0	0	0	0	0	0	0	0	0	0	0
191.25 - 213.75	SSW	0	0	0	0	0	1	0	0	0	0	0	1
213.75 - 236.25	SW	0	0	0	0	0	1	1	0	0	0	0	2
236.25 - 258.75	WSW	0	0	0	0	0	1	1	0	0	0	0	2
258.75 - 281.25	W	0	0	0	0	0	2	2	2	10	1	0	17
281.25 - 303.75	WNW	0	0	0	0	0	1	2	1	6	1	0	11
303.75 - 326.25	NW	0	0	0	0	0	2	2	3	3	9	1	20
326.25 - 348.75	NNW	0	0	0	0	0	1	2	0	11	0	0	14

Total 92

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.093	0.000	0.093	0.093	0.000	0.000	0.28
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.05
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.047	0.186	0.047	0.000	0.093	0.000	0.37
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.093	0.047	0.000	0.000	0.000	0.14
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.047	0.140	0.000	0.000	0.23
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.09
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.05
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.09
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.09
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.093	0.093	0.093	0.466	0.047	0.000	0.79
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.047	0.093	0.047	0.279	0.047	0.000	0.51
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.093	0.093	0.140	0.140	0.419	0.047	0.93
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.047	0.093	0.000	0.512	0.000	0.000	0.65

Total 4.28

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	1	3	3	0	0	0	0	7
11.25 - 33.75	NNE	0	0	0	0	0	0	0	1	5	0	0	6
33.75 - 56.25	NE	0	0	0	0	0	0	1	2	0	0	0	3
56.25 - 78.75	ENE	0	0	0	0	2	3	0	0	0	0	0	5
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	1	0	0	0	2	0	0	3
146.25 - 168.75	SSE	0	0	0	0	3	1	0	0	0	0	0	4
168.75 - 191.25	S	0	0	0	0	1	0	0	1	0	0	0	2
191.25 - 213.75	SSW	0	0	0	1	0	0	0	1	0	0	0	2
213.75 - 236.25	SW	0	0	0	0	1	0	0	0	0	0	0	1
236.25 - 258.75	WSW	0	0	0	0	0	1	0	1	0	0	0	2
258.75 - 281.25	W	0	0	0	0	1	5	3	1	5	1	0	16
281.25 - 303.75	WNW	0	0	0	0	1	3	5	0	1	2	0	12
303.75 - 326.25	NW	0	0	0	0	0	1	7	1	6	4	0	19
326.25 - 348.75	NNW	0	0	0	0	3	4	9	5	1	0	0	22

Total 104

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.047	0.140	0.140	0.000	0.000	0.000	0.000	0.33
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.233	0.000	0.000	0.28
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.093	0.000	0.000	0.000	0.14
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.093	0.140	0.000	0.000	0.000	0.000	0.000	0.23
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.093	0.000	0.000	0.14
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.140	0.047	0.000	0.000	0.000	0.000	0.000	0.19
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.047	0.000	0.000	0.000	0.09
191.25 - 213.75	SSW	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.09
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.05
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.047	0.000	0.000	0.000	0.09
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.047	0.233	0.140	0.047	0.233	0.047	0.000	0.74
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.047	0.140	0.233	0.000	0.047	0.093	0.000	0.56
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.047	0.326	0.047	0.279	0.186	0.000	0.88
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.140	0.186	0.419	0.233	0.047	0.000	0.000	1.02

Total 4.84

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	4	3	0	3	0	0	0	10
11.25 - 33.75	NNE	0	0	0	0	2	3	2	2	1	0	0	10
33.75 - 56.25	NE	0	0	0	0	2	1	1	2	0	0	0	6
56.25 - 78.75	ENE	0	0	0	0	1	0	0	0	0	0	0	1
78.75 - 101.25	E	0	0	0	0	1	1	0	0	0	0	0	2
101.25 - 123.75	ESE	0	0	0	0	0	0	1	0	0	0	0	1
123.75 - 146.25	SE	0	0	0	0	0	0	1	0	0	0	0	1
146.25 - 168.75	SSE	0	0	0	0	0	1	0	0	0	0	0	1
168.75 - 191.25	S	0	0	0	0	2	3	1	0	1	0	0	7
191.25 - 213.75	SSW	0	0	0	0	0	2	0	0	0	0	0	2
213.75 - 236.25	SW	0	0	0	0	1	0	0	0	0	0	0	1
236.25 - 258.75	WSW	0	0	0	0	0	1	1	0	0	0	0	2
258.75 - 281.25	W	0	0	0	0	4	5	5	3	2	0	0	19
281.25 - 303.75	WNW	0	0	0	0	1	3	3	0	2	2	0	11
303.75 - 326.25	NW	0	0	0	1	4	2	4	2	4	4	0	21
326.25 - 348.75	NNW	0	0	0	0	2	3	0	2	3	1	0	11

Total 106

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.186	0.140	0.000	0.140	0.000	0.000	0.000	0.47
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.093	0.140	0.093	0.093	0.047	0.000	0.000	0.47
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.093	0.047	0.047	0.093	0.000	0.000	0.000	0.28
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.05
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.000	0.09
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.05
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.05
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.05
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.093	0.140	0.047	0.000	0.047	0.000	0.000	0.33
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.093	0.000	0.000	0.000	0.000	0.000	0.09
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.05
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.047	0.047	0.000	0.000	0.000	0.000	0.09
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.186	0.233	0.233	0.140	0.093	0.000	0.000	0.88
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.047	0.140	0.140	0.000	0.093	0.093	0.000	0.51
303.75 - 326.25	NW	0.000	0.000	0.000	0.047	0.186	0.093	0.186	0.093	0.186	0.186	0.000	0.98
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.093	0.140	0.000	0.093	0.140	0.047	0.000	0.51

Total 4.93

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	1	6	6	24	11	13	13	2	0	76
11.25 - 33.75	NNE	0	1	2	3	14	12	18	18	14	0	0	82
33.75 - 56.25	NE	0	0	4	2	15	18	16	5	2	1	0	63
56.25 - 78.75	ENE	0	0	1	4	18	8	7	0	0	0	0	38
78.75 - 101.25	E	0	0	3	4	7	0	0	0	0	0	0	14
101.25 - 123.75	ESE	0	0	5	3	5	0	0	0	0	0	0	13
123.75 - 146.25	SE	0	0	0	1	5	2	4	2	3	0	0	17
146.25 - 168.75	SSE	0	1	0	6	3	3	2	3	6	1	0	25
168.75 - 191.25	S	0	0	0	3	6	12	5	6	9	2	0	43
191.25 - 213.75	SSW	0	1	2	4	4	8	5	2	7	0	0	33
213.75 - 236.25	SW	0	1	1	6	6	4	2	2	0	0	0	22
236.25 - 258.75	WSW	0	0	3	2	3	16	10	6	1	0	0	41
258.75 - 281.25	W	0	2	3	2	9	12	13	4	4	0	0	49
281.25 - 303.75	WNW	0	1	1	5	10	15	32	21	12	12	2	111
303.75 - 326.25	NW	1	1	2	8	12	16	25	21	32	12	8	138
326.25 - 348.75	NNW	0	1	1	5	10	16	6	19	36	5	0	99

Total 864

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.047	0.279	0.279	1.117	0.512	0.605	0.605	0.093	0.000	3.54
11.25 - 33.75	NNE	0.000	0.047	0.093	0.140	0.652	0.559	0.838	0.838	0.652	0.000	0.000	3.82
33.75 - 56.25	NE	0.000	0.000	0.186	0.093	0.698	0.838	0.745	0.233	0.093	0.047	0.000	2.93
56.25 - 78.75	ENE	0.000	0.000	0.047	0.186	0.838	0.372	0.326	0.000	0.000	0.000	0.000	1.77
78.75 - 101.25	E	0.000	0.000	0.140	0.186	0.326	0.000	0.000	0.000	0.000	0.000	0.000	0.65
101.25 - 123.75	ESE	0.000	0.000	0.233	0.140	0.233	0.000	0.000	0.000	0.000	0.000	0.000	0.61
123.75 - 146.25	SE	0.000	0.000	0.000	0.047	0.233	0.093	0.186	0.093	0.140	0.000	0.000	0.79
146.25 - 168.75	SSE	0.000	0.047	0.000	0.279	0.140	0.140	0.093	0.140	0.279	0.047	0.000	1.16
168.75 - 191.25	S	0.000	0.000	0.000	0.140	0.279	0.559	0.233	0.279	0.419	0.093	0.000	2.00
191.25 - 213.75	SSW	0.000	0.047	0.093	0.186	0.186	0.372	0.233	0.093	0.326	0.000	0.000	1.54
213.75 - 236.25	SW	0.000	0.047	0.047	0.279	0.279	0.186	0.093	0.093	0.000	0.000	0.000	1.02
236.25 - 258.75	WSW	0.000	0.000	0.140	0.093	0.140	0.745	0.466	0.279	0.047	0.000	0.000	1.91
258.75 - 281.25	W	0.000	0.093	0.140	0.093	0.419	0.559	0.605	0.186	0.186	0.000	0.000	2.28
281.25 - 303.75	WNW	0.000	0.047	0.047	0.233	0.466	0.698	1.490	0.978	0.559	0.559	0.093	5.17
303.75 - 326.25	NW	0.047	0.047	0.093	0.372	0.559	0.745	1.164	0.978	1.490	0.559	0.372	6.42
326.25 - 348.75	NNW	0.000	0.047	0.047	0.233	0.466	0.745	0.279	0.885	1.676	0.233	0.000	4.61

Total 40.22

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	2	4	5	25	21	8	3	0	0	0	68
11.25 - 33.75	NNE	0	1	9	5	26	8	6	0	0	0	0	55
33.75 - 56.25	NE	0	3	3	9	7	4	0	0	0	0	0	26
56.25 - 78.75	ENE	1	2	8	2	7	0	0	0	0	0	0	20
78.75 - 101.25	E	0	1	5	0	3	1	0	0	0	0	0	10
101.25 - 123.75	ESE	0	1	2	3	7	2	0	0	0	0	0	15
123.75 - 146.25	SE	0	2	2	4	5	7	4	2	2	0	0	28
146.25 - 168.75	SSE	0	3	2	7	3	4	2	2	3	0	0	26
168.75 - 191.25	S	0	1	1	0	7	4	1	2	2	0	0	18
191.25 - 213.75	SSW	1	1	4	2	14	5	1	1	9	0	0	38
213.75 - 236.25	SW	0	1	1	5	9	8	6	4	3	1	0	38
236.25 - 258.75	WSW	0	2	2	2	8	10	5	3	0	0	0	32
258.75 - 281.25	W	0	3	2	2	9	2	5	2	0	0	0	25
281.25 - 303.75	WNW	0	3	3	10	12	5	4	2	0	0	0	39
303.75 - 326.25	NW	0	0	8	12	17	20	11	4	1	0	0	73
326.25 - 348.75	NNW	0	3	7	4	27	36	7	2	0	0	0	86

Total 597

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.093	0.186	0.233	1.164	0.978	0.372	0.140	0.000	0.000	0.000	3.17
11.25 - 33.75	NNE	0.000	0.047	0.419	0.233	1.210	0.372	0.279	0.000	0.000	0.000	0.000	2.56
33.75 - 56.25	NE	0.000	0.140	0.140	0.419	0.326	0.186	0.000	0.000	0.000	0.000	0.000	1.21
56.25 - 78.75	ENE	0.047	0.093	0.372	0.093	0.326	0.000	0.000	0.000	0.000	0.000	0.000	0.93
78.75 - 101.25	E	0.000	0.047	0.233	0.000	0.140	0.047	0.000	0.000	0.000	0.000	0.000	0.47
101.25 - 123.75	ESE	0.000	0.047	0.093	0.140	0.326	0.093	0.000	0.000	0.000	0.000	0.000	0.70
123.75 - 146.25	SE	0.000	0.093	0.093	0.186	0.233	0.326	0.186	0.093	0.093	0.000	0.000	1.30
146.25 - 168.75	SSE	0.000	0.140	0.093	0.326	0.140	0.186	0.093	0.093	0.140	0.000	0.000	1.21
168.75 - 191.25	S	0.000	0.047	0.047	0.000	0.326	0.186	0.047	0.093	0.093	0.000	0.000	0.84
191.25 - 213.75	SSW	0.047	0.047	0.186	0.093	0.652	0.233	0.047	0.047	0.419	0.000	0.000	1.77
213.75 - 236.25	SW	0.000	0.047	0.047	0.233	0.419	0.372	0.279	0.186	0.140	0.047	0.000	1.77
236.25 - 258.75	WSW	0.000	0.093	0.093	0.093	0.372	0.466	0.233	0.140	0.000	0.000	0.000	1.49
258.75 - 281.25	W	0.000	0.140	0.093	0.093	0.419	0.093	0.233	0.093	0.000	0.000	0.000	1.16
281.25 - 303.75	WNW	0.000	0.140	0.140	0.466	0.559	0.233	0.186	0.093	0.000	0.000	0.000	1.82
303.75 - 326.25	NW	0.000	0.000	0.372	0.559	0.791	0.931	0.512	0.186	0.047	0.000	0.000	3.40
326.25 - 348.75	NNW	0.000	0.140	0.326	0.186	1.257	1.676	0.326	0.093	0.000	0.000	0.000	4.00

Total 27.79

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	3	11	2	0	0	0	0	0	16
11.25 - 33.75	NNE	0	0	3	7	6	1	0	0	0	0	0	17
33.75 - 56.25	NE	0	0	5	9	3	0	0	0	0	0	0	17
56.25 - 78.75	ENE	0	2	2	5	4	0	0	0	0	0	0	13
78.75 - 101.25	E	0	3	1	1	3	0	0	0	0	0	0	8
101.25 - 123.75	ESE	0	2	4	5	4	5	0	0	0	0	0	20
123.75 - 146.25	SE	0	1	0	3	6	13	4	2	1	0	0	30
146.25 - 168.75	SSE	0	1	1	2	5	4	3	4	1	0	0	21
168.75 - 191.25	S	0	0	2	2	4	4	0	0	0	1	0	13
191.25 - 213.75	SSW	0	1	1	1	3	7	6	3	1	2	0	25
213.75 - 236.25	SW	0	2	4	1	8	1	2	0	1	1	0	20
236.25 - 258.75	WSW	0	1	1	0	7	1	0	0	0	0	0	10
258.75 - 281.25	W	0	0	2	0	1	1	0	2	0	0	0	6
281.25 - 303.75	WNW	0	3	1	0	0	0	0	0	0	0	0	4
303.75 - 326.25	NW	0	1	0	0	5	0	0	0	0	0	0	6
326.25 - 348.75	NNW	0	1	1	1	0	9	0	0	0	0	0	12

Total 238

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.140	0.512	0.093	0.000	0.000	0.000	0.000	0.000	0.74
11.25 - 33.75	NNE	0.000	0.000	0.140	0.326	0.279	0.047	0.000	0.000	0.000	0.000	0.000	0.79
33.75 - 56.25	NE	0.000	0.000	0.233	0.419	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.79
56.25 - 78.75	ENE	0.000	0.093	0.093	0.233	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.61
78.75 - 101.25	E	0.000	0.140	0.047	0.047	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.37
101.25 - 123.75	ESE	0.000	0.093	0.186	0.233	0.186	0.233	0.000	0.000	0.000	0.000	0.000	0.93
123.75 - 146.25	SE	0.000	0.047	0.000	0.140	0.279	0.605	0.186	0.093	0.047	0.000	0.000	1.40
146.25 - 168.75	SSE	0.000	0.047	0.047	0.093	0.233	0.186	0.140	0.186	0.047	0.000	0.000	0.98
168.75 - 191.25	S	0.000	0.000	0.093	0.093	0.186	0.186	0.000	0.000	0.000	0.047	0.000	0.61
191.25 - 213.75	SSW	0.000	0.047	0.047	0.047	0.140	0.326	0.279	0.140	0.047	0.093	0.000	1.16
213.75 - 236.25	SW	0.000	0.093	0.186	0.047	0.372	0.047	0.093	0.000	0.047	0.047	0.000	0.93
236.25 - 258.75	WSW	0.000	0.047	0.047	0.000	0.326	0.047	0.000	0.000	0.000	0.000	0.000	0.47
258.75 - 281.25	W	0.000	0.000	0.093	0.000	0.047	0.047	0.000	0.093	0.000	0.000	0.000	0.28
281.25 - 303.75	WNW	0.000	0.140	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.19
303.75 - 326.25	NW	0.000	0.047	0.000	0.000	0.233	0.000	0.000	0.000	0.000	0.000	0.000	0.28
326.25 - 348.75	NNW	0.000	0.047	0.047	0.047	0.000	0.419	0.000	0.000	0.000	0.000	0.000	0.56

Total 11.08

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	1	0	0	0	0	0	0	0	1
11.25 - 33.75	NNE	0	0	0	4	1	0	0	0	0	0	0	5
33.75 - 56.25	NE	0	0	0	2	1	0	0	0	0	0	0	3
56.25 - 78.75	ENE	0	1	1	4	1	0	0	0	0	0	0	7
78.75 - 101.25	E	0	3	1	0	0	0	0	0	0	0	0	4
101.25 - 123.75	ESE	0	1	1	2	4	0	0	0	0	0	0	8
123.75 - 146.25	SE	0	2	2	2	15	12	12	12	13	0	0	70
146.25 - 168.75	SSE	0	0	1	3	5	6	4	2	1	0	0	22
168.75 - 191.25	S	0	3	1	0	1	0	0	0	1	2	0	8
191.25 - 213.75	SSW	0	0	0	0	0	0	0	0	1	0	0	1
213.75 - 236.25	SW	1	1	1	0	2	0	0	0	0	0	0	5
236.25 - 258.75	WSW	0	1	1	1	1	2	0	0	0	0	0	6
258.75 - 281.25	W	0	0	1	1	1	0	0	0	0	0	0	3
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	3	0	1	0	0	0	0	0	0	0	4
326.25 - 348.75	NNW	0	0	0	0	0	0	0	0	0	0	0	0

Total 147

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
11.25 - 33.75	NNE	0.000	0.000	0.000	0.186	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.23
33.75 - 56.25	NE	0.000	0.000	0.000	0.093	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.14
56.25 - 78.75	ENE	0.000	0.047	0.047	0.186	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.33
78.75 - 101.25	E	0.000	0.140	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.19
101.25 - 123.75	ESE	0.000	0.047	0.047	0.093	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.37
123.75 - 146.25	SE	0.000	0.093	0.093	0.093	0.698	0.559	0.559	0.559	0.605	0.000	0.000	3.26
146.25 - 168.75	SSE	0.000	0.000	0.047	0.140	0.233	0.279	0.186	0.093	0.047	0.000	0.000	1.02
168.75 - 191.25	S	0.000	0.140	0.047	0.000	0.047	0.000	0.000	0.000	0.047	0.093	0.000	0.37
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.000	0.000	0.05
213.75 - 236.25	SW	0.047	0.047	0.047	0.000	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.23
236.25 - 258.75	WSW	0.000	0.047	0.047	0.047	0.047	0.093	0.000	0.000	0.000	0.000	0.000	0.28
258.75 - 281.25	W	0.000	0.000	0.047	0.047	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.14
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.140	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.19
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00

Total 6.84

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	2	5	15	47	55	22	21	15	2	0	184
11.25 - 33.75	NNE	0	2	14	19	49	24	26	21	20	1	0	176
33.75 - 56.25	NE	0	3	12	22	28	24	22	10	2	3	0	126
56.25 - 78.75	ENE	1	5	12	15	33	11	9	1	0	0	0	87
78.75 - 101.25	E	0	7	10	5	14	2	0	0	0	0	0	38
101.25 - 123.75	ESE	0	4	12	13	20	7	1	0	0	0	0	57
123.75 - 146.25	SE	0	5	4	10	32	34	26	19	24	0	0	154
146.25 - 168.75	SSE	0	5	4	18	19	20	12	11	11	1	0	101
168.75 - 191.25	S	0	4	4	5	21	23	7	9	13	5	0	91
191.25 - 213.75	SSW	1	3	7	8	21	23	12	7	18	2	0	102
213.75 - 236.25	SW	1	5	7	12	27	14	11	6	4	2	0	89
236.25 - 258.75	WSW	0	4	7	5	19	32	17	10	1	0	0	95
258.75 - 281.25	W	0	5	8	5	25	27	28	14	21	2	0	135
281.25 - 303.75	WNW	0	7	5	15	24	27	46	24	21	17	2	188
303.75 - 326.25	NW	1	5	10	22	38	41	49	31	46	29	9	281
326.25 - 348.75	NNW	0	5	9	10	42	69	24	28	51	6	0	244

Total 2,148

MISSING HOURS: 12
 JOINT DATA RECOVERY: 99.4%

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - MARCH 2014 (Q1)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.093	0.233	0.698	2.188	2.561	1.024	0.978	0.698	0.093	0.000	8.57
11.25 - 33.75	NNE	0.000	0.093	0.652	0.885	2.281	1.117	1.210	0.978	0.931	0.047	0.000	8.19
33.75 - 56.25	NE	0.000	0.140	0.559	1.024	1.304	1.117	1.024	0.466	0.093	0.140	0.000	5.87
56.25 - 78.75	ENE	0.047	0.233	0.559	0.698	1.536	0.512	0.419	0.047	0.000	0.000	0.000	4.05
78.75 - 101.25	E	0.000	0.326	0.466	0.233	0.652	0.093	0.000	0.000	0.000	0.000	0.000	1.77
101.25 - 123.75	ESE	0.000	0.186	0.559	0.605	0.931	0.326	0.047	0.000	0.000	0.000	0.000	2.65
123.75 - 146.25	SE	0.000	0.233	0.186	0.466	1.490	1.583	1.210	0.885	1.117	0.000	0.000	7.17
146.25 - 168.75	SSE	0.000	0.233	0.186	0.838	0.885	0.931	0.559	0.512	0.512	0.047	0.000	4.70
168.75 - 191.25	S	0.000	0.186	0.186	0.233	0.978	1.071	0.326	0.419	0.605	0.233	0.000	4.24
191.25 - 213.75	SSW	0.047	0.140	0.326	0.372	0.978	1.071	0.559	0.326	0.838	0.093	0.000	4.75
213.75 - 236.25	SW	0.047	0.233	0.326	0.559	1.257	0.652	0.512	0.279	0.186	0.093	0.000	4.14
236.25 - 258.75	WSW	0.000	0.186	0.326	0.233	0.885	1.490	0.791	0.466	0.047	0.000	0.000	4.42
258.75 - 281.25	W	0.000	0.233	0.372	0.233	1.164	1.257	1.304	0.652	0.978	0.093	0.000	6.28
281.25 - 303.75	WNW	0.000	0.326	0.233	0.698	1.117	1.257	2.142	1.117	0.978	0.791	0.093	8.75
303.75 - 326.25	NW	0.047	0.233	0.466	1.024	1.769	1.909	2.281	1.443	2.142	1.350	0.419	13.08
326.25 - 348.75	NNW	0.000	0.233	0.419	0.466	1.955	3.212	1.117	1.304	2.374	0.279	0.000	11.36

Total 100.00

MISSING HOURS: 12
 JOINT DATA RECOVERY: 99.4%

Salem/Hope Creek Meteorological Tower

Joint Frequency Distribution of Wind Direction and Speed

By Atmospheric Stability Class

33 Foot Wind Level

300 – 33 Foot Delta Temperature

April – June 2014

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	0	0	0	8	2	2	0	0	12
11.25 - 33.75	NNE	0	0	0	0	0	1	2	1	0	0	0	4
33.75 - 56.25	NE	0	0	0	0	0	0	1	1	0	0	0	2
56.25 - 78.75	ENE	0	0	0	0	1	2	1	0	0	0	0	4
78.75 - 101.25	E	0	0	0	0	2	7	0	0	0	0	0	9
101.25 - 123.75	ESE	0	0	0	0	0	4	2	0	0	0	0	6
123.75 - 146.25	SE	0	0	0	0	0	3	2	4	11	1	0	21
146.25 - 168.75	SSE	0	0	0	0	1	5	4	3	2	0	0	15
168.75 - 191.25	S	0	0	0	0	0	4	0	0	1	0	0	5
191.25 - 213.75	SSW	0	0	0	0	0	2	0	0	0	0	0	2
213.75 - 236.25	SW	0	0	0	0	1	2	0	0	0	0	0	3
236.25 - 258.75	WSW	0	0	0	0	0	2	0	0	0	0	0	2
258.75 - 281.25	W	0	0	0	0	3	5	3	4	1	0	0	16
281.25 - 303.75	WNW	0	0	0	0	0	2	1	0	1	0	0	4
303.75 - 326.25	NW	0	0	0	0	0	2	8	11	15	4	0	40
326.25 - 348.75	NNW	0	0	0	0	1	4	6	5	5	0	0	21

Total 166

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.000	0.367	0.092	0.092	0.000	0.000	0.55
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.046	0.092	0.046	0.000	0.000	0.000	0.18
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.09
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.046	0.092	0.046	0.000	0.000	0.000	0.000	0.18
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.092	0.321	0.000	0.000	0.000	0.000	0.000	0.41
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.183	0.092	0.000	0.000	0.000	0.000	0.28
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.138	0.092	0.183	0.504	0.046	0.000	0.96
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.046	0.229	0.183	0.138	0.092	0.000	0.000	0.69
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.183	0.000	0.000	0.046	0.000	0.000	0.23
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.092	0.000	0.000	0.000	0.000	0.000	0.09
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.046	0.092	0.000	0.000	0.000	0.000	0.000	0.14
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.092	0.000	0.000	0.000	0.000	0.000	0.09
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.138	0.229	0.138	0.183	0.046	0.000	0.000	0.73
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.092	0.046	0.000	0.046	0.000	0.000	0.18
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.092	0.367	0.504	0.688	0.183	0.000	1.83
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.046	0.183	0.275	0.229	0.229	0.000	0.000	0.96

Total 7.61

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	2	5	4	0	0	0	0	11
11.25 - 33.75	NNE	0	0	0	0	1	1	1	1	0	0	0	4
33.75 - 56.25	NE	0	0	0	0	1	1	2	0	0	0	0	4
56.25 - 78.75	ENE	0	0	0	0	0	0	0	0	0	0	0	0
78.75 - 101.25	E	0	0	0	0	0	1	0	0	0	0	0	1
101.25 - 123.75	ESE	0	0	0	0	0	1	0	0	0	0	0	1
123.75 - 146.25	SE	0	0	0	0	0	1	0	1	3	1	0	6
146.25 - 168.75	SSE	0	0	0	0	1	1	0	3	2	0	0	7
168.75 - 191.25	S	0	0	0	0	4	2	0	0	0	0	0	6
191.25 - 213.75	SSW	0	0	0	0	1	0	0	0	0	0	0	1
213.75 - 236.25	SW	0	0	0	0	7	0	0	0	0	0	0	7
236.25 - 258.75	WSW	0	0	0	0	3	5	1	0	0	0	0	9
258.75 - 281.25	W	0	0	0	1	2	4	1	0	1	0	0	9
281.25 - 303.75	WNW	0	0	0	0	2	2	0	0	2	0	0	6
303.75 - 326.25	NW	0	0	0	0	2	2	7	5	1	1	0	18
326.25 - 348.75	NNW	0	0	0	0	1	8	6	1	1	0	0	17

Total 107

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.092	0.229	0.183	0.000	0.000	0.000	0.000	0.50
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.046	0.046	0.046	0.046	0.000	0.000	0.000	0.18
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.046	0.046	0.092	0.000	0.000	0.000	0.000	0.18
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.05
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.05
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.046	0.138	0.046	0.000	0.28
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.138	0.092	0.000	0.000	0.32
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.183	0.092	0.000	0.000	0.000	0.000	0.000	0.28
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.05
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.321	0.000	0.000	0.000	0.000	0.000	0.000	0.32
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.138	0.229	0.046	0.000	0.000	0.000	0.000	0.41
258.75 - 281.25	W	0.000	0.000	0.000	0.046	0.092	0.183	0.046	0.000	0.046	0.000	0.000	0.41
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.092	0.092	0.000	0.000	0.092	0.000	0.000	0.28
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.092	0.092	0.321	0.229	0.046	0.046	0.000	0.83
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.046	0.367	0.275	0.046	0.046	0.000	0.000	0.78

Total 4.91

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	0	4	3	4	3	0	0	0	14
11.25 - 33.75	NNE	0	0	0	0	1	1	0	0	0	0	0	2
33.75 - 56.25	NE	0	0	0	1	1	0	0	0	0	0	0	2
56.25 - 78.75	ENE	0	0	0	0	3	1	1	0	0	0	0	5
78.75 - 101.25	E	0	0	0	1	4	3	0	0	0	0	0	8
101.25 - 123.75	ESE	0	0	0	0	2	0	0	0	0	0	0	2
123.75 - 146.25	SE	0	0	0	1	1	0	1	2	2	3	0	10
146.25 - 168.75	SSE	0	0	0	1	4	2	2	0	3	0	0	12
168.75 - 191.25	S	0	0	0	0	2	1	0	0	0	0	0	3
191.25 - 213.75	SSW	0	0	0	0	3	0	0	0	0	0	0	3
213.75 - 236.25	SW	0	0	0	0	4	0	0	0	0	0	0	4
236.25 - 258.75	WSW	0	0	0	0	5	6	0	0	0	0	0	11
258.75 - 281.25	W	0	0	0	0	1	2	3	1	2	0	0	9
281.25 - 303.75	WNW	0	0	0	2	5	0	2	1	2	0	0	12
303.75 - 326.25	NW	0	0	0	2	6	2	0	3	3	2	0	18
326.25 - 348.75	NNW	0	0	0	0	4	5	6	2	1	0	0	18

Total 133

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.183	0.138	0.183	0.138	0.000	0.000	0.000	0.64
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.09
33.75 - 56.25	NE	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.09
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.138	0.046	0.046	0.000	0.000	0.000	0.000	0.23
78.75 - 101.25	E	0.000	0.000	0.000	0.046	0.183	0.138	0.000	0.000	0.000	0.000	0.000	0.37
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.09
123.75 - 146.25	SE	0.000	0.000	0.000	0.046	0.046	0.000	0.046	0.092	0.092	0.138	0.000	0.46
146.25 - 168.75	SSE	0.000	0.000	0.000	0.046	0.183	0.092	0.092	0.000	0.138	0.000	0.000	0.55
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.092	0.046	0.000	0.000	0.000	0.000	0.000	0.14
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.14
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.18
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.229	0.275	0.000	0.000	0.000	0.000	0.000	0.50
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.046	0.092	0.138	0.046	0.092	0.000	0.000	0.41
281.25 - 303.75	WNW	0.000	0.000	0.000	0.092	0.229	0.000	0.092	0.046	0.092	0.000	0.000	0.55
303.75 - 326.25	NW	0.000	0.000	0.000	0.092	0.275	0.092	0.000	0.138	0.138	0.092	0.000	0.83
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.183	0.229	0.275	0.092	0.046	0.000	0.000	0.83

Total 6.10

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		Sect.	< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0
348.75 - 11.25	N	0	0	4	4	8	10	6	4	0	0	0	36
11.25 - 33.75	NNE	0	1	2	2	6	11	1	0	0	0	0	23
33.75 - 56.25	NE	0	2	5	2	13	7	0	0	0	0	0	29
56.25 - 78.75	ENE	0	1	2	9	34	21	7	5	0	0	0	79
78.75 - 101.25	E	0	0	6	12	16	21	11	3	0	0	0	69
101.25 - 123.75	ESE	0	2	1	8	11	15	4	0	1	1	0	43
123.75 - 146.25	SE	0	0	2	1	10	11	21	22	27	11	3	108
146.25 - 168.75	SSE	0	1	4	5	10	15	12	23	14	0	0	84
168.75 - 191.25	S	0	2	6	8	18	21	6	11	2	0	0	74
191.25 - 213.75	SSW	0	0	1	5	11	4	1	0	0	0	0	22
213.75 - 236.25	SW	0	1	0	7	10	3	0	0	0	0	0	21
236.25 - 258.75	WSW	0	1	1	2	6	9	6	1	0	0	0	26
258.75 - 281.25	W	0	2	2	4	3	6	9	1	1	0	0	28
281.25 - 303.75	WNW	0	1	1	0	8	4	6	2	0	0	0	22
303.75 - 326.25	NW	0	2	1	3	10	12	18	7	15	3	0	71
326.25 - 348.75	NNW	0	1	2	5	12	14	8	4	6	0	0	52

Total 787

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		Sect.	< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0
348.75 - 11.25	N	0.000	0.000	0.183	0.183	0.367	0.459	0.275	0.183	0.000	0.000	0.000	1.65
11.25 - 33.75	NNE	0.000	0.046	0.092	0.092	0.275	0.504	0.046	0.000	0.000	0.000	0.000	1.05
33.75 - 56.25	NE	0.000	0.092	0.229	0.092	0.596	0.321	0.000	0.000	0.000	0.000	0.000	1.33
56.25 - 78.75	ENE	0.000	0.046	0.092	0.413	1.559	0.963	0.321	0.229	0.000	0.000	0.000	3.62
78.75 - 101.25	E	0.000	0.000	0.275	0.550	0.734	0.963	0.504	0.138	0.000	0.000	0.000	3.16
101.25 - 123.75	ESE	0.000	0.092	0.046	0.367	0.504	0.688	0.183	0.000	0.046	0.046	0.000	1.97
123.75 - 146.25	SE	0.000	0.000	0.092	0.046	0.459	0.504	0.963	1.009	1.238	0.504	0.138	4.95
146.25 - 168.75	SSE	0.000	0.046	0.183	0.229	0.459	0.688	0.550	1.055	0.642	0.000	0.000	3.85
168.75 - 191.25	S	0.000	0.092	0.275	0.367	0.825	0.963	0.275	0.504	0.092	0.000	0.000	3.39
191.25 - 213.75	SSW	0.000	0.000	0.046	0.229	0.504	0.183	0.046	0.000	0.000	0.000	0.000	1.01
213.75 - 236.25	SW	0.000	0.046	0.000	0.321	0.459	0.138	0.000	0.000	0.000	0.000	0.000	0.96
236.25 - 258.75	WSW	0.000	0.046	0.046	0.092	0.275	0.413	0.275	0.046	0.000	0.000	0.000	1.19
258.75 - 281.25	W	0.000	0.092	0.092	0.183	0.138	0.275	0.413	0.046	0.046	0.000	0.000	1.28
281.25 - 303.75	WNW	0.000	0.046	0.046	0.000	0.367	0.183	0.275	0.092	0.000	0.000	0.000	1.01
303.75 - 326.25	NW	0.000	0.092	0.046	0.138	0.459	0.550	0.825	0.321	0.688	0.138	0.000	3.26
326.25 - 348.75	NNW	0.000	0.046	0.092	0.229	0.550	0.642	0.367	0.183	0.275	0.000	0.000	2.38

Total 36.08

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	2	3	2	16	9	2	2	0	0	0	36
11.25 - 33.75	NNE	1	3	2	9	10	1	0	0	0	0	0	26
33.75 - 56.25	NE	0	0	5	8	8	7	0	0	0	0	0	28
56.25 - 78.75	ENE	0	2	6	6	11	1	0	0	0	0	0	26
78.75 - 101.25	E	0	4	8	4	7	2	0	0	0	0	0	25
101.25 - 123.75	ESE	0	1	6	4	10	7	1	1	0	0	0	30
123.75 - 146.25	SE	1	0	0	4	14	11	35	12	17	5	0	99
146.25 - 168.75	SSE	0	0	1	3	5	11	9	8	2	0	0	39
168.75 - 191.25	S	0	4	1	2	7	5	5	1	3	0	0	28
191.25 - 213.75	SSW	0	0	2	2	11	4	2	0	5	5	0	31
213.75 - 236.25	SW	0	2	7	11	14	11	2	0	1	1	0	49
236.25 - 258.75	WSW	0	2	2	5	16	16	5	3	1	0	0	50
258.75 - 281.25	W	0	4	4	6	9	7	3	0	0	0	0	33
281.25 - 303.75	WNW	0	3	3	9	17	9	2	3	0	0	0	46
303.75 - 326.25	NW	0	0	6	8	29	37	17	7	4	0	0	108
326.25 - 348.75	NNW	0	3	7	6	12	9	9	3	3	2	0	54

Total 708

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 FREQUENCY(%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.092	0.138	0.092	0.734	0.413	0.092	0.092	0.000	0.000	0.000	1.65
11.25 - 33.75	NNE	0.046	0.138	0.092	0.413	0.459	0.046	0.000	0.000	0.000	0.000	0.000	1.19
33.75 - 56.25	NE	0.000	0.000	0.229	0.367	0.367	0.321	0.000	0.000	0.000	0.000	0.000	1.28
56.25 - 78.75	ENE	0.000	0.092	0.275	0.275	0.504	0.046	0.000	0.000	0.000	0.000	0.000	1.19
78.75 - 101.25	E	0.000	0.183	0.367	0.183	0.321	0.092	0.000	0.000	0.000	0.000	0.000	1.15
101.25 - 123.75	ESE	0.000	0.046	0.275	0.183	0.459	0.321	0.046	0.046	0.000	0.000	0.000	1.38
123.75 - 146.25	SE	0.046	0.000	0.000	0.183	0.642	0.504	1.605	0.550	0.779	0.229	0.000	4.54
146.25 - 168.75	SSE	0.000	0.000	0.046	0.138	0.229	0.504	0.413	0.367	0.092	0.000	0.000	1.79
168.75 - 191.25	S	0.000	0.183	0.046	0.092	0.321	0.229	0.229	0.046	0.138	0.000	0.000	1.28
191.25 - 213.75	SSW	0.000	0.000	0.092	0.092	0.504	0.183	0.092	0.000	0.229	0.229	0.000	1.42
213.75 - 236.25	SW	0.000	0.092	0.321	0.504	0.642	0.504	0.092	0.000	0.046	0.046	0.000	2.25
236.25 - 258.75	WSW	0.000	0.092	0.092	0.229	0.734	0.734	0.229	0.138	0.046	0.000	0.000	2.29
258.75 - 281.25	W	0.000	0.183	0.183	0.275	0.413	0.321	0.138	0.000	0.000	0.000	0.000	1.51
281.25 - 303.75	WNW	0.000	0.138	0.138	0.413	0.779	0.413	0.092	0.138	0.000	0.000	0.000	2.11
303.75 - 326.25	NW	0.000	0.000	0.275	0.367	1.330	1.696	0.779	0.321	0.183	0.000	0.000	4.95
326.25 - 348.75	NNW	0.000	0.138	0.321	0.275	0.550	0.413	0.413	0.138	0.138	0.092	0.000	2.48

Total 32.46

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	1	3	10	2	0	0	0	0	0	16
11.25 - 33.75	NNE	0	1	3	1	12	3	0	0	0	0	0	20
33.75 - 56.25	NE	0	1	2	4	7	0	0	0	0	0	0	14
56.25 - 78.75	ENE	0	0	1	4	2	0	0	0	0	0	0	7
78.75 - 101.25	E	0	1	3	4	0	0	0	0	0	0	0	8
101.25 - 123.75	ESE	0	0	0	1	5	0	0	0	0	0	0	6
123.75 - 146.25	SE	0	0	3	1	5	5	13	12	8	1	0	48
146.25 - 168.75	SSE	0	0	1	2	1	2	5	3	3	1	0	18
168.75 - 191.25	S	0	0	2	2	3	3	0	3	3	3	0	19
191.25 - 213.75	SSW	1	1	1	0	2	0	0	0	2	0	0	7
213.75 - 236.25	SW	0	0	2	4	4	1	0	0	0	0	0	11
236.25 - 258.75	WSW	0	0	1	4	20	2	1	0	0	0	0	28
258.75 - 281.25	W	0	0	0	1	3	1	0	0	0	0	0	5
281.25 - 303.75	WNW	0	0	2	4	1	0	0	0	0	0	0	7
303.75 - 326.25	NW	0	1	1	7	6	1	0	0	0	0	0	16
326.25 - 348.75	NNW	0	0	4	1	8	1	0	0	0	0	0	14

Total 244

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
APRIL - JUNE 2014 (Q2)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.046	0.138	0.459	0.092	0.000	0.000	0.000	0.000	0.000	0.73
11.25 - 33.75	NNE	0.000	0.046	0.138	0.046	0.550	0.138	0.000	0.000	0.000	0.000	0.000	0.92
33.75 - 56.25	NE	0.000	0.046	0.092	0.183	0.321	0.000	0.000	0.000	0.000	0.000	0.000	0.64
56.25 - 78.75	ENE	0.000	0.000	0.046	0.183	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.32
78.75 - 101.25	E	0.000	0.046	0.138	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.37
101.25 - 123.75	ESE	0.000	0.000	0.000	0.046	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.28
123.75 - 146.25	SE	0.000	0.000	0.138	0.046	0.229	0.229	0.596	0.550	0.367	0.046	0.000	2.20
146.25 - 168.75	SSE	0.000	0.000	0.046	0.092	0.046	0.092	0.229	0.138	0.138	0.046	0.000	0.83
168.75 - 191.25	S	0.000	0.000	0.092	0.092	0.138	0.138	0.000	0.138	0.138	0.138	0.000	0.87
191.25 - 213.75	SSW	0.046	0.046	0.046	0.000	0.092	0.000	0.000	0.000	0.092	0.000	0.000	0.32
213.75 - 236.25	SW	0.000	0.000	0.092	0.183	0.183	0.046	0.000	0.000	0.000	0.000	0.000	0.50
236.25 - 258.75	WSW	0.000	0.000	0.046	0.183	0.917	0.092	0.046	0.000	0.000	0.000	0.000	1.28
258.75 - 281.25	W	0.000	0.000	0.000	0.046	0.138	0.046	0.000	0.000	0.000	0.000	0.000	0.23
281.25 - 303.75	WNW	0.000	0.000	0.092	0.183	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.32
303.75 - 326.25	NW	0.000	0.046	0.046	0.321	0.275	0.046	0.000	0.000	0.000	0.000	0.000	0.73
326.25 - 348.75	NNW	0.000	0.000	0.183	0.046	0.367	0.046	0.000	0.000	0.000	0.000	0.000	0.64

Total 11.19

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	0	0	0	0	0	0	0	0
11.25 - 33.75	NNE	0	0	0	0	0	0	0	0	0	0	0	0
33.75 - 56.25	NE	0	0	0	0	0	0	0	0	0	0	0	0
56.25 - 78.75	ENE	0	1	0	0	0	0	0	0	0	0	0	1
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	1	0	0	0	0	0	0	0	0	0	1
123.75 - 146.25	SE	0	1	0	0	0	2	6	7	5	1	0	22
146.25 - 168.75	SSE	0	0	0	0	0	1	1	2	2	0	0	6
168.75 - 191.25	S	0	0	0	1	0	0	0	0	0	0	0	1
191.25 - 213.75	SSW	0	0	1	0	0	0	0	0	0	0	0	1
213.75 - 236.25	SW	0	0	0	1	2	0	0	0	0	0	0	3
236.25 - 258.75	WSW	0	0	0	0	0	0	0	0	0	0	0	0
258.75 - 281.25	W	0	0	0	0	0	0	0	0	0	0	0	0
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	1	0	0	0	0	0	0	0	0	0	1
326.25 - 348.75	NNW	0	0	0	0	0	0	0	0	0	0	0	0

Total 36

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
56.25 - 78.75	ENE	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
123.75 - 146.25	SE	0.000	0.046	0.000	0.000	0.000	0.092	0.275	0.321	0.229	0.046	0.000	1.01
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.092	0.092	0.000	0.000	0.28
168.75 - 191.25	S	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
191.25 - 213.75	SSW	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
213.75 - 236.25	SW	0.000	0.000	0.000	0.046	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.14
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00

Total 1.65

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	2	8	9	40	29	24	11	2	0	0	125
11.25 - 33.75	NNE	1	5	7	12	30	18	4	2	0	0	0	79
33.75 - 56.25	NE	0	3	12	15	30	15	3	1	0	0	0	79
56.25 - 78.75	ENE	0	4	9	19	51	25	9	5	0	0	0	122
78.75 - 101.25	E	0	5	17	21	29	34	11	3	0	0	0	120
101.25 - 123.75	ESE	0	4	7	13	28	27	7	1	1	1	0	89
123.75 - 146.25	SE	1	1	5	7	30	33	78	60	73	23	3	314
146.25 - 168.75	SSE	0	1	6	11	22	37	33	42	28	1	0	181
168.75 - 191.25	S	0	6	9	13	34	36	11	15	9	3	0	136
191.25 - 213.75	SSW	1	1	5	7	28	10	3	0	7	5	0	67
213.75 - 236.25	SW	0	3	9	23	42	17	2	0	1	1	0	98
236.25 - 258.75	WSW	0	3	4	11	50	40	13	4	1	0	0	126
258.75 - 281.25	W	0	6	6	12	21	25	19	6	5	0	0	100
281.25 - 303.75	WNW	0	4	6	15	33	17	11	6	5	0	0	97
303.75 - 326.25	NW	0	4	8	20	53	56	50	33	38	10	0	272
326.25 - 348.75	NNW	0	4	13	12	38	41	35	15	16	2	0	176

Total 2,181

MISSING HOURS: 3
 JOINT DATA RECOVERY: 99.9%

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 APRIL - JUNE 2014 (Q2)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.092	0.367	0.413	1.834	1.330	1.100	0.504	0.092	0.000	0.000	5.73
11.25 - 33.75	NNE	0.046	0.229	0.321	0.550	1.376	0.825	0.183	0.092	0.000	0.000	0.000	3.62
33.75 - 56.25	NE	0.000	0.138	0.550	0.688	1.376	0.688	0.138	0.046	0.000	0.000	0.000	3.62
56.25 - 78.75	ENE	0.000	0.183	0.413	0.871	2.338	1.146	0.413	0.229	0.000	0.000	0.000	5.59
78.75 - 101.25	E	0.000	0.229	0.779	0.963	1.330	1.559	0.504	0.138	0.000	0.000	0.000	5.50
101.25 - 123.75	ESE	0.000	0.183	0.321	0.596	1.284	1.238	0.321	0.046	0.046	0.046	0.000	4.08
123.75 - 146.25	SE	0.046	0.046	0.229	0.321	1.376	1.513	3.576	2.751	3.347	1.055	0.138	14.40
146.25 - 168.75	SSE	0.000	0.046	0.275	0.504	1.009	1.696	1.513	1.926	1.284	0.046	0.000	8.30
168.75 - 191.25	S	0.000	0.275	0.413	0.596	1.559	1.651	0.504	0.688	0.413	0.138	0.000	6.24
191.25 - 213.75	SSW	0.046	0.046	0.229	0.321	1.284	0.459	0.138	0.000	0.321	0.229	0.000	3.07
213.75 - 236.25	SW	0.000	0.138	0.413	1.055	1.926	0.779	0.092	0.000	0.046	0.046	0.000	4.49
236.25 - 258.75	WSW	0.000	0.138	0.183	0.504	2.293	1.834	0.596	0.183	0.046	0.000	0.000	5.78
258.75 - 281.25	W	0.000	0.275	0.275	0.550	0.963	1.146	0.871	0.275	0.229	0.000	0.000	4.59
281.25 - 303.75	WNW	0.000	0.183	0.275	0.688	1.513	0.779	0.504	0.275	0.229	0.000	0.000	4.45
303.75 - 326.25	NW	0.000	0.183	0.367	0.917	2.430	2.568	2.293	1.513	1.742	0.459	0.000	12.47
326.25 - 348.75	NNW	0.000	0.183	0.596	0.550	1.742	1.880	1.605	0.688	0.734	0.092	0.000	8.07

Total 100.00

MISSING HOURS: 3
 JOINT DATA RECOVERY: 99.9%

Salem/Hope Creek Meteorological Tower

Joint Frequency Distribution of Wind Direction and Speed

By Atmospheric Stability Class

33 Foot Wind Level

300 – 33 Foot Delta Temperature

July – September 2014

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	0	0	0	0	1	0	0	0	0	0	1
11.25 - 33.75	NNE	0	0	0	0	0	0	0	0	0	0	0	0
33.75 - 56.25	NE	0	0	0	0	0	0	0	0	0	0	0	0
56.25 - 78.75	ENE	0	0	0	0	0	0	1	0	0	0	0	1
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	1	0	2	4	4	0	0	11
146.25 - 168.75	SSE	0	0	0	0	0	3	9	3	1	0	0	16
168.75 - 191.25	S	0	0	0	0	0	4	0	0	0	0	0	4
191.25 - 213.75	SSW	0	0	0	0	0	2	1	0	0	0	0	3
213.75 - 236.25	SW	0	0	0	0	1	2	1	0	0	0	0	4
236.25 - 258.75	WSW	0	0	0	0	0	0	0	0	0	0	0	0
258.75 - 281.25	W	0	0	0	0	0	0	0	1	7	0	0	8
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	1	0	0	1
303.75 - 326.25	NW	0	0	0	0	0	0	2	2	0	0	0	4
326.25 - 348.75	NNW	0	0	0	0	0	2	0	0	0	0	0	2

Total 55

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.05
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.05
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.045	0.000	0.091	0.181	0.181	0.000	0.000	0.50
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.136	0.408	0.136	0.045	0.000	0.000	0.73
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.181	0.000	0.000	0.000	0.000	0.000	0.18
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.091	0.045	0.000	0.000	0.000	0.000	0.14
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.045	0.091	0.045	0.000	0.000	0.000	0.000	0.18
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.318	0.000	0.000	0.36
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.05
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.000	0.091	0.091	0.000	0.000	0.000	0.18
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.09

Total 2.50

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	0	0	0	0	0	1	1	0	0	0	2
11.25 - 33.75	NNE	0	0	0	0	0	1	1	0	0	0	0	2
33.75 - 56.25	NE	0	0	0	0	0	1	0	0	0	0	0	1
56.25 - 78.75	ENE	0	0	0	0	0	0	0	0	0	0	0	0
78.75 - 101.25	E	0	0	0	0	1	0	0	0	0	0	0	1
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	0	2	1	3	3	0	0	9
146.25 - 168.75	SSE	0	0	0	0	3	4	0	0	1	0	0	8
168.75 - 191.25	S	0	0	0	1	2	0	0	0	0	0	0	3
191.25 - 213.75	SSW	0	0	0	0	7	3	2	0	0	0	0	12
213.75 - 236.25	SW	0	0	0	0	4	6	5	0	0	0	0	15
236.25 - 258.75	WSW	0	0	0	0	2	6	1	0	0	0	0	9
258.75 - 281.25	W	0	0	0	0	0	0	1	0	0	0	0	1
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	0	0	0	0	1	1	1	1	0	0	4
326.25 - 348.75	NNW	0	0	0	0	1	5	1	1	0	0	0	8

Total 75

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.09
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.09
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.05
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.05
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.091	0.045	0.136	0.136	0.000	0.000	0.41
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.136	0.181	0.000	0.000	0.045	0.000	0.000	0.36
168.75 - 191.25	S	0.000	0.000	0.000	0.045	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.14
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.318	0.136	0.091	0.000	0.000	0.000	0.000	0.54
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.181	0.272	0.227	0.000	0.000	0.000	0.000	0.68
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.091	0.272	0.045	0.000	0.000	0.000	0.000	0.41
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.05
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.045	0.045	0.045	0.045	0.000	0.000	0.18
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.045	0.227	0.045	0.045	0.000	0.000	0.000	0.36

Total 3.40

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	0	0	3	8	4	3	0	0	0	0	18
11.25 - 33.75	NNE	0	0	0	0	5	3	1	0	0	0	0	9
33.75 - 56.25	NE	0	0	0	1	3	3	4	0	1	0	0	12
56.25 - 78.75	ENE	0	0	0	0	1	3	1	0	0	0	0	5
78.75 - 101.25	E	0	1	1	0	0	0	0	0	0	0	0	2
101.25 - 123.75	ESE	0	0	0	1	0	1	0	0	0	0	0	2
123.75 - 146.25	SE	0	0	0	1	4	2	1	4	3	0	0	15
146.25 - 168.75	SSE	0	0	1	0	9	3	6	3	2	0	0	24
168.75 - 191.25	S	0	0	0	4	4	2	1	1	0	0	0	12
191.25 - 213.75	SSW	0	0	0	2	6	5	4	2	0	0	0	19
213.75 - 236.25	SW	0	1	0	2	8	8	7	1	0	0	0	27
236.25 - 258.75	WSW	0	0	0	2	2	3	2	0	0	0	0	9
258.75 - 281.25	W	0	0	0	0	1	2	1	1	1	0	0	6
281.25 - 303.75	WNW	0	0	0	0	1	3	0	1	0	0	0	5
303.75 - 326.25	NW	0	0	2	1	1	3	0	1	0	0	0	8
326.25 - 348.75	NNW	0	0	0	2	12	6	3	1	0	0	0	24

Total 197

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.136	0.363	0.181	0.136	0.000	0.000	0.000	0.000	0.82
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.227	0.136	0.045	0.000	0.000	0.000	0.000	0.41
33.75 - 56.25	NE	0.000	0.000	0.000	0.045	0.136	0.136	0.181	0.000	0.045	0.000	0.000	0.54
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.045	0.136	0.045	0.000	0.000	0.000	0.000	0.23
78.75 - 101.25	E	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09
101.25 - 123.75	ESE	0.000	0.000	0.000	0.045	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.09
123.75 - 146.25	SE	0.000	0.000	0.000	0.045	0.181	0.091	0.045	0.181	0.136	0.000	0.000	0.68
146.25 - 168.75	SSE	0.000	0.000	0.045	0.000	0.408	0.136	0.272	0.136	0.091	0.000	0.000	1.09
168.75 - 191.25	S	0.000	0.000	0.000	0.181	0.181	0.091	0.045	0.045	0.000	0.000	0.000	0.54
191.25 - 213.75	SSW	0.000	0.000	0.000	0.091	0.272	0.227	0.181	0.091	0.000	0.000	0.000	0.86
213.75 - 236.25	SW	0.000	0.045	0.000	0.091	0.363	0.363	0.318	0.045	0.000	0.000	0.000	1.23
236.25 - 258.75	WSW	0.000	0.000	0.000	0.091	0.091	0.136	0.091	0.000	0.000	0.000	0.000	0.41
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.045	0.091	0.045	0.045	0.045	0.000	0.000	0.27
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.045	0.136	0.000	0.045	0.000	0.000	0.000	0.23
303.75 - 326.25	NW	0.000	0.000	0.091	0.045	0.045	0.136	0.000	0.045	0.000	0.000	0.000	0.36
326.25 - 348.75	NNW	0.000	0.000	0.000	0.091	0.544	0.272	0.136	0.045	0.000	0.000	0.000	1.09

Total 8.94

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	4	1	7	13	12	8	1	4	0	0	50
11.25 - 33.75	NNE	0	0	4	8	13	10	7	5	7	0	0	54
33.75 - 56.25	NE	0	0	1	3	15	22	10	1	8	0	0	60
56.25 - 78.75	ENE	0	2	5	6	20	16	8	0	0	0	0	57
78.75 - 101.25	E	0	2	4	7	9	6	2	4	0	0	0	34
101.25 - 123.75	ESE	0	1	0	0	7	3	0	0	2	1	0	14
123.75 - 146.25	SE	0	1	1	1	9	7	10	18	19	6	0	72
146.25 - 168.75	SSE	0	0	3	9	21	12	14	25	21	1	0	106
168.75 - 191.25	S	0	2	1	11	16	29	26	12	13	0	0	110
191.25 - 213.75	SSW	0	0	5	16	19	21	19	7	3	0	0	90
213.75 - 236.25	SW	0	0	6	5	30	15	13	7	2	0	0	78
236.25 - 258.75	WSW	0	0	4	4	7	13	3	1	1	0	0	33
258.75 - 281.25	W	0	0	2	4	5	6	4	1	2	0	0	24
281.25 - 303.75	WNW	0	1	4	2	7	4	4	2	2	0	0	26
303.75 - 326.25	NW	0	1	3	5	16	15	6	3	1	0	0	50
326.25 - 348.75	NNW	0	1	4	6	23	16	2	6	2	1	0	61

Total 919

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.181	0.045	0.318	0.590	0.544	0.363	0.045	0.181	0.000	0.000	2.27
11.25 - 33.75	NNE	0.000	0.000	0.181	0.363	0.590	0.454	0.318	0.227	0.318	0.000	0.000	2.45
33.75 - 56.25	NE	0.000	0.000	0.045	0.136	0.681	0.998	0.454	0.045	0.363	0.000	0.000	2.72
56.25 - 78.75	ENE	0.000	0.091	0.227	0.272	0.907	0.726	0.363	0.000	0.000	0.000	0.000	2.59
78.75 - 101.25	E	0.000	0.091	0.181	0.318	0.408	0.272	0.091	0.181	0.000	0.000	0.000	1.54
101.25 - 123.75	ESE	0.000	0.045	0.000	0.000	0.318	0.136	0.000	0.000	0.091	0.045	0.000	0.64
123.75 - 146.25	SE	0.000	0.045	0.045	0.045	0.408	0.318	0.454	0.817	0.862	0.272	0.000	3.27
146.25 - 168.75	SSE	0.000	0.000	0.136	0.408	0.953	0.544	0.635	1.134	0.953	0.045	0.000	4.81
168.75 - 191.25	S	0.000	0.091	0.045	0.499	0.726	1.316	1.180	0.544	0.590	0.000	0.000	4.99
191.25 - 213.75	SSW	0.000	0.000	0.227	0.726	0.862	0.953	0.862	0.318	0.136	0.000	0.000	4.08
213.75 - 236.25	SW	0.000	0.000	0.272	0.227	1.361	0.681	0.590	0.318	0.091	0.000	0.000	3.54
236.25 - 258.75	WSW	0.000	0.000	0.181	0.181	0.318	0.590	0.136	0.045	0.045	0.000	0.000	1.50
258.75 - 281.25	W	0.000	0.000	0.091	0.181	0.227	0.272	0.181	0.045	0.091	0.000	0.000	1.09
281.25 - 303.75	WNW	0.000	0.045	0.181	0.091	0.318	0.181	0.181	0.091	0.091	0.000	0.000	1.18
303.75 - 326.25	NW	0.000	0.045	0.136	0.227	0.726	0.681	0.272	0.136	0.045	0.000	0.000	2.27
326.25 - 348.75	NNW	0.000	0.045	0.181	0.272	1.044	0.726	0.091	0.272	0.091	0.045	0.000	2.77

Total 41.70

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	4	11	3	29	25	10	2	2	0	0	86
11.25 - 33.75	NNE	0	7	3	13	24	6	1	0	0	0	0	54
33.75 - 56.25	NE	0	4	3	4	26	19	2	2	0	0	2	62
56.25 - 78.75	ENE	1	2	8	7	6	4	2	0	0	0	0	30
78.75 - 101.25	E	0	6	8	10	9	0	1	0	0	0	0	34
101.25 - 123.75	ESE	0	3	3	8	17	5	1	0	0	0	0	37
123.75 - 146.25	SE	0	1	0	1	3	7	9	3	3	0	0	27
146.25 - 168.75	SSE	0	0	1	2	4	5	3	1	0	0	0	16
168.75 - 191.25	S	0	0	3	1	8	11	3	7	1	1	0	35
191.25 - 213.75	SSW	0	0	3	14	16	16	11	2	1	0	0	63
213.75 - 236.25	SW	0	3	6	8	17	19	5	1	1	0	0	60
236.25 - 258.75	WSW	0	0	1	8	16	6	2	0	0	1	0	34
258.75 - 281.25	W	0	3	6	5	3	1	1	2	0	0	0	21
281.25 - 303.75	WNW	0	1	7	9	14	7	7	1	0	0	0	46
303.75 - 326.25	NW	0	3	3	11	18	13	20	2	3	0	0	73
326.25 - 348.75	NNW	0	4	4	6	25	14	11	2	0	0	0	66

Total 744

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.181	0.499	0.136	1.316	1.134	0.454	0.091	0.091	0.000	0.000	3.90
11.25 - 33.75	NNE	0.000	0.318	0.136	0.590	1.089	0.272	0.045	0.000	0.000	0.000	0.000	2.45
33.75 - 56.25	NE	0.000	0.181	0.136	0.181	1.180	0.862	0.091	0.091	0.000	0.000	0.091	2.81
56.25 - 78.75	ENE	0.045	0.091	0.363	0.318	0.272	0.181	0.091	0.000	0.000	0.000	0.000	1.36
78.75 - 101.25	E	0.000	0.272	0.363	0.454	0.408	0.000	0.045	0.000	0.000	0.000	0.000	1.54
101.25 - 123.75	ESE	0.000	0.136	0.136	0.363	0.771	0.227	0.045	0.000	0.000	0.000	0.000	1.68
123.75 - 146.25	SE	0.000	0.045	0.000	0.045	0.136	0.318	0.408	0.136	0.136	0.000	0.000	1.23
146.25 - 168.75	SSE	0.000	0.000	0.045	0.091	0.181	0.227	0.136	0.045	0.000	0.000	0.000	0.73
168.75 - 191.25	S	0.000	0.000	0.136	0.045	0.363	0.499	0.136	0.318	0.045	0.045	0.000	1.59
191.25 - 213.75	SSW	0.000	0.000	0.136	0.635	0.726	0.726	0.499	0.091	0.045	0.000	0.000	2.86
213.75 - 236.25	SW	0.000	0.136	0.272	0.363	0.771	0.862	0.227	0.045	0.045	0.000	0.000	2.72
236.25 - 258.75	WSW	0.000	0.000	0.045	0.363	0.726	0.272	0.091	0.000	0.000	0.045	0.000	1.54
258.75 - 281.25	W	0.000	0.136	0.272	0.227	0.136	0.045	0.045	0.091	0.000	0.000	0.000	0.95
281.25 - 303.75	WNW	0.000	0.045	0.318	0.408	0.635	0.318	0.318	0.045	0.000	0.000	0.000	2.09
303.75 - 326.25	NW	0.000	0.136	0.136	0.499	0.817	0.590	0.907	0.091	0.136	0.000	0.000	3.31
326.25 - 348.75	NNW	0.000	0.181	0.181	0.272	1.134	0.635	0.499	0.091	0.000	0.000	0.000	2.99

Total 33.76

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	2	2	13	25	0	0	0	0	0	42
11.25 - 33.75	NNE	0	0	1	1	20	5	1	0	0	0	0	28
33.75 - 56.25	NE	0	2	2	10	12	0	0	0	0	0	0	26
56.25 - 78.75	ENE	0	2	7	3	4	0	0	0	0	0	0	16
78.75 - 101.25	E	0	2	5	2	4	0	0	0	0	0	0	13
101.25 - 123.75	ESE	0	2	0	2	7	0	0	0	0	0	0	11
123.75 - 146.25	SE	0	0	0	0	4	0	0	1	0	0	0	5
146.25 - 168.75	SSE	0	0	0	0	2	1	0	0	0	0	0	3
168.75 - 191.25	S	0	0	0	0	0	3	0	0	0	0	0	3
191.25 - 213.75	SSW	0	0	0	1	1	1	1	0	0	0	0	4
213.75 - 236.25	SW	0	0	1	0	3	5	1	0	0	0	0	10
236.25 - 258.75	WSW	0	0	0	0	5	1	0	0	0	0	0	6
258.75 - 281.25	W	0	1	1	0	0	0	0	0	0	0	0	2
281.25 - 303.75	WNW	0	1	1	0	1	0	0	0	0	0	0	3
303.75 - 326.25	NW	0	0	0	2	7	1	0	0	0	0	0	10
326.25 - 348.75	NNW	0	1	0	0	7	6	0	0	0	0	0	14

Total 196

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.091	0.091	0.590	1.134	0.000	0.000	0.000	0.000	0.000	1.91
11.25 - 33.75	NNE	0.000	0.000	0.045	0.045	0.907	0.227	0.045	0.000	0.000	0.000	0.000	1.27
33.75 - 56.25	NE	0.000	0.091	0.091	0.454	0.544	0.000	0.000	0.000	0.000	0.000	0.000	1.18
56.25 - 78.75	ENE	0.000	0.091	0.318	0.136	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.73
78.75 - 101.25	E	0.000	0.091	0.227	0.091	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.59
101.25 - 123.75	ESE	0.000	0.091	0.000	0.091	0.318	0.000	0.000	0.000	0.000	0.000	0.000	0.50
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.181	0.000	0.000	0.045	0.000	0.000	0.000	0.23
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.091	0.045	0.000	0.000	0.000	0.000	0.000	0.14
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.136	0.000	0.000	0.000	0.000	0.000	0.14
191.25 - 213.75	SSW	0.000	0.000	0.000	0.045	0.045	0.045	0.045	0.000	0.000	0.000	0.000	0.18
213.75 - 236.25	SW	0.000	0.000	0.045	0.000	0.136	0.227	0.045	0.000	0.000	0.000	0.000	0.45
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.227	0.045	0.000	0.000	0.000	0.000	0.000	0.27
258.75 - 281.25	W	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09
281.25 - 303.75	WNW	0.000	0.045	0.045	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.14
303.75 - 326.25	NW	0.000	0.000	0.000	0.091	0.318	0.045	0.000	0.000	0.000	0.000	0.000	0.45
326.25 - 348.75	NNW	0.000	0.045	0.000	0.000	0.318	0.272	0.000	0.000	0.000	0.000	0.000	0.64

Total 8.89

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	1	0	1	1	0	0	0	0	0	3
11.25 - 33.75	NNE	0	1	0	0	1	2	0	0	0	0	0	4
33.75 - 56.25	NE	0	1	0	0	2	0	0	0	0	0	0	3
56.25 - 78.75	ENE	0	0	0	2	0	0	0	0	0	0	0	2
78.75 - 101.25	E	0	0	0	1	0	0	1	0	0	0	0	2
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	0	0	0	0	0	0	0	0
146.25 - 168.75	SSE	0	0	0	0	0	0	0	0	0	0	0	0
168.75 - 191.25	S	0	0	0	0	0	0	0	0	0	0	0	0
191.25 - 213.75	SSW	0	0	0	0	0	0	0	0	0	0	0	0
213.75 - 236.25	SW	0	0	0	0	0	0	0	0	0	0	0	0
236.25 - 258.75	WSW	0	0	0	0	0	0	0	0	0	0	0	0
258.75 - 281.25	W	0	0	0	0	0	0	0	0	0	0	0	0
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	0	1	0	1	0	0	0	0	0	0	2
326.25 - 348.75	NNW	0	0	1	1	0	0	0	0	0	0	0	2

Total 18

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JULY - SEPTEMBER 2014 (Q3)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.045	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.14
11.25 - 33.75	NNE	0.000	0.045	0.000	0.000	0.045	0.091	0.000	0.000	0.000	0.000	0.000	0.18
33.75 - 56.25	NE	0.000	0.045	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.14
56.25 - 78.75	ENE	0.000	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09
78.75 - 101.25	E	0.000	0.000	0.000	0.045	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.09
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.000	0.045	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.09
326.25 - 348.75	NNW	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09

Total 0.82

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	8	15	15	64	68	22	4	6	0	0	202
11.25 - 33.75	NNE	0	8	8	22	63	27	11	5	7	0	0	151
33.75 - 56.25	NE	0	7	6	18	58	45	16	3	9	0	2	164
56.25 - 78.75	ENE	1	6	20	18	31	23	12	0	0	0	0	111
78.75 - 101.25	E	0	11	18	20	23	6	4	4	0	0	0	86
101.25 - 123.75	ESE	0	6	3	11	31	9	1	0	2	1	0	64
123.75 - 146.25	SE	0	2	1	3	21	18	23	33	32	6	0	139
146.25 - 168.75	SSE	0	0	5	11	39	28	32	32	25	1	0	173
168.75 - 191.25	S	0	2	4	17	30	49	30	20	14	1	0	167
191.25 - 213.75	SSW	0	0	8	33	49	48	38	11	4	0	0	191
213.75 - 236.25	SW	0	4	13	15	63	55	32	9	3	0	0	194
236.25 - 258.75	WSW	0	0	5	14	32	29	8	1	1	1	0	91
258.75 - 281.25	W	0	4	9	9	9	9	7	5	10	0	0	62
281.25 - 303.75	WNW	0	3	12	11	23	14	11	4	3	0	0	81
303.75 - 326.25	NW	0	4	9	19	43	33	29	9	5	0	0	151
326.25 - 348.75	NNW	0	6	9	15	68	49	17	10	2	1	0	177

Total 2,204

MISSING HOURS: 4
 JOINT DATA RECOVERY: 99.8%

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JULY - SEPTEMBER 2014 (Q3)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.363	0.681	0.681	2.904	3.085	0.998	0.181	0.272	0.000	0.000	9.17
11.25 - 33.75	NNE	0.000	0.363	0.363	0.998	2.858	1.225	0.499	0.227	0.318	0.000	0.000	6.85
33.75 - 56.25	NE	0.000	0.318	0.272	0.817	2.632	2.042	0.726	0.136	0.408	0.000	0.091	7.44
56.25 - 78.75	ENE	0.045	0.272	0.907	0.817	1.407	1.044	0.544	0.000	0.000	0.000	0.000	5.04
78.75 - 101.25	E	0.000	0.499	0.817	0.907	1.044	0.272	0.181	0.181	0.000	0.000	0.000	3.90
101.25 - 123.75	ESE	0.000	0.272	0.136	0.499	1.407	0.408	0.045	0.000	0.091	0.045	0.000	2.90
123.75 - 146.25	SE	0.000	0.091	0.045	0.136	0.953	0.817	1.044	1.497	1.452	0.272	0.000	6.31
146.25 - 168.75	SSE	0.000	0.000	0.227	0.499	1.770	1.270	1.452	1.452	1.134	0.045	0.000	7.85
168.75 - 191.25	S	0.000	0.091	0.181	0.771	1.361	2.223	1.361	0.907	0.635	0.045	0.000	7.58
191.25 - 213.75	SSW	0.000	0.000	0.363	1.497	2.223	2.178	1.724	0.499	0.181	0.000	0.000	8.67
213.75 - 236.25	SW	0.000	0.181	0.590	0.681	2.858	2.495	1.452	0.408	0.136	0.000	0.000	8.80
236.25 - 258.75	WSW	0.000	0.000	0.227	0.635	1.452	1.316	0.363	0.045	0.045	0.045	0.000	4.13
258.75 - 281.25	W	0.000	0.181	0.408	0.408	0.408	0.408	0.318	0.227	0.454	0.000	0.000	2.81
281.25 - 303.75	WNW	0.000	0.136	0.544	0.499	1.044	0.635	0.499	0.181	0.136	0.000	0.000	3.68
303.75 - 326.25	NW	0.000	0.181	0.408	0.862	1.951	1.497	1.316	0.408	0.227	0.000	0.000	6.85
326.25 - 348.75	NNW	0.000	0.272	0.408	0.681	3.085	2.223	0.771	0.454	0.091	0.045	0.000	8.03

Total 100.00

MISSING HOURS: 4
 JOINT DATA RECOVERY: 99.8%

Salem/Hope Creek Meteorological Tower

Joint Frequency Distribution of Wind Direction and Speed

By Atmospheric Stability Class

33 Foot Wind Level

300 – 33 Foot Delta Temperature

October – December 2014

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0	0	0	0	0	1	0	0	0	0	0	1
11.25 - 33.75	NNE	0	0	0	0	0	0	0	0	0	0	0	0
33.75 - 56.25	NE	0	0	0	0	0	0	0	0	0	0	0	0
56.25 - 78.75	ENE	0	0	0	0	0	0	0	0	0	0	0	0
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	0	0	0	1	0	0	0	1
146.25 - 168.75	SSE	0	0	0	0	0	1	0	2	0	0	0	3
168.75 - 191.25	S	0	0	0	0	0	0	0	0	0	0	0	0
191.25 - 213.75	SSW	0	0	0	0	0	0	0	0	0	0	0	0
213.75 - 236.25	SW	0	0	0	0	0	0	1	0	0	0	0	1
236.25 - 258.75	WSW	0	0	0	0	0	4	1	0	0	0	0	5
258.75 - 281.25	W	0	0	0	0	0	0	2	2	0	0	0	4
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	0	0	0	0	0	0	0	6	1	0	7
326.25 - 348.75	NNW	0	0	0	0	0	0	0	0	0	1	0	1

Total 23

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.05
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.05
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.091	0.000	0.000	0.000	0.14
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.05
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.182	0.046	0.000	0.000	0.000	0.000	0.23
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.091	0.091	0.000	0.000	0.000	0.18
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.273	0.046	0.000	0.32
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.05

Total 1.05

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	0	1	0	0	0	0	0	1
11.25 - 33.75	NNE	0	0	0	0	0	0	0	0	1	0	0	1
33.75 - 56.25	NE	0	0	0	0	0	0	0	0	0	0	0	0
56.25 - 78.75	ENE	0	0	0	0	0	0	0	0	0	0	0	0
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	0	0	0	0	0	0	0
123.75 - 146.25	SE	0	0	0	0	0	1	1	0	1	0	0	3
146.25 - 168.75	SSE	0	0	0	0	0	0	1	0	0	0	0	1
168.75 - 191.25	S	0	0	0	0	0	0	0	0	0	0	0	0
191.25 - 213.75	SSW	0	0	0	0	0	0	0	1	0	0	0	1
213.75 - 236.25	SW	0	0	0	0	1	0	2	0	0	0	0	3
236.25 - 258.75	WSW	0	0	0	0	0	4	4	0	0	0	0	8
258.75 - 281.25	W	0	0	0	0	1	0	3	1	2	0	0	7
281.25 - 303.75	WNW	0	0	0	0	0	2	0	2	1	4	0	9
303.75 - 326.25	NW	0	0	0	0	0	0	1	7	6	0	0	14
326.25 - 348.75	NNW	0	0	0	0	0	0	4	2	1	1	0	8

Total 56

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.05
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.05
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.046	0.000	0.000	0.14
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.05
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.05
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.046	0.000	0.091	0.000	0.000	0.000	0.000	0.14
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.182	0.182	0.000	0.000	0.000	0.000	0.36
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.046	0.000	0.137	0.046	0.091	0.000	0.000	0.32
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.091	0.000	0.091	0.046	0.182	0.000	0.41
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.319	0.273	0.000	0.000	0.64
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.182	0.091	0.046	0.046	0.000	0.36

Total 2.55

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	0	0	2	0	0	0	0	0	2
11.25 - 33.75	NNE	0	0	0	0	0	1	0	1	3	0	0	5
33.75 - 56.25	NE	0	0	0	0	0	0	0	0	0	0	0	0
56.25 - 78.75	ENE	0	0	0	0	0	0	0	0	0	0	0	0
78.75 - 101.25	E	0	0	0	0	0	0	0	0	0	0	0	0
101.25 - 123.75	ESE	0	0	0	0	0	1	0	0	0	0	0	1
123.75 - 146.25	SE	0	0	0	0	0	0	0	0	0	0	0	0
146.25 - 168.75	SSE	0	0	0	1	0	1	0	0	0	0	0	2
168.75 - 191.25	S	0	0	0	0	1	1	0	3	5	0	0	10
191.25 - 213.75	SSW	0	0	0	0	1	3	2	0	0	0	0	6
213.75 - 236.25	SW	0	0	0	1	0	1	2	0	0	0	0	4
236.25 - 258.75	WSW	0	0	0	0	2	1	2	0	0	0	0	5
258.75 - 281.25	W	0	0	0	1	0	2	3	3	0	0	0	9
281.25 - 303.75	WNW	0	0	0	0	0	1	1	3	2	0	0	7
303.75 - 326.25	NW	0	0	0	0	0	3	4	7	3	1	0	18
326.25 - 348.75	NNW	0	0	0	0	2	2	1	3	2	1	1	12

Total 81

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.09
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.046	0.137	0.000	0.000	0.23
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.05
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
146.25 - 168.75	SSE	0.000	0.000	0.000	0.046	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.09
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.046	0.046	0.000	0.137	0.228	0.000	0.000	0.46
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.046	0.137	0.091	0.000	0.000	0.000	0.000	0.27
213.75 - 236.25	SW	0.000	0.000	0.000	0.046	0.000	0.046	0.091	0.000	0.000	0.000	0.000	0.18
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.091	0.046	0.091	0.000	0.000	0.000	0.000	0.23
258.75 - 281.25	W	0.000	0.000	0.000	0.046	0.000	0.091	0.137	0.137	0.000	0.000	0.000	0.41
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.137	0.091	0.000	0.000	0.32
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.137	0.182	0.319	0.137	0.046	0.000	0.82
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.091	0.091	0.046	0.137	0.091	0.046	0.046	0.55

Total 3.69

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	1	0	2	7	10	6	7	6	16	2	0	57
11.25 - 33.75	NNE	0	0	0	6	15	23	16	8	16	5	0	89
33.75 - 56.25	NE	0	2	0	7	16	8	6	1	0	0	0	40
56.25 - 78.75	ENE	0	0	2	4	4	1	0	0	0	0	0	11
78.75 - 101.25	E	0	2	3	4	2	0	0	0	0	0	0	11
101.25 - 123.75	ESE	0	2	0	1	0	2	0	0	0	0	0	5
123.75 - 146.25	SE	0	0	0	0	2	7	7	5	5	0	1	27
146.25 - 168.75	SSE	0	0	0	0	5	5	6	2	9	10	1	38
168.75 - 191.25	S	1	0	0	3	17	9	19	15	14	4	2	84
191.25 - 213.75	SSW	0	1	1	3	7	14	16	2	5	0	0	49
213.75 - 236.25	SW	0	0	2	4	11	10	8	4	0	0	0	39
236.25 - 258.75	WSW	0	1	3	1	12	14	5	2	0	0	0	38
258.75 - 281.25	W	0	0	2	8	13	6	11	16	10	0	0	66
281.25 - 303.75	WNW	0	0	5	3	9	21	22	22	24	1	0	107
303.75 - 326.25	NW	0	1	6	5	9	26	54	41	25	1	0	168
326.25 - 348.75	NNW	0	1	1	4	11	8	7	17	20	8	1	78

Total 907

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.046	0.000	0.091	0.319	0.455	0.273	0.319	0.273	0.728	0.091	0.000	2.59
11.25 - 33.75	NNE	0.000	0.000	0.000	0.273	0.683	1.047	0.728	0.364	0.728	0.228	0.000	4.05
33.75 - 56.25	NE	0.000	0.091	0.000	0.319	0.728	0.364	0.273	0.046	0.000	0.000	0.000	1.82
56.25 - 78.75	ENE	0.000	0.000	0.091	0.182	0.182	0.046	0.000	0.000	0.000	0.000	0.000	0.50
78.75 - 101.25	E	0.000	0.091	0.137	0.182	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.50
101.25 - 123.75	ESE	0.000	0.091	0.000	0.046	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.23
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.091	0.319	0.319	0.228	0.228	0.000	0.046	1.23
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.228	0.228	0.273	0.091	0.410	0.455	0.046	1.73
168.75 - 191.25	S	0.046	0.000	0.000	0.137	0.774	0.410	0.865	0.683	0.637	0.182	0.091	3.82
191.25 - 213.75	SSW	0.000	0.046	0.046	0.137	0.319	0.637	0.728	0.091	0.228	0.000	0.000	2.23
213.75 - 236.25	SW	0.000	0.000	0.091	0.182	0.501	0.455	0.364	0.182	0.000	0.000	0.000	1.78
236.25 - 258.75	WSW	0.000	0.046	0.137	0.046	0.546	0.637	0.228	0.091	0.000	0.000	0.000	1.73
258.75 - 281.25	W	0.000	0.000	0.091	0.364	0.592	0.273	0.501	0.728	0.455	0.000	0.000	3.00
281.25 - 303.75	WNW	0.000	0.000	0.228	0.137	0.410	0.956	1.001	1.001	1.092	0.046	0.000	4.87
303.75 - 326.25	NW	0.000	0.046	0.273	0.228	0.410	1.183	2.458	1.866	1.138	0.046	0.000	7.65
326.25 - 348.75	NNW	0.000	0.046	0.046	0.182	0.501	0.364	0.319	0.774	0.910	0.364	0.046	3.55

Total 41.28

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	3	3	10	27	12	5	4	8	1	0	73
11.25 - 33.75	NNE	0	3	6	17	26	16	3	0	0	0	0	71
33.75 - 56.25	NE	0	4	8	13	13	8	2	0	0	0	0	48
56.25 - 78.75	ENE	1	3	5	5	4	0	0	0	0	0	0	18
78.75 - 101.25	E	0	10	10	3	2	0	0	0	0	0	0	25
101.25 - 123.75	ESE	0	1	9	5	6	2	1	0	0	0	0	24
123.75 - 146.25	SE	1	4	1	2	14	23	12	2	26	5	1	91
146.25 - 168.75	SSE	0	2	1	0	3	8	6	0	1	0	0	21
168.75 - 191.25	S	0	2	2	5	4	6	1	7	0	0	0	27
191.25 - 213.75	SSW	0	2	3	7	11	13	7	2	3	0	0	48
213.75 - 236.25	SW	0	2	6	2	18	14	2	1	0	1	0	46
236.25 - 258.75	WSW	0	0	5	3	16	15	1	1	0	0	0	41
258.75 - 281.25	W	0	3	8	12	17	10	2	0	0	0	0	52
281.25 - 303.75	WNW	0	1	7	7	29	29	14	4	0	0	0	91
303.75 - 326.25	NW	0	4	9	12	37	37	37	13	9	0	0	158
326.25 - 348.75	NNW	0	2	6	4	16	14	14	11	6	0	0	73

Total 907

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 FREQUENCY(%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.137	0.137	0.455	1.229	0.546	0.228	0.182	0.364	0.046	0.000	3.32
11.25 - 33.75	NNE	0.000	0.137	0.273	0.774	1.183	0.728	0.137	0.000	0.000	0.000	0.000	3.23
33.75 - 56.25	NE	0.000	0.182	0.364	0.592	0.592	0.364	0.091	0.000	0.000	0.000	0.000	2.18
56.25 - 78.75	ENE	0.046	0.137	0.228	0.228	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.82
78.75 - 101.25	E	0.000	0.455	0.455	0.137	0.091	0.000	0.000	0.000	0.000	0.000	0.000	1.14
101.25 - 123.75	ESE	0.000	0.046	0.410	0.228	0.273	0.091	0.046	0.000	0.000	0.000	0.000	1.09
123.75 - 146.25	SE	0.046	0.182	0.046	0.091	0.637	1.047	0.546	0.091	1.183	0.228	0.046	4.14
146.25 - 168.75	SSE	0.000	0.091	0.046	0.000	0.137	0.364	0.273	0.000	0.046	0.000	0.000	0.96
168.75 - 191.25	S	0.000	0.091	0.091	0.228	0.182	0.273	0.046	0.319	0.000	0.000	0.000	1.23
191.25 - 213.75	SSW	0.000	0.091	0.137	0.319	0.501	0.592	0.319	0.091	0.137	0.000	0.000	2.18
213.75 - 236.25	SW	0.000	0.091	0.273	0.091	0.819	0.637	0.091	0.046	0.000	0.046	0.000	2.09
236.25 - 258.75	WSW	0.000	0.000	0.228	0.137	0.728	0.683	0.046	0.046	0.000	0.000	0.000	1.87
258.75 - 281.25	W	0.000	0.137	0.364	0.546	0.774	0.455	0.091	0.000	0.000	0.000	0.000	2.37
281.25 - 303.75	WNW	0.000	0.046	0.319	0.319	1.320	1.320	0.637	0.182	0.000	0.000	0.000	4.14
303.75 - 326.25	NW	0.000	0.182	0.410	0.546	1.684	1.684	1.684	0.592	0.410	0.000	0.000	7.19
326.25 - 348.75	NNW	0.000	0.091	0.273	0.182	0.728	0.637	0.637	0.501	0.273	0.000	0.000	3.32

Total 41.28

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	1	2	2	1	0	0	0	0	0	6
11.25 - 33.75	NNE	0	1	0	2	11	2	0	0	0	0	0	16
33.75 - 56.25	NE	0	1	0	2	3	0	0	0	0	0	0	6
56.25 - 78.75	ENE	0	2	0	0	0	0	0	0	0	0	0	2
78.75 - 101.25	E	0	0	3	2	0	0	0	0	0	0	0	5
101.25 - 123.75	ESE	0	3	3	1	11	0	0	0	0	0	0	18
123.75 - 146.25	SE	0	1	2	0	12	12	5	1	3	3	1	40
146.25 - 168.75	SSE	0	1	3	3	5	3	0	0	0	0	0	15
168.75 - 191.25	S	0	1	0	2	1	1	0	2	1	2	0	10
191.25 - 213.75	SSW	0	0	2	1	5	1	0	1	5	3	0	18
213.75 - 236.25	SW	0	0	1	1	3	1	2	0	2	0	0	10
236.25 - 258.75	WSW	0	0	0	1	1	0	0	0	0	0	0	2
258.75 - 281.25	W	0	0	1	0	1	0	0	0	0	0	0	2
281.25 - 303.75	WNW	0	0	0	0	1	0	0	0	0	0	0	1
303.75 - 326.25	NW	1	3	0	0	8	4	0	0	0	0	0	16
326.25 - 348.75	NNW	0	0	2	1	3	0	0	0	0	0	0	6

Total 173

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 OCTOBER - DECEMBER 2014 (Q4)
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.046	0.091	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.27
11.25 - 33.75	NNE	0.000	0.046	0.000	0.091	0.501	0.091	0.000	0.000	0.000	0.000	0.000	0.73
33.75 - 56.25	NE	0.000	0.046	0.000	0.091	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.27
56.25 - 78.75	ENE	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09
78.75 - 101.25	E	0.000	0.000	0.137	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.23
101.25 - 123.75	ESE	0.000	0.137	0.137	0.046	0.501	0.000	0.000	0.000	0.000	0.000	0.000	0.82
123.75 - 146.25	SE	0.000	0.046	0.091	0.000	0.546	0.546	0.228	0.046	0.137	0.137	0.046	1.82
146.25 - 168.75	SSE	0.000	0.046	0.137	0.137	0.228	0.137	0.000	0.000	0.000	0.000	0.000	0.68
168.75 - 191.25	S	0.000	0.046	0.000	0.091	0.046	0.046	0.000	0.091	0.046	0.091	0.000	0.46
191.25 - 213.75	SSW	0.000	0.000	0.091	0.046	0.228	0.046	0.000	0.046	0.228	0.137	0.000	0.82
213.75 - 236.25	SW	0.000	0.000	0.046	0.046	0.137	0.046	0.091	0.000	0.091	0.000	0.000	0.46
236.25 - 258.75	WSW	0.000	0.000	0.000	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.09
258.75 - 281.25	W	0.000	0.000	0.046	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.09
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.05
303.75 - 326.25	NW	0.046	0.137	0.000	0.000	0.364	0.182	0.000	0.000	0.000	0.000	0.000	0.73
326.25 - 348.75	NNW	0.000	0.000	0.091	0.046	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.27

Total 7.87

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
OCTOBER - DECEMBER 2014 (Q4)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	3	3	0	0	0	0	0	0	0	0	0	6
11.25 - 33.75	NNE	2	1	0	0	0	0	0	0	0	0	0	3
33.75 - 56.25	NE	2	1	0	0	0	0	0	0	0	0	0	3
56.25 - 78.75	ENE	1	0	0	0	0	0	0	0	0	0	0	1
78.75 - 101.25	E	2	1	0	0	0	0	0	0	0	0	0	3
101.25 - 123.75	ESE	2	5	0	0	0	0	0	0	0	0	0	7
123.75 - 146.25	SE	2	18	1	1	0	0	0	0	0	0	0	22
146.25 - 168.75	SSE	1	2	1	0	0	0	0	0	0	0	0	4
168.75 - 191.25	S	0	1	0	0	0	0	0	0	0	0	0	1
191.25 - 213.75	SSW	0	0	0	0	0	0	0	0	0	0	0	0
213.75 - 236.25	SW	0	0	0	0	0	0	0	0	0	0	0	0
236.25 - 258.75	WSW	0	0	0	0	0	0	0	0	0	0	0	0
258.75 - 281.25	W	0	0	0	0	0	0	0	0	0	0	0	0
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	0	0	0	0	0	0	0	0	0	0	0
326.25 - 348.75	NNW	0	0	0	0	0	0	0	0	0	0	0	0

Total 50

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
OCTOBER - DECEMBER 2014 (Q4)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.137	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.27
11.25 - 33.75	NNE	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.14
33.75 - 56.25	NE	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.14
56.25 - 78.75	ENE	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
78.75 - 101.25	E	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.14
101.25 - 123.75	ESE	0.091	0.228	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.32
123.75 - 146.25	SE	0.091	0.819	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.00
146.25 - 168.75	SSE	0.046	0.091	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.18
168.75 - 191.25	S	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.05
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00

Total 2.28

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
OCTOBER - DECEMBER 2014 (Q4)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
ALL STABILITY CLASSES
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	4	6	6	19	39	23	12	10	24	3	0	146
11.25 - 33.75	NNE	2	5	6	25	52	42	19	9	20	5	0	185
33.75 - 56.25	NE	2	8	8	22	32	16	8	1	0	0	0	97
56.25 - 78.75	ENE	2	5	7	9	8	1	0	0	0	0	0	32
78.75 - 101.25	E	2	13	16	9	4	0	0	0	0	0	0	44
101.25 - 123.75	ESE	2	11	12	7	17	5	1	0	0	0	0	55
123.75 - 146.25	SE	3	23	4	3	28	43	25	9	35	8	3	184
146.25 - 168.75	SSE	1	5	5	4	13	18	13	4	10	10	1	84
168.75 - 191.25	S	1	4	2	10	23	17	20	27	20	6	2	132
191.25 - 213.75	SSW	0	3	6	11	24	31	25	6	13	3	0	122
213.75 - 236.25	SW	0	2	9	8	33	26	17	5	2	1	0	103
236.25 - 258.75	WSW	0	1	8	5	31	38	13	3	0	0	0	99
258.75 - 281.25	W	0	3	11	21	32	18	21	22	12	0	0	140
281.25 - 303.75	WNW	0	1	12	10	39	53	37	31	27	5	0	215
303.75 - 326.25	NW	1	8	15	17	54	70	96	68	49	3	0	381
326.25 - 348.75	NNW	0	3	9	9	32	24	26	33	29	11	2	178

Total 2,197

MISSING HOURS: 11
JOINT DATA RECOVERY: 99.5%

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
OCTOBER - DECEMBER 2014 (Q4)
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
ALL STABILITY CLASSES
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.182	0.273	0.273	0.865	1.775	1.047	0.546	0.455	1.092	0.137	0.000	6.65
11.25 - 33.75	NNE	0.091	0.228	0.273	1.138	2.367	1.912	0.865	0.410	0.910	0.228	0.000	8.42
33.75 - 56.25	NE	0.091	0.364	0.364	1.001	1.457	0.728	0.364	0.046	0.000	0.000	0.000	4.42
56.25 - 78.75	ENE	0.091	0.228	0.319	0.410	0.364	0.046	0.000	0.000	0.000	0.000	0.000	1.46
78.75 - 101.25	E	0.091	0.592	0.728	0.410	0.182	0.000	0.000	0.000	0.000	0.000	0.000	2.00
101.25 - 123.75	ESE	0.091	0.501	0.546	0.319	0.774	0.228	0.046	0.000	0.000	0.000	0.000	2.50
123.75 - 146.25	SE	0.137	1.047	0.182	0.137	1.274	1.957	1.138	0.410	1.593	0.364	0.137	8.38
146.25 - 168.75	SSE	0.046	0.228	0.228	0.182	0.592	0.819	0.592	0.182	0.455	0.455	0.046	3.82
168.75 - 191.25	S	0.046	0.182	0.091	0.455	1.047	0.774	0.910	1.229	0.910	0.273	0.091	6.01
191.25 - 213.75	SSW	0.000	0.137	0.273	0.501	1.092	1.411	1.138	0.273	0.592	0.137	0.000	5.55
213.75 - 236.25	SW	0.000	0.091	0.410	0.364	1.502	1.183	0.774	0.228	0.091	0.046	0.000	4.69
236.25 - 258.75	WSW	0.000	0.046	0.364	0.228	1.411	1.730	0.592	0.137	0.000	0.000	0.000	4.51
258.75 - 281.25	W	0.000	0.137	0.501	0.956	1.457	0.819	0.956	1.001	0.546	0.000	0.000	6.37
281.25 - 303.75	WNW	0.000	0.046	0.546	0.455	1.775	2.412	1.684	1.411	1.229	0.228	0.000	9.79
303.75 - 326.25	NW	0.046	0.364	0.683	0.774	2.458	3.186	4.370	3.095	2.230	0.137	0.000	17.34
326.25 - 348.75	NNW	0.000	0.137	0.410	0.410	1.457	1.092	1.183	1.502	1.320	0.501	0.091	8.10

Total 100.00

MISSING HOURS: 11
JOINT DATA RECOVERY: 99.5%

Salem/Hope Creek Meteorological Tower
Joint Frequency Distribution of Wind Direction and Speed
By Atmospheric Stability Class
33 Foot Wind Level
300 – 33 Foot Delta Temperature
January – December 2014

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	0	4	8	4	4	0	0	20
11.25 - 33.75	NNE	0	0	0	0	0	1	2	1	0	1	0	5
33.75 - 56.25	NE	0	0	0	0	0	1	5	2	0	2	0	10
56.25 - 78.75	ENE	0	0	0	0	1	2	4	1	0	0	0	8
78.75 - 101.25	E	0	0	0	0	2	7	0	0	0	0	0	9
101.25 - 123.75	ESE	0	0	0	0	0	4	2	0	0	0	0	6
123.75 - 146.25	SE	0	0	0	0	1	3	5	10	18	1	0	38
146.25 - 168.75	SSE	0	0	0	0	1	10	14	8	3	0	0	36
168.75 - 191.25	S	0	0	0	0	0	8	0	0	1	0	0	9
191.25 - 213.75	SSW	0	0	0	0	0	5	1	0	0	0	0	6
213.75 - 236.25	SW	0	0	0	0	2	5	3	0	0	0	0	10
236.25 - 258.75	WSW	0	0	0	0	0	7	2	0	0	0	0	9
258.75 - 281.25	W	0	0	0	0	3	7	7	9	18	1	0	45
281.25 - 303.75	WNW	0	0	0	0	0	3	3	1	8	1	0	16
303.75 - 326.25	NW	0	0	0	0	0	4	12	16	24	14	1	71
326.25 - 348.75	NNW	0	0	0	0	1	7	8	5	16	1	0	38

Total 336

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: LE -1.90 DEG C/100M, STABILITY CLASS A
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.000	0.046	0.092	0.046	0.046	0.000	0.000	0.23
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.000	0.011	0.023	0.011	0.000	0.011	0.000	0.06
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.000	0.011	0.057	0.023	0.000	0.023	0.000	0.11
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.011	0.023	0.046	0.011	0.000	0.000	0.000	0.09
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.023	0.080	0.000	0.000	0.000	0.000	0.000	0.10
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.046	0.023	0.000	0.000	0.000	0.000	0.07
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.011	0.034	0.057	0.115	0.206	0.011	0.000	0.44
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.011	0.115	0.160	0.092	0.034	0.000	0.000	0.41
168.75 - 191.25	S	0.000	0.000	0.000	0.000	0.000	0.092	0.000	0.000	0.011	0.000	0.000	0.10
191.25 - 213.75	SSW	0.000	0.000	0.000	0.000	0.000	0.057	0.011	0.000	0.000	0.000	0.000	0.07
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.023	0.057	0.034	0.000	0.000	0.000	0.000	0.11
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.000	0.080	0.023	0.000	0.000	0.000	0.000	0.10
258.75 - 281.25	W	0.000	0.000	0.000	0.000	0.034	0.080	0.080	0.103	0.206	0.011	0.000	0.52
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.034	0.034	0.011	0.092	0.011	0.000	0.18
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.000	0.046	0.137	0.183	0.275	0.160	0.011	0.81
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.011	0.080	0.092	0.057	0.183	0.011	0.000	0.44

Total 3.85

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	0	0	3	9	8	1	0	0	0	21
11.25 - 33.75	NNE	0	0	0	0	1	2	2	2	6	0	0	13
33.75 - 56.25	NE	0	0	0	0	1	2	3	2	0	0	0	8
56.25 - 78.75	ENE	0	0	0	0	2	3	0	0	0	0	0	5
78.75 - 101.25	E	0	0	0	0	1	1	0	0	0	0	0	2
101.25 - 123.75	ESE	0	0	0	0	0	1	0	0	0	0	0	1
123.75 - 146.25	SE	0	0	0	0	1	4	2	4	9	1	0	21
146.25 - 168.75	SSE	0	0	0	0	7	6	1	3	3	0	0	20
168.75 - 191.25	S	0	0	0	1	7	2	0	1	0	0	0	11
191.25 - 213.75	SSW	0	0	0	1	8	3	2	2	0	0	0	16
213.75 - 236.25	SW	0	0	0	0	13	6	7	0	0	0	0	26
236.25 - 258.75	WSW	0	0	0	0	5	16	6	1	0	0	0	28
258.75 - 281.25	W	0	0	0	1	4	9	8	2	8	1	0	33
281.25 - 303.75	WNW	0	0	0	0	3	7	5	2	4	6	0	27
303.75 - 326.25	NW	0	0	0	0	2	4	16	14	14	5	0	55
326.25 - 348.75	NNW	0	0	0	0	5	17	20	9	3	1	0	55

Total 342

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.89 TO -1.70 DEG C/100M, STABILITY CLASS B
 FREQUENCY (%)

		WIND SPEED GROUPS (m/sec)											
WIND DIRECTION		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	Total
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.000	0.000	0.034	0.103	0.092	0.011	0.000	0.000	0.000	0.24
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.011	0.023	0.023	0.023	0.069	0.000	0.000	0.15
33.75 - 56.25	NE	0.000	0.000	0.000	0.000	0.011	0.023	0.034	0.023	0.000	0.000	0.000	0.09
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.023	0.034	0.000	0.000	0.000	0.000	0.000	0.06
78.75 - 101.25	E	0.000	0.000	0.000	0.000	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.02
101.25 - 123.75	ESE	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.01
123.75 - 146.25	SE	0.000	0.000	0.000	0.000	0.011	0.046	0.023	0.046	0.103	0.011	0.000	0.24
146.25 - 168.75	SSE	0.000	0.000	0.000	0.000	0.080	0.069	0.011	0.034	0.034	0.000	0.000	0.23
168.75 - 191.25	S	0.000	0.000	0.000	0.011	0.080	0.023	0.000	0.011	0.000	0.000	0.000	0.13
191.25 - 213.75	SSW	0.000	0.000	0.000	0.011	0.092	0.034	0.023	0.023	0.000	0.000	0.000	0.18
213.75 - 236.25	SW	0.000	0.000	0.000	0.000	0.149	0.069	0.080	0.000	0.000	0.000	0.000	0.30
236.25 - 258.75	WSW	0.000	0.000	0.000	0.000	0.057	0.183	0.069	0.011	0.000	0.000	0.000	0.32
258.75 - 281.25	W	0.000	0.000	0.000	0.011	0.046	0.103	0.092	0.023	0.092	0.011	0.000	0.38
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.034	0.080	0.057	0.023	0.046	0.069	0.000	0.31
303.75 - 326.25	NW	0.000	0.000	0.000	0.000	0.023	0.046	0.183	0.160	0.160	0.057	0.000	0.63
326.25 - 348.75	NNW	0.000	0.000	0.000	0.000	0.057	0.195	0.229	0.103	0.034	0.011	0.000	0.63

Total 3.92

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	0	3	16	12	7	6	0	0	0	44
11.25 - 33.75	NNE	0	0	0	0	8	8	3	3	4	0	0	26
33.75 - 56.25	NE	0	0	0	2	6	4	5	2	1	0	0	20
56.25 - 78.75	ENE	0	0	0	0	5	4	2	0	0	0	0	11
78.75 - 101.25	E	0	1	1	1	5	4	0	0	0	0	0	12
101.25 - 123.75	ESE	0	0	0	1	2	2	1	0	0	0	0	6
123.75 - 146.25	SE	0	0	0	2	5	2	3	6	5	3	0	26
146.25 - 168.75	SSE	0	0	1	2	13	7	8	3	5	0	0	39
168.75 - 191.25	S	0	0	0	4	9	7	2	4	6	0	0	32
191.25 - 213.75	SSW	0	0	0	2	10	10	6	2	0	0	0	30
213.75 - 236.25	SW	0	1	0	3	13	9	9	1	0	0	0	36
236.25 - 258.75	WSW	0	0	0	2	9	11	5	0	0	0	0	27
258.75 - 281.25	W	0	0	0	1	6	11	12	8	5	0	0	43
281.25 - 303.75	WNW	0	0	0	2	7	7	6	5	6	2	0	35
303.75 - 326.25	NW	0	0	2	4	11	10	8	13	10	7	0	65
326.25 - 348.75	NNW	0	0	0	2	20	16	10	8	6	2	1	65

Total 517

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.69 TO -1.50 DEG C/100M, STABILITY CLASS C
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.000	0.034	0.183	0.137	0.080	0.069	0.000	0.000	0.000	0.50
11.25 - 33.75	NNE	0.000	0.000	0.000	0.000	0.092	0.092	0.034	0.034	0.046	0.000	0.000	0.30
33.75 - 56.25	NE	0.000	0.000	0.000	0.023	0.069	0.046	0.057	0.023	0.011	0.000	0.000	0.23
56.25 - 78.75	ENE	0.000	0.000	0.000	0.000	0.057	0.046	0.023	0.000	0.000	0.000	0.000	0.13
78.75 - 101.25	E	0.000	0.011	0.011	0.011	0.057	0.046	0.000	0.000	0.000	0.000	0.000	0.14
101.25 - 123.75	ESE	0.000	0.000	0.000	0.011	0.023	0.023	0.011	0.000	0.000	0.000	0.000	0.07
123.75 - 146.25	SE	0.000	0.000	0.000	0.023	0.057	0.023	0.034	0.069	0.057	0.034	0.000	0.30
146.25 - 168.75	SSE	0.000	0.000	0.011	0.023	0.149	0.080	0.092	0.034	0.057	0.000	0.000	0.45
168.75 - 191.25	S	0.000	0.000	0.000	0.046	0.103	0.080	0.023	0.046	0.069	0.000	0.000	0.37
191.25 - 213.75	SSW	0.000	0.000	0.000	0.023	0.115	0.115	0.069	0.023	0.000	0.000	0.000	0.34
213.75 - 236.25	SW	0.000	0.011	0.000	0.034	0.149	0.103	0.103	0.011	0.000	0.000	0.000	0.41
236.25 - 258.75	WSW	0.000	0.000	0.000	0.023	0.103	0.126	0.057	0.000	0.000	0.000	0.000	0.31
258.75 - 281.25	W	0.000	0.000	0.000	0.011	0.069	0.126	0.137	0.092	0.057	0.000	0.000	0.49
281.25 - 303.75	WNW	0.000	0.000	0.000	0.023	0.080	0.080	0.069	0.057	0.069	0.023	0.000	0.40
303.75 - 326.25	NW	0.000	0.000	0.023	0.046	0.126	0.115	0.092	0.149	0.115	0.080	0.000	0.74
326.25 - 348.75	NNW	0.000	0.000	0.000	0.023	0.229	0.183	0.115	0.092	0.069	0.023	0.011	0.74

Total 5.92

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 TOTAL HOURS

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	1	4	8	24	37	52	32	24	33	4	0	219
11.25 - 33.75	NNE	0	2	8	19	48	56	42	31	37	5	0	248
33.75 - 56.25	NE	0	4	10	14	59	55	32	7	10	1	0	192
56.25 - 78.75	ENE	0	3	10	23	76	46	22	5	0	0	0	185
78.75 - 101.25	E	0	4	16	27	34	27	13	7	0	0	0	128
101.25 - 123.75	ESE	0	5	6	12	23	20	4	0	3	2	0	75
123.75 - 146.25	SE	0	1	3	3	26	27	42	47	54	17	4	224
146.25 - 168.75	SSE	0	2	7	20	39	35	34	53	50	12	1	253
168.75 - 191.25	S	1	4	7	25	57	71	56	44	38	6	2	311
191.25 - 213.75	SSW	0	2	9	28	41	47	41	11	15	0	0	194
213.75 - 236.25	SW	0	2	9	22	57	32	23	13	2	0	0	160
236.25 - 258.75	WSW	0	2	11	9	28	52	24	10	2	0	0	138
258.75 - 281.25	W	0	4	9	18	30	30	37	22	17	0	0	167
281.25 - 303.75	WNW	0	3	11	10	34	44	64	47	38	13	2	266
303.75 - 326.25	NW	1	5	12	21	47	69	103	72	73	16	8	427
326.25 - 348.75	NNW	0	4	8	20	56	54	23	46	64	14	1	290

Total 3,477

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -1.49 TO -0.50 DEG C/100M, STABILITY CLASS D
 FREQUENCY (%)

WIND DIRECTION (Degrees)		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.011	0.046	0.092	0.275	0.424	0.596	0.367	0.275	0.378	0.046	0.000	2.51
11.25 - 33.75	NNE	0.000	0.023	0.092	0.218	0.550	0.641	0.481	0.355	0.424	0.057	0.000	2.84
33.75 - 56.25	NE	0.000	0.046	0.115	0.160	0.676	0.630	0.367	0.080	0.115	0.011	0.000	2.20
56.25 - 78.75	ENE	0.000	0.034	0.115	0.263	0.871	0.527	0.252	0.057	0.000	0.000	0.000	2.12
78.75 - 101.25	E	0.000	0.046	0.183	0.309	0.389	0.309	0.149	0.080	0.000	0.000	0.000	1.47
101.25 - 123.75	ESE	0.000	0.057	0.069	0.137	0.263	0.229	0.046	0.000	0.034	0.023	0.000	0.86
123.75 - 146.25	SE	0.000	0.011	0.034	0.034	0.298	0.309	0.481	0.538	0.619	0.195	0.046	2.57
146.25 - 168.75	SSE	0.000	0.023	0.080	0.229	0.447	0.401	0.389	0.607	0.573	0.137	0.011	2.90
168.75 - 191.25	S	0.011	0.046	0.080	0.286	0.653	0.813	0.641	0.504	0.435	0.069	0.023	3.56
191.25 - 213.75	SSW	0.000	0.023	0.103	0.321	0.470	0.538	0.470	0.126	0.172	0.000	0.000	2.22
213.75 - 236.25	SW	0.000	0.023	0.103	0.252	0.653	0.367	0.263	0.149	0.023	0.000	0.000	1.83
236.25 - 258.75	WSW	0.000	0.023	0.126	0.103	0.321	0.596	0.275	0.115	0.023	0.000	0.000	1.58
258.75 - 281.25	W	0.000	0.046	0.103	0.206	0.344	0.344	0.424	0.252	0.195	0.000	0.000	1.91
281.25 - 303.75	WNW	0.000	0.034	0.126	0.115	0.389	0.504	0.733	0.538	0.435	0.149	0.023	3.05
303.75 - 326.25	NW	0.011	0.057	0.137	0.241	0.538	0.790	1.180	0.825	0.836	0.183	0.092	4.89
326.25 - 348.75	NNW	0.000	0.046	0.092	0.229	0.641	0.619	0.263	0.527	0.733	0.160	0.011	3.32

Total 39.83

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	11	21	20	97	67	25	11	10	1	0	263
11.25 - 33.75	NNE	1	14	20	44	86	31	10	0	0	0	0	206
33.75 - 56.25	NE	0	11	19	34	54	38	4	2	0	0	2	164
56.25 - 78.75	ENE	3	9	27	20	28	5	2	0	0	0	0	94
78.75 - 101.25	E	0	21	31	17	21	3	1	0	0	0	0	94
101.25 - 123.75	ESE	0	6	20	20	40	16	3	1	0	0	0	106
123.75 - 146.25	SE	2	7	3	11	36	48	60	19	48	10	1	245
146.25 - 168.75	SSE	0	5	5	12	15	28	20	11	6	0	0	102
168.75 - 191.25	S	0	7	7	8	26	26	10	17	6	1	0	108
191.25 - 213.75	SSW	1	3	12	25	52	38	21	5	18	5	0	180
213.75 - 236.25	SW	0	8	20	26	58	52	15	6	5	3	0	193
236.25 - 258.75	WSW	0	4	10	18	56	47	13	7	1	1	0	157
258.75 - 281.25	W	0	13	20	25	38	20	11	4	0	0	0	131
281.25 - 303.75	WNW	0	8	20	35	72	50	27	10	0	0	0	222
303.75 - 326.25	NW	0	7	26	43	101	107	85	26	17	0	0	412
326.25 - 348.75	NNW	0	12	24	20	80	73	41	18	9	2	0	279

Total 2,956

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: -0.49 TO 1.50 DEG C/100M, STABILITY CLASS E
 FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.126	0.241	0.229	1.111	0.767	0.286	0.126	0.115	0.011	0.000	3.01
11.25 - 33.75	NNE	0.011	0.160	0.229	0.504	0.985	0.355	0.115	0.000	0.000	0.000	0.000	2.36
33.75 - 56.25	NE	0.000	0.126	0.218	0.389	0.619	0.435	0.046	0.023	0.000	0.000	0.023	1.88
56.25 - 78.75	ENE	0.034	0.103	0.309	0.229	0.321	0.057	0.023	0.000	0.000	0.000	0.000	1.08
78.75 - 101.25	E	0.000	0.241	0.355	0.195	0.241	0.034	0.011	0.000	0.000	0.000	0.000	1.08
101.25 - 123.75	ESE	0.000	0.069	0.229	0.229	0.458	0.183	0.034	0.011	0.000	0.000	0.000	1.21
123.75 - 146.25	SE	0.023	0.080	0.034	0.126	0.412	0.550	0.687	0.218	0.550	0.115	0.011	2.81
146.25 - 168.75	SSE	0.000	0.057	0.057	0.137	0.172	0.321	0.229	0.126	0.069	0.000	0.000	1.17
168.75 - 191.25	S	0.000	0.080	0.080	0.092	0.298	0.298	0.115	0.195	0.069	0.011	0.000	1.24
191.25 - 213.75	SSW	0.011	0.034	0.137	0.286	0.596	0.435	0.241	0.057	0.206	0.057	0.000	2.06
213.75 - 236.25	SW	0.000	0.092	0.229	0.298	0.664	0.596	0.172	0.069	0.057	0.034	0.000	2.21
236.25 - 258.75	WSW	0.000	0.046	0.115	0.206	0.641	0.538	0.149	0.080	0.011	0.011	0.000	1.80
258.75 - 281.25	W	0.000	0.149	0.229	0.286	0.435	0.229	0.126	0.046	0.000	0.000	0.000	1.50
281.25 - 303.75	WNW	0.000	0.092	0.229	0.401	0.825	0.573	0.309	0.115	0.000	0.000	0.000	2.54
303.75 - 326.25	NW	0.000	0.080	0.298	0.493	1.157	1.226	0.974	0.298	0.195	0.000	0.000	4.72
326.25 - 348.75	NNW	0.000	0.137	0.275	0.229	0.916	0.836	0.470	0.206	0.103	0.023	0.000	3.20

Total 33.86

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0	0	4	10	36	30	0	0	0	0	0	80
11.25 - 33.75	NNE	0	2	7	11	49	11	1	0	0	0	0	81
33.75 - 56.25	NE	0	4	9	25	25	0	0	0	0	0	0	63
56.25 - 78.75	ENE	0	6	10	12	10	0	0	0	0	0	0	38
78.75 - 101.25	E	0	6	12	9	7	0	0	0	0	0	0	34
101.25 - 123.75	ESE	0	7	7	9	27	5	0	0	0	0	0	55
123.75 - 146.25	SE	0	2	5	4	27	30	22	16	12	4	1	123
146.25 - 168.75	SSE	0	2	5	7	13	10	8	7	4	1	0	57
168.75 - 191.25	S	0	1	4	6	8	11	0	5	4	6	0	45
191.25 - 213.75	SSW	1	2	4	3	11	9	7	4	8	5	0	54
213.75 - 236.25	SW	0	2	8	6	18	8	5	0	3	1	0	51
236.25 - 258.75	WSW	0	1	2	5	33	4	1	0	0	0	0	46
258.75 - 281.25	W	0	1	4	1	5	2	0	2	0	0	0	15
281.25 - 303.75	WNW	0	4	4	4	3	0	0	0	0	0	0	15
303.75 - 326.25	NW	1	5	1	9	26	6	0	0	0	0	0	48
326.25 - 348.75	NNW	0	2	7	3	18	16	0	0	0	0	0	46

Total 851

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 LAPSE RATE: 1.51 TO 4.00 DEG C/100M, STABILITY CLASS F
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.000	0.000	0.046	0.115	0.412	0.344	0.000	0.000	0.000	0.000	0.000	0.92
11.25 - 33.75	NNE	0.000	0.023	0.080	0.126	0.561	0.126	0.011	0.000	0.000	0.000	0.000	0.93
33.75 - 56.25	NE	0.000	0.046	0.103	0.286	0.286	0.000	0.000	0.000	0.000	0.000	0.000	0.72
56.25 - 78.75	ENE	0.000	0.069	0.115	0.137	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.44
78.75 - 101.25	E	0.000	0.069	0.137	0.103	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.39
101.25 - 123.75	ESE	0.000	0.080	0.080	0.103	0.309	0.057	0.000	0.000	0.000	0.000	0.000	0.63
123.75 - 146.25	SE	0.000	0.023	0.057	0.046	0.309	0.344	0.252	0.183	0.137	0.046	0.011	1.41
146.25 - 168.75	SSE	0.000	0.023	0.057	0.080	0.149	0.115	0.092	0.080	0.046	0.011	0.000	0.65
168.75 - 191.25	S	0.000	0.011	0.046	0.069	0.092	0.126	0.000	0.057	0.046	0.069	0.000	0.52
191.25 - 213.75	SSW	0.011	0.023	0.046	0.034	0.126	0.103	0.080	0.046	0.092	0.057	0.000	0.62
213.75 - 236.25	SW	0.000	0.023	0.092	0.069	0.206	0.092	0.057	0.000	0.034	0.011	0.000	0.58
236.25 - 258.75	WSW	0.000	0.011	0.023	0.057	0.378	0.046	0.011	0.000	0.000	0.000	0.000	0.53
258.75 - 281.25	W	0.000	0.011	0.046	0.011	0.057	0.023	0.000	0.023	0.000	0.000	0.000	0.17
281.25 - 303.75	WNW	0.000	0.046	0.046	0.046	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.17
303.75 - 326.25	NW	0.011	0.057	0.011	0.103	0.298	0.069	0.000	0.000	0.000	0.000	0.000	0.55
326.25 - 348.75	NNW	0.000	0.023	0.080	0.034	0.206	0.183	0.000	0.000	0.000	0.000	0.000	0.53

Total 9.75

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JANUARY - DECEMBER 2014
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
TOTAL HOURS

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0	0	2	2	5	1	0	0	0	0	0	10
11.25 - 33.75	NNE	0	1	0	5	4	2	0	0	0	0	0	12
33.75 - 56.25	NE	0	1	2	2	4	0	0	0	0	0	0	9
56.25 - 78.75	ENE	0	2	2	6	1	0	0	0	0	0	0	11
78.75 - 101.25	E	0	4	1	2	1	0	1	0	0	0	0	9
101.25 - 123.75	ESE	0	3	2	2	8	1	0	0	0	0	0	16
123.75 - 146.25	SE	0	3	2	3	23	21	22	20	19	1	0	114
146.25 - 168.75	SSE	0	0	1	3	6	8	6	4	4	0	0	32
168.75 - 191.25	S	0	3	1	1	2	0	0	0	1	2	0	10
191.25 - 213.75	SSW	0	0	1	0	0	0	0	0	1	0	0	2
213.75 - 236.25	SW	1	1	1	1	4	0	0	0	0	0	0	8
236.25 - 258.75	WSW	0	1	1	1	1	2	0	0	0	0	0	6
258.75 - 281.25	W	0	0	1	1	1	0	0	0	0	0	0	3
281.25 - 303.75	WNW	0	0	0	0	0	0	0	0	0	0	0	0
303.75 - 326.25	NW	0	4	1	1	1	0	0	0	0	0	0	7
326.25 - 348.75	NNW	0	0	1	1	0	0	0	0	0	0	0	2

Total 251

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
JANUARY - DECEMBER 2014
WIND LEVEL: 33 FT
DELTA T: (300-33 FT)
LAPSE RATE: GT 4.00 DEG C/100M, STABILITY CLASS G
FREQUENCY (%)

WIND DIRECTION		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
(Degrees)	Sect.												
348.75 - 11.25	N	0.000	0.000	0.023	0.023	0.057	0.011	0.000	0.000	0.000	0.000	0.000	0.11
11.25 - 33.75	NNE	0.000	0.011	0.000	0.057	0.046	0.023	0.000	0.000	0.000	0.000	0.000	0.14
33.75 - 56.25	NE	0.000	0.011	0.023	0.023	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.10
56.25 - 78.75	ENE	0.000	0.023	0.023	0.069	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.13
78.75 - 101.25	E	0.000	0.046	0.011	0.023	0.011	0.000	0.011	0.000	0.000	0.000	0.000	0.10
101.25 - 123.75	ESE	0.000	0.034	0.023	0.023	0.092	0.011	0.000	0.000	0.000	0.000	0.000	0.18
123.75 - 146.25	SE	0.000	0.034	0.023	0.034	0.263	0.241	0.252	0.229	0.218	0.011	0.000	1.31
146.25 - 168.75	SSE	0.000	0.000	0.011	0.034	0.069	0.092	0.069	0.046	0.046	0.000	0.000	0.37
168.75 - 191.25	S	0.000	0.034	0.011	0.011	0.023	0.000	0.000	0.000	0.011	0.023	0.000	0.11
191.25 - 213.75	SSW	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.02
213.75 - 236.25	SW	0.011	0.011	0.011	0.011	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.09
236.25 - 258.75	WSW	0.000	0.011	0.011	0.011	0.011	0.023	0.000	0.000	0.000	0.000	0.000	0.07
258.75 - 281.25	W	0.000	0.000	0.011	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.03
281.25 - 303.75	WNW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
303.75 - 326.25	NW	0.000	0.046	0.011	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.08
326.25 - 348.75	NNW	0.000	0.000	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.02

Total 2.88

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 TOTAL HOURS

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	1	15	35	59	194	175	80	46	47	5	0	657
11.25 - 33.75	NNE	1	19	35	79	196	111	60	37	47	6	0	591
33.75 - 56.25	NE	0	20	40	77	149	100	49	15	11	3	2	466
56.25 - 78.75	ENE	3	20	49	61	123	60	30	6	0	0	0	352
78.75 - 101.25	E	0	36	61	56	71	42	15	7	0	0	0	288
101.25 - 123.75	ESE	0	21	35	44	100	49	10	1	3	2	0	265
123.75 - 146.25	SE	2	13	13	23	119	135	156	122	165	37	6	791
146.25 - 168.75	SSE	0	9	19	44	94	104	91	89	75	13	1	539
168.75 - 191.25	S	1	15	19	45	109	125	68	71	56	15	2	526
191.25 - 213.75	SSW	2	7	26	59	122	112	78	24	42	10	0	482
213.75 - 236.25	SW	1	14	38	58	165	112	62	20	10	4	0	484
236.25 - 258.75	WSW	0	8	24	35	132	139	51	18	3	1	0	411
258.75 - 281.25	W	0	18	34	47	87	79	75	47	48	2	0	437
281.25 - 303.75	WNW	0	15	35	51	119	111	105	65	56	22	2	581
303.75 - 326.25	NW	2	21	42	78	188	200	224	141	138	42	9	1085
326.25 - 348.75	NNW	0	18	40	46	180	183	102	86	98	20	2	775

Total 8,730

MISSING HOURS: 30
 JOINT DATA RECOVERY: 99.7%

SALEM / HOPE CREEK
JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED BY ATMOSPHERIC STABILITY CLASS
 JANUARY - DECEMBER 2014
 WIND LEVEL: 33 FT
 DELTA T: (300-33 FT)
 ALL STABILITY CLASSES
 FREQUENCY (%)

WIND DIRECTION (Degrees) Sect.		WIND SPEED GROUPS (m/sec)											Total
		< 0.5	0.5 - 1.0	1.1 - 1.5	1.6 - 2.0	2.1 - 3.0	3.1 - 4.0	4.1 - 5.0	5.1 - 6.0	6.1 - 8.0	8.1 - 10.0	> 10.0	
348.75 - 11.25	N	0.011	0.172	0.401	0.676	2.222	2.005	0.916	0.527	0.538	0.057	0.000	7.53
11.25 - 33.75	NNE	0.011	0.218	0.401	0.905	2.245	1.271	0.687	0.424	0.538	0.069	0.000	6.77
33.75 - 56.25	NE	0.000	0.229	0.458	0.882	1.707	1.145	0.561	0.172	0.126	0.034	0.023	5.34
56.25 - 78.75	ENE	0.034	0.229	0.561	0.699	1.409	0.687	0.344	0.069	0.000	0.000	0.000	4.03
78.75 - 101.25	E	0.000	0.412	0.699	0.641	0.813	0.481	0.172	0.080	0.000	0.000	0.000	3.30
101.25 - 123.75	ESE	0.000	0.241	0.401	0.504	1.145	0.561	0.115	0.011	0.034	0.023	0.000	3.04
123.75 - 146.25	SE	0.023	0.149	0.149	0.263	1.363	1.546	1.787	1.397	1.890	0.424	0.069	9.06
146.25 - 168.75	SSE	0.000	0.103	0.218	0.504	1.077	1.191	1.042	1.019	0.859	0.149	0.011	6.17
168.75 - 191.25	S	0.011	0.172	0.218	0.515	1.249	1.432	0.779	0.813	0.641	0.172	0.023	6.03
191.25 - 213.75	SSW	0.023	0.080	0.298	0.676	1.397	1.283	0.893	0.275	0.481	0.115	0.000	5.52
213.75 - 236.25	SW	0.011	0.160	0.435	0.664	1.890	1.283	0.710	0.229	0.115	0.046	0.000	5.54
236.25 - 258.75	WSW	0.000	0.092	0.275	0.401	1.512	1.592	0.584	0.206	0.034	0.011	0.000	4.71
258.75 - 281.25	W	0.000	0.206	0.389	0.538	0.997	0.905	0.859	0.538	0.550	0.023	0.000	5.01
281.25 - 303.75	WNW	0.000	0.172	0.401	0.584	1.363	1.271	1.203	0.745	0.641	0.252	0.023	6.66
303.75 - 326.25	NW	0.023	0.241	0.481	0.893	2.153	2.291	2.566	1.615	1.581	0.481	0.103	12.43
326.25 - 348.75	NNW	0.000	0.206	0.458	0.527	2.062	2.096	1.168	0.985	1.123	0.229	0.023	8.88

Total 100.00

MISSING HOURS: 30
 JOINT DATA RECOVERY: 99.7%

APPENDIX C

Maximum Permissible Concentration (MPC) Data

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2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

The following radionuclide concentrations were obtained from 10 CFR 20 Appendix B, Table II, Column 2 as revised January 1, 1991.

Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
Actinium (89)	Ac-227	2E-6	3E-4
	Ac-228	9E-5	9E-5
Americium (95)	Am-241	4E-6	3E-5
	Am-242m	4E-6	9E-5
	Am-242	1E-4	1E-4
	Am-243	4E-6	3E-5
Antimony (51)	Am-244	5E-3	5E-3
	Sb-122	3E-5	3E-5
	Sb-124	2E-5	2E-5
	Sb-125	1E-4	1E-4
Arsenic (33)	Sb-126	3E-6	3E-6
	As-73	5E-4	5E-4
	As-74	5E-5	5E-5
	As-76	2E-5	2E-5
Astatine (85)	As-77	8E-5	8E-5
	At-211	2E-6	7E-5
Barium (56)	Ba-131	2E-4	2E-4
	Ba-140	3E-5	2E-5
Berkelium (97)	Bk-249	6E-4	6E-4
	Bk-250	2E-4	2E-4
Beryllium (4)	Be-7	2E-3	2E-3
Bismuth (83)	Bi-206	4E-5	4E-5
	Bi-207	6E-5	6E-5
	Bi-210	4E-5	4E-5
	Bi-212	4E-4	4E-4
Bromine (35)	Br-82	3E-4	4E-5
	Br-83	3E-6	3E-6
Cadmium (48)	Cd-109	2E-4	2E-4
	Cd-115m	3E-5	3E-5
	Cd-115	3E-5	4E-5
Calcium (20)	Ca-45	9E-6	2E-4
	Ca-47	5E-5	3E-5
Californium (98)	Cf-249	4E-6	2E-5
	Cf-250	1E-5	3E-5
	Cf-251	4E-6	3E-5
	Cf-252	7E-6	7E-6
	Cf-253	1E-4	1E-4
	Cf-254	1E-7	1E-7
Carbon (6)	C-14	8E-4	N/A
Cerium (58)	Ce-141	9E-5	9E-5
	Ce-143	4E-5	4E-5
	Ce-144	1E-5	1E-5
Cesium (55)	Cs-131	2E-3	9E-4

2014 SGS AND HCGS RADIOACTIVE EFFLUENT RELEASE REPORT

Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
	<i>Cs-134m</i>	6E-3	1E-3
	<i>Cs-134</i>	9E-6	4E-5
	<i>Cs-135</i>	1E-4	2E-4
	<i>Cs-136</i>	9E-5	6E-5
	<i>Cs-137</i>	2E-5	4E-5
Chlorine (17)	<i>Cl-36</i>	8E-5	6E-5
	<i>Cl-38</i>	4E-4	4E-4
Chromium (24)	<i>Cr-51</i>	2E-3	2E-3
Cobalt (27)	<i>Co-57</i>	5E-4	4E-4
	<i>Co-58m</i>	3E-3	2E-3
	<i>Co-58</i>	1E-4	9E-5
	<i>Co-60</i>	5E-5	3E-5
Copper (29)	<i>Cu-64</i>	3E-4	2E-4
Curium (96)	<i>Cm-242</i>	2E-5	2E-5
	<i>Cm-243</i>	5E-6	2E-5
	<i>Cm-244</i>	7E-6	3E-5
	<i>Cm-245</i>	4E-6	3E-5
	<i>Cm-246</i>	4E-6	3E-5
	<i>Cm-247</i>	4E-6	2E-5
	<i>Cm-248</i>	4E-7	1E-6
	<i>Cm-249</i>	2E-3	2E-3
Dysprosium (66)	<i>Dy-165</i>	4E-4	4E-4
	<i>Dy-166</i>	4E-5	4E-5
Einsteinium (99)	<i>Es-253</i>	2E-5	2E-5
	<i>Es-254m</i>	2E-5	2E-5
	<i>Es-254</i>	1E-5	1E-5
	<i>Es-255</i>	3E-5	3E-5
Erbium (68)	<i>Er-169</i>	9E-5	9E-5
	<i>Er-171</i>	1E-4	1E-4
Europium (63)	<i>Eu-152 (9.2 hrs)</i>	6E-5	6E-5
	<i>Eu-152 (13 yrs)</i>	8E-5	8E-5
	<i>Eu-154</i>	2E-5	2E-5
	<i>Eu-155</i>	2E-4	2E-4
Fermium (100)	<i>Fm-254</i>	1E-4	1E-4
	<i>Fm-255</i>	3E-5	3E-5
	<i>Fm-256</i>	9E-7	9E-7
Fluorine (9)	<i>F-18</i>	8E-4	5E-4
Gadolinium (64)	<i>Gd-153</i>	2E-4	2E-4
	<i>Gd-159</i>	8E-5	8E-5
Gallium (31)	<i>Ga-72</i>	4E-5	4E-5
Germanium (32)	<i>Ge-71</i>	2E-3	2E-3
Gold (79)	<i>Au-196</i>	2E-4	1E-4
	<i>Au-198</i>	5E-5	5E-5
	<i>Au-199</i>	2E-4	2E-4
Hafnium (72)	<i>Hf-181</i>	7E-5	7E-5
Holmium (67)	<i>Ho-166</i>	3E-5	3E-5
Hydrogen (3)	<i>H-3</i>	3E-3	3E-3
Indium (49)	<i>In-113m</i>	1E-3	1E-3

Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
	<i>In-114m</i>	2E-5	2E-5
	<i>In-115m</i>	4E-4	4E-4
	<i>In-115</i>	9E-5	9E-5
<i>Iodine (53)</i>	<i>I-125</i>	2E-7	2E-4
	<i>I-126</i>	3E-7	9E-5
	<i>I-129</i>	6E-8	2E-4
	<i>I-130</i>	3E-6	3E-6
	<i>I-131</i>	3E-7	6E-5
	<i>I-132</i>	8E-6	2E-4
	<i>I-133</i>	1E-6	4E-5
	<i>I-134</i>	2E-5	6E-4
	<i>I-135</i>	4E-6	7E-5
<i>Iridium (77)</i>	<i>Ir-190</i>	2E-4	2E-4
	<i>Ir-192</i>	4E-5	4E-5
	<i>Ir-194</i>	3E-5	3E-5
<i>Iron (26)</i>	<i>Fe-55</i>	8E-4	2E-3
	<i>Fe-59</i>	6E-5	5E-5
<i>Lanthanum (57)</i>	<i>La-140</i>	2E-5	2E-5
<i>Lead (82)</i>	<i>Pb-203</i>	4E-4	4E-4
	<i>Pb-210</i>	1E-7	2E-4
	<i>Pb-212</i>	2E-5	2E-5
<i>Lutetium (71)</i>	<i>Lu-177</i>	1E-4	1E-4
<i>Manganese (25)</i>	<i>Mn-52</i>	3E-5	3E-5
	<i>Mn-54</i>	1E-4	1E-4
	<i>Mn-56</i>	1E-4	1E-4
<i>Mercury (80)</i>	<i>Hg-197m</i>	2E-4	2E-4
	<i>Hg-197</i>	3E-4	5E-4
	<i>Hg-203</i>	2E-5	1E-4
<i>Molybdenum (42)</i>	<i>Mo-99</i>	2E-4	4E-5
<i>Neodymium (60)</i>	<i>Nd-144</i>	7E-5	8E-5
	<i>Nd-147</i>	6E-5	6E-5
	<i>Nd-149</i>	3E-4	3E-4
<i>Neptunium (93)</i>	<i>Np-237</i>	3E-6	3E-5
	<i>Np-239</i>	1E-4	1E-4
<i>Nickel (28)</i>	<i>Ni-59</i>	2E-4	2E-3
	<i>Ni-63</i>	3E-5	7E-4
	<i>Ni-65</i>	1E-4	1E-4
<i>Niobium (41)</i>	<i>Nb-93m</i>	4E-4	4E-4
	<i>Nb-95</i>	1E-4	1E-4
	<i>Nb-97</i>	9E-4	9E-4
<i>Osmium (76)</i>	<i>Os-185</i>	7E-5	7E-5
	<i>Os-191m</i>	3E-3	2E-3
	<i>Os-191</i>	2E-4	2E-4
	<i>Os-193</i>	6E-5	5E-5
<i>Palladium (46)</i>	<i>Pd-103</i>	3E-4	3E-4
	<i>Pd-109</i>	9E-5	7E-5
<i>Phosphorus (15)</i>	<i>P-32</i>	2E-5	2E-5

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Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
Platinum (78)	Pt-191	1E-4	1E-4
	Pt-193m	1E-3	1E-3
	Pt-193	9E-4	2E-3
	Pt-197m	1E-3	9E-4
	Pt-197	1E-4	1E-4
Plutonium (94)	Pu-238	5E-6	3E-5
	Pu-239	5E-6	3E-5
	Pu-240	5E-6	3E-5
	Pu-241	2E-4	1E-3
	Pu-242	5E-6	3E-5
	Pu-243	3E-4	3E-4
Polonium (84)	Po-210	7E-7	3E-5
Potassium (19)	K-42	3E-4	2E-5
Praseodymium(59)	Pr-142	3E-5	3E-5
	Pr-143	5E-5	5E-5
Promethium (61)	Pm-147	2E-4	2E-4
	Pm-149	4E-5	4E-5
Protactinium(91)	Pa-230	2E-4	2E-4
	Pa-231	9E-7	2E-5
	Pa-233	1E-4	1E-4
Radium (88)	Ra-223	7E-7	4E-6
	Ra-224	2E-6	5E-6
	Ra-226	3E-8	3E-5
	Ra-228	3E-8	3E-5
Rhenium (75)	Re-183	6E-4	3E-4
	Re-186	9E-5	5E-5
	Re-187	3E-3	2E-3
	Re-188	6E-5	3E-5
Rhodium (45)	Rh-103m	1E-2	1E-2
	Rh-105	1E-4	1E-4
Rubidium (37)	Rb-86	7E-5	2E-5
	Rb-87	1E-4	2E-4
Ruthenium (44)	Ru-97	4E-4	3E-4
	Ru-103	8E-5	8E-5
	Ru-103m	3E-6	3E-6
	Ru-105	1E-4	1E-4
	Ru-106	1E-5	1E-5
Samarium (62)	Sm-147	6E-5	7E-5
	Sm-151	4E-4	4E-4
	Sm-153	8E-5	8E-5
Scandium (21)	Sc-46	4E-5	4E-5
	Sc-47	9E-5	9E-5
	Sc-48	3E-5	3E-5
Selenium (34)	Se-75	3E-4	3E-4
Silicon (14)	Si-31	9E-4	2E-4
Silver (47)	Ag-105	1E-4	1E-4
	Ag-110m	3E-5	3E-5

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Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
	<i>Ag-111</i>	<i>4E-5</i>	<i>4E-5</i>
<i>Sodium (11)</i>	<i>Na-22</i>	<i>4E-5</i>	<i>3E-5</i>
	<i>Na-24</i>	<i>2E-4</i>	<i>3E-5</i>
<i>Strontium (38)</i>	<i>Sr-85m</i>	<i>7E-3</i>	<i>7E-3</i>
	<i>Sr-85</i>	<i>1E-4</i>	<i>2E-4</i>
	<i>Sr-89</i>	<i>3E-6</i>	<i>3E-5</i>
	<i>Sr-90</i>	<i>3E-7</i>	<i>4E-5</i>
	<i>Sr-91</i>	<i>7E-5</i>	<i>5E-5</i>
	<i>Sr-92</i>	<i>7E-5</i>	<i>6E-5</i>
<i>Sulfur (16)</i>	<i>S-35</i>	<i>6E-5</i>	<i>3E-4</i>
<i>Tantalum (73)</i>	<i>Ta-182</i>	<i>4E-5</i>	<i>4E-5</i>
<i>Technetium (43)</i>	<i>Tc-96m</i>	<i>1E-2</i>	<i>1E-2</i>
	<i>Tc-96</i>	<i>1E-4</i>	<i>5E-5</i>
	<i>Tc-97m</i>	<i>4E-4</i>	<i>2E-4</i>
	<i>Tc-97</i>	<i>2E-3</i>	<i>8E-4</i>
	<i>Tc-99m</i>	<i>6E-3</i>	<i>3E-3</i>
	<i>Tc-99</i>	<i>3E-4</i>	<i>2E-4</i>
<i>Tellurium (52)</i>	<i>Te-125m</i>	<i>2E-4</i>	<i>1E-4</i>
	<i>Te-127m</i>	<i>6E-5</i>	<i>5E-5</i>
	<i>Te-127</i>	<i>3E-4</i>	<i>2E-4</i>
	<i>Te-129m</i>	<i>3E-5</i>	<i>2E-5</i>
	<i>Te-129</i>	<i>8E-4</i>	<i>8E-4</i>
	<i>Te-131m</i>	<i>6E-5</i>	<i>4E-5</i>
	<i>Te-132</i>	<i>3E-5</i>	<i>2E-5</i>
<i>Terbium (65)</i>	<i>Tb-160</i>	<i>4E-5</i>	<i>4E-5</i>
<i>Thallium (81)</i>	<i>Tl-200</i>	<i>4E-4</i>	<i>2E-4</i>
	<i>Tl-201</i>	<i>3E-4</i>	<i>2E-4</i>
	<i>Tl-202</i>	<i>1E-4</i>	<i>7E-5</i>
	<i>Tl-204</i>	<i>1E-4</i>	<i>6E-5</i>
<i>Thorium (90)</i>	<i>Th-227</i>	<i>2E-5</i>	<i>2E-5</i>
	<i>Th-228</i>	<i>7E-6</i>	<i>1E-5</i>
	<i>Th-230</i>	<i>2E-6</i>	<i>3E-5</i>
	<i>Th-231</i>	<i>2E-4</i>	<i>2E-4</i>
	<i>Th-232</i>	<i>2E-6</i>	<i>4E-5</i>
	<i>Th-natural</i>	<i>2E-6</i>	<i>2E-5</i>
	<i>Th-234</i>	<i>2E-5</i>	<i>2E-5</i>
<i>Thulium (69)</i>	<i>Tm-170</i>	<i>5E-5</i>	<i>5E-5</i>
	<i>Tm-171</i>	<i>5E-4</i>	<i>5E-4</i>
<i>Tin (50)</i>	<i>Sn-113</i>	<i>9E-5</i>	<i>8E-5</i>
	<i>Sn-124</i>	<i>2E-5</i>	<i>2E-5</i>
<i>Tungsten (74)</i>	<i>W-181</i>	<i>4E-4</i>	<i>3E-4</i>
	<i>W-185</i>	<i>1E-4</i>	<i>1E-4</i>
	<i>W-187</i>	<i>7E-5</i>	<i>6E-5</i>
<i>Uranium (92)</i>	<i>U-230</i>	<i>5E-6</i>	<i>5E-6</i>
	<i>U-232</i>	<i>3E-5</i>	<i>3E-5</i>
	<i>U-233</i>	<i>3E-5</i>	<i>3E-5</i>
	<i>U-234</i>	<i>3E-5</i>	<i>3E-5</i>
	<i>U-235</i>	<i>3E-5</i>	<i>3E-5</i>

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Maximum Permissible Concentrations			
Element	Isotope	Soluble Conc. ($\mu\text{Ci/ml}$)	Insoluble Conc. ($\mu\text{Ci/ml}$)
	U-236	3E-5	3E-5
	U-238	4E-5	4E-5
	U-240	3E-5	3E-5
	U-natural	3E-5	3E-5
Vanadium (23)	V-48	3E-5	3E-5
Ytterbium (70)	Yb-175	1E-4	1E-4
Yttrium	Y-90	2E-5	2E-5
	Y-91m	3E-3	3E-3
	Y-91	3E-5	3E-5
	Y-92	6E-5	6E-5
	Y-93	3E-5	3E-5
Zinc (30)	Zn-65	1E-4	2E-4
	Zn-69m	7E-5	6E-5
	Zn-69	2E-3	2E-3
Zirconium (40)	Zr-93	8E-4	8E-4
	Zr-95	6E-5	6E-5
	Zr-97	2E-5	2E-5
Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than 2 hours		3E-6	3E-6
Any single radionuclide not listed above, which decays by alpha emission or spontaneous fission.		3E-8	3E-8

Notes:

1. If the identity of any radionuclide is not known, the limiting values for purposes of this table shall be: 3E-8 $\mu\text{Ci/ml}$.
2. If the identity and concentration of each radionuclide are known, the limiting values should be derived as follows: Determine, for each radionuclide in the mixture, the ratio between the quantity present in the mixture and the limit otherwise established in Appendix B for the specific radionuclide not in a mixture. The sum of such ratios for all the radionuclides in the mixture may not exceed "1" (i.e. "unity").

APPENDIX D

2014 Radiological Groundwater Protection Program (RGPP) Report

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