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April 7, 2010

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

Enclosed is the South Carolina Electric & Gas Company (SCE&G) Annual Radioactive Effluent Release Report as required by 10CFR50.36a, Section 6.9.1.8 of the Virgil C. Summer Nuclear Station Technical Specifications and Section 1.6.2 of the Offsite Dose Calculation Manual (ODCM). This submittal covers the period of January 1 through December 31, 2009.

Should there be any questions, please contact Ms. Susan B. Reese at (803) 345-4591.

Very truly yours,

George A. Lippard

SBR/GAL/cm  
Enclosures

c: w/o enclosure unless noted

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VIRGIL C. SUMMER  
JENKINSVILLE, SOUTH CAROLINA

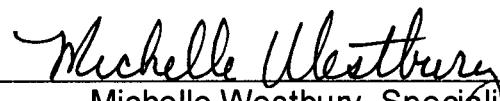
**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
VIRGIL C. SUMMER NUCLEAR STATION**

**FOR THE OPERATING PERIOD  
JANUARY 1, 2009 - DECEMBER 31, 2009**

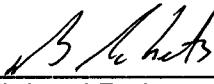
**APRIL 2010**



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# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

This report is being submitted as a summary of quantities of radioactive liquid and gaseous effluents and solid waste released from the Virgil C. Summer Nuclear Station. This report satisfies the requirements in Technical Specifications Section 6.9.1.8, Offsite Dose Calculation Manual (ODCM) Section 1.6.2 and 10CFR50.36(a). Also included is an assessment of radiation doses from plant releases.

A brief discussion of the Supplemental Information and Tables 1 through 5 is presented in Sections A through D. An evaluation of the radiological impact on man due to operation of the Virgil C. Summer Nuclear Station is presented in Section E and Table 6. There were no abnormal releases for the period. A summary of the meteorological data for 2009 is presented in Section G and Tables 7 and 8. There were no changes made to the Offsite Dose Calculation Manual (ODCM) during the 12-month period. Section I gives a summary of oil incineration during the year. There were no ODCM Reportable Incidences.

### **A. Supplemental Information**

Regulatory limits for doses, dose rate and effluent concentration limits presented in Supplemental Information are from the Virgil C. Summer Nuclear Station ODCM and 40 CFR 190. Average energy ( $E_{\bar{}}^{\bar{}}$ ) is not applicable to the method for determining release rate limits for fission and activation gaseous effluents; therefore, it has been omitted.

### **B. Gaseous Effluents**

Gaseous effluents released from ground level are summarized in Tables 1 and 2. An elevated release pathway does not exist at Virgil C. Summer Nuclear Station. Cumulative doses are discussed in Section E.

The errors for gaseous effluent totals are given as the square root of the sum of squares of counting errors and flow or volume measurement errors. A systematic error of 15% has been added to estimate total error.

# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

### **C. Liquid Effluents**

Liquid effluents are summarized in Tables 3 and 4. Estimated total errors are expressed as in Section B above.

### **D. Solid Waste Shipments**

Solid waste shipments are summarized in Table 5. Curie content of radioactive waste packages is determined by dose rates and/or gamma spectroscopy analysis of samples. The total error for each type of Curie content determination is conservatively estimated to be the sum of a 15% systematic error and a 20% photon response error for the detector used.

### **E. Radiological Impact on Man**

Potential doses to the maximum exposed individual in the unrestricted area were calculated using measured plant gaseous effluents and meteorological data in accordance with the Offsite Dose Calculation Manual. The source term involved 0.4 days Waste Gas Decay Tank (WGDT) releases, 1.5 days of 6-inch Reactor Building purge releases, 23.0 days of 36-inch Reactor Building purge releases and a continuous 12-month Main Plant vent release. Oil incineration occurred for 6.8 hours in 2009. Doses are summarized in Table 6. The total activities released are presented in Tables 1 and 2. The highest quarterly air doses to the maximum exposed individual due to noble gases were 2.45E-03 mrad for gamma during the fourth quarter and 1.01E-03 mrad for beta during the fourth quarter. The maximum quarterly organ dose attributed to the releases was 1.05E-03 mrem for the fourth quarter. Cumulative annual dose was 2.45E-03 mrad, 1.01E-03 mrad and 1.14E-03 mrem for gamma, beta, and organ dose, respectively.

Measured plant liquid effluent data was used to calculate estimates of doses to individuals in accordance with the Offsite Dose Calculation Manual. The source term consisted of the isotopic contents of 211 Waste Monitor Tank batch releases, 26 Condensate Backwash Receiver Tank batch releases, 1 NaOH batch release, 3 Nuclear Blowdown Monitor Tank batch releases, 34.5 days of Steam Generator Blowdown release and a continuous Turbine Building Sump release.

# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

Doses are summarized in Table 6 and total radioactivity released is described in Tables 1 and 3. The highest quarterly total body dose to the maximum exposed individual due to the release of radioactive liquid was 2.76E-03 mrem during the fourth quarter. The highest organ dose was 2.92E-03 mrem to the GI-LLI for the fourth quarter. Cumulative annual doses for the hypothetical maximum exposed individual were 6.24E-03 mrem for the total body and 6.33E-2 mrem for the LIVER, the maximum annual organ. The LIVER was the maximum exposed organ for the first through third quarters and the GI-LLI was the maximum exposed organ for the fourth quarter.

Dose rates and concentrations were below the limits specified in Supplemental Information, Section 2a, b, and c during all the effluent releases.

Radiation doses from radioactive effluents to members of the public due to their activities inside the site boundary were assessed using liquid and gaseous effluents along with meteorological data. Quarterly thermoluminescent dosimetry data from four (4) monitoring locations within the site boundary and eight (8) locations around the site boundary perimeter were analyzed and compared with respective pre-operational background and previous year history. Results showed that the 2009 quarterly dose rates did not differ significantly from the pre-operational or 2008 dose rates. It was concluded that doses to members of the public inside the site boundary were indistinguishable from normal background dose.

Radiation doses from radioactive effluents to workers at the Fairfield Hydro Station for the 12-month period were calculated to be 1.15E-04 and 4.75E-05 mrad for gamma and beta, respectively.

Radiation doses from nearby uranium fuel cycle sources were not assessed. The ODCM, Sections 1.3.1 and B/1.3 establish a five (5) mile limit beyond which doses from nearby plants are insignificant. There are no uranium fuel cycle plants within a five (5) mile radius of Virgil C. Summer Nuclear Station.

# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

### **F. Abnormal Releases**

During 2009, the plant had no abnormal releases.

### **G. Meteorology**

The meteorology data for 2009 is summarized in Table 7, by quarter. The data are shown as joint frequency distributions of wind direction and speed by atmospheric stability class.

The wind direction and wind speed data used in the summary were acquired from the 10-meter level of the primary monitoring tower. Stability was determined by the primary differential temperature (61 to 10 meter).

The combined annual data recovery for wind direction, wind speed and stability was 97.5%. Primary variable recovery rates were as follows: wind direction (10 m) – 97.5%, wind speed (10 m) – 97.5%, and differential temperature (61 - 10 m) – 97.5%.

### **H. Offsite Dose Calculation Manual**

The Virgil C. Summer Nuclear Station ODCM was not revised in 2009.

### **I. Oil Incineration**

The incinerator operated for a period of 6.8 hours, burning 40.8 gallons of oil at the average rate of 6.0 gal/hr. The incinerated oil contained concentrations of 1.65E-08 uCi/ml for Co-60, 1.38E-08 uCi/ml for Cs-134 and 1.07E-08 uCi/ml for Cs-137. The dose to the maximum exposed individual from the incinerated oil was 7.30E-08 mrem.

### **J. Offsite Dose Calculation Manual Reportable Incidences**

There were no ODCM Reportable Incidences in 2009.

# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

### **SUPPLEMENTAL INFORMATION**

#### **1. Regulatory Limits:**

##### **a. Fission and Activation Gases:**

The air dose to an individual due to noble gases released in gaseous effluents shall be limited to less than or equal to 5 mrad for gamma radiation and 10 mrad for beta radiation during any calendar quarter and 10 mrad for gamma radiation and 20 mrad for beta radiation during any calendar year (ODCM, Section 1.2.3.1).

##### **b. Iodines, Particulates (half-lives > 8 days) and Tritium:**

The dose to an individual from radioiodines, tritium and radioactive materials in particulate form with half-lives greater than 8 days in gaseous effluents shall be limited to less than or equal to 7.5 mrem to any organ during any calendar quarter and 15 mrem to any organ during any calendar year (ODCM, Section 1.2.4.1).

##### **c. Liquid Effluents:**

The dose or dose commitment to an individual from radioactive materials in liquid effluents released shall be limited to less than or equal to 1.5 mrem to the total body and 5 mrem to any organ during any calendar quarter and 3 mrem to the total body and 10 mrem to any organ during any calendar year (ODCM, Section 1.1.3.1).

##### **d. All Sources:**

The annual dose equivalent shall not exceed 25 mrem to the whole body, 75 mrem to the thyroid and 25 mrem to any other organ (40 CFR 190).

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

**VIRGIL C. SUMMER NUCLEAR STATION  
SOUTH CAROLINA ELECTRIC & GAS**

**2. Dose Rate and Effluent Concentration Limits:**

**a. Fission and Activation Gases**

The dose rate in unrestricted areas due to radioactive materials released in gaseous effluents shall be limited 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 (ODCM, Section 1.2.2.1).

**b. Iodines, Particulates (half-lives > 8 days) and Tritium:**

The dose rate in unrestricted areas due to radioactive materials in effluents shall be limited to less than or equal to 1500 mrem/year to any organ (ODCM, Section 1.2.2.1).

**c. Liquid Effluents:**

The concentration of radioactive materials released from the site shall be limited to the concentrations specified in 10 CFR 20, Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2E-04  $\mu\text{Ci}/\text{ml}$  total activity (ODCM, Section 1.1.2.1).

**3. Average Energy:**

Not Applicable

**4. Measurements and Approximations of Total Radioactivity:**

**a. Fission and activation gases: Gamma spectrometry (HPGe)**

**b. Iodines: Gamma spectrometry (HPGe)**

**c. Particulates: Gamma spectrometry (HPGe), beta proportional counting, alpha proportional counting**

**d. Tritium: Liquid scintillation**

**e. Liquid effluents: Gamma spectrometry (HPGe), liquid scintillation (H-3), beta proportional counting, alpha proportional counting.**

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

**VIRGIL C. SUMMER NUCLEAR STATION  
SOUTH CAROLINA ELECTRIC & GAS**

**5. Batch Releases:**

**a. Gaseous:**

1. Number of batch releases: 2
2. Total time period for batch releases: 645 min
3. Maximum time period for a batch release: 410 min
4. Average time period for a batch release: 322.5 min
5. Minimum time period for a batch release: 235 min

**b. Liquid:**

**1. Number of batch releases:**

- |     |                          |
|-----|--------------------------|
| 41  | For first quarter, 2009  |
| 34  | For second quarter, 2009 |
| 44  | For third quarter, 2009  |
| 122 | For fourth quarter, 2009 |

**2. Total time period for batch releases:**

- |          |                               |
|----------|-------------------------------|
| 3.02E+03 | min. for first quarter, 2009  |
| 2.36E+03 | min. for second quarter, 2009 |
| 3.12E+03 | min. for third quarter, 2009  |
| 8.48E+03 | min. for fourth quarter 2009  |

**3. Maximum time period for a batch release:**

- |          |                               |
|----------|-------------------------------|
| 7.90E+01 | min. for first quarter, 2009  |
| 8.10E+01 | min. for second quarter, 2009 |
| 8.40E+01 | min. for third quarter, 2009  |
| 9.30E+01 | min. for fourth quarter, 2009 |

# **ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY – DECEMBER, 2009**

## **VIRGIL C. SUMMER NUCLEAR STATION SOUTH CAROLINA ELECTRIC & GAS**

**4. Average time period for batch releases:**

7.36E+01 min. for first quarter, 2009  
6.94E+01 min. for second quarter, 2009  
7.10E+01 min. for third quarter, 2009  
6.95E+01 min. for fourth quarter, 2009

**5. Minimum time period for a batch release:**

5.20E+01 min. for first quarter, 2009  
5.00E+00 min. for second quarter, 2009\*  
7.00E+00 min. for third quarter, 2009\*\*  
2.50E+01 min. for fourth quarter, 2009

\* NaOH sump release.

\*\* Release terminated due to diaphragm leak.

**6. Average stream flow during periods of release of effluent  
into a flowing stream:**

6.27E+06 gpm for first quarter, 2009  
9.43E+06 gpm for second quarter, 2009  
1.01E+07 gpm for third quarter, 2009  
4.19E+06 gpm for fourth quarter, 2009

**6. Abnormal Releases:**

**a. Gaseous:**

1. Number of releases: 0
2. Total activity released: 0

**b. Liquid:**

1. Number of releases: 0
2. Total activity released: 0

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**  
**January - December 2009**

**Virgil C. Summer Nuclear Station**  
**South Carolina Electric & Gas**

**Table 1**  
**Gaseous Effluents Summation of All Releases**

	UNITS	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	2009 TOTAL	EST. ERROR %
<b>A. Fission &amp; Activation Gases</b>							
1. Total release	Ci	2.12E-03	7.28E-04	0.00E+00	1.69E+00	1.69E+00	18.71
2. Average release rate	uCi / sec	2.73E-04	9.25E-05	0.00E+00	2.13E-01	5.36E-02	
3. Percent ODCM Qtr. gamma air dose limit	%	5.50E-05	1.96E-05	0.00E+00	4.90E-02	N/A	
4. Percent ODCM annual gamma air dose limit	%	2.75E-05	3.73E-05 *	3.73E-05 *	2.45E-02 *	2.45E-02	
5. Percent ODCM Qtr. beta air dose limit	%	1.09E-05	3.84E-06	0.00E+00	1.01E-02	N/A	
6. Percent ODCM annual beta air dose limit	%	5.46E-06	7.38E-06 *	7.38E-06 *	5.05E-03 *	5.05E-03	
<b>B. Iodines</b>							
1. Total iodine - 131	Ci	0.00E+00	7.15E-07	3.28E-06	1.67E-05	2.07E-05	
2. Average release rate	uCi / sec	0.00E+00	9.10E-08	4.13E-07	2.10E-06	6.56E-07	63.26
<b>C. Particulates</b>							
1. Particulates with half - lifes > 8 days	Ci	2.28E-06	4.10E-07	2.25E-06	0.00E+00	4.94E-06	
2. Average release rate	uCi / sec	2.94E-07	5.21E-08	2.83E-07	0.00E+00	1.56E-07	
3. Gross alpha radioactivity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
<b>D. Tritium</b>							
1. Total release	Ci	8.91E-04	0.00E+00	0.00E+00	1.39E+00	1.39E+00	
2. Average release rate	uCi / sec	1.15E-04	0.00E+00	0.00E+00	1.75E-01	4.42E-02	41.90
<b>E. Organ Dose (from B,C, and D)</b>							
1. Percent ODCM Qtr. organ dose limit	%	6.26E-06	1.75E-04	9.96E-04	1.40E-02	N/A	
2. Percent ODCM annual organ dose limit	%	3.13E-06	9.07E-05 *	5.89E-04 *	7.60E-03 *	7.60E-03	

\* Cumulative

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY - DECEMBER, 2009**

**TABLE 2**  
**GASEOUS EFFLUENTS -- GROUND-LEVEL RELEASES**

Nuclides Released	Units	Continuous Mode				Batch Mode				Annual Total
		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
<b>1 Fission gases</b>										
Krypton-85	Ci	0	0	0	0	0	0	0	0	1.13E-01
Krypton-85m	Ci	0	0	0	0	0	0	0	0	0
Krypton-87	Ci	0	0	0	0	0	0	0	0	0
Krypton-88	Ci	0	0	0	0	0	0	0	0	0
Xenon-131m	Ci	0	0	0	0	0	0	0	0	0
Xenon-133	Ci	6.66E-04	2.08E-04	0	3.47E-02	3.56E-02	0	0	0	3.39E-05
Xenon-133m	Ci	0	0	0	0	0	0	0	0	0
Xenon-135	Ci	0	0	0	2.72E-01	2.72E-01	0	0	0	0
Xenon-135m	Ci	0	0	0	0	0	0	0	0	0
Xenon-138	Ci	0	0	0	0	0	0	0	0	0
Other: Ar-41	Ci	1.45E-03	5.19E-04	0	1.26E+00	1.26E+00	0	0	0	0
Unidentified: None	Ci	0	0	0	0	0	0	0	0	0
Total for Period	Ci	2.12E-03	7.28E-04	0	1.57E+00	1.57E+00	0	0	0	1.14E-01
<b>2 Iodines and other halogens</b>										
Iodine-131	Ci	0	7.15E-07	3.28E-06	1.67E-05	2.07E-05	0	0	0	0
Iodine-132	Ci	0	0	0	3.95E-04	3.95E-04	0	0	0	0
Iodine-133	Ci	0	0	2.02E-05	9.22E-07	2.11E-05	0	0	0	0
Br-82	Ci	0	0	0	0	0	0	0	0	0
Unidentified: None	Ci	0	0	0	0	0	0	0	0	0
Total for Period	Ci	0	7.15E-07	2.35E-05	4.12E-04	4.36E-04	0	0	0	0
<b>3 Particulates</b>										
Cromium-51	Ci	0	0	0	0	0	0	0	0	0
Manganese-54	Ci	0	0	0	0	0	0	0	0	0
Cobalt-58	Ci	0	0	0	0	0	0	0	0	0
Cobalt-60	Ci	0	0	0	0	0	0	0	0	0
Stronium-89	Ci	0	0	0	0	0	0	0	0	0
Stronium-90	Ci	0	0	0	0	0	0	0	0	0
Niobium-95	Ci	0	0	0	0	0	0	0	0	0
Cesium-134	Ci	0	0	0	0	0	0	0	0	0
Cesium-137	Ci	0	0	0	0	0	0	0	0	0
Other: Be-7	Ci	2.28E-06	4.10E-07	2.25E-06	0	4.94E-06	0	0	0	0
Unidentified: None	Ci	0	0	0	0	0	0	0	0	0
Total for Period	Ci	2.28E-06	4.10E-07	2.25E-06	0	4.94E-06	0	0	0	0

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**  
**JANUARY-DECEMBER, 2009**

**Virgil C. Summer Nuclear Station**  
**South Carolina Electric & Gas**

**TABLE 3**  
**Liquid Effluents Summation of All Releases**

	UNITS	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	2009 TOTAL	EST. ERROR %
<b>A. Fission &amp; Activation Products</b>							
1. Total release	Ci	1.53E-03	2.43E-03	2.26E-03	8.41E-03	1.46E-02	18.03
2. Average diluted concentration	uCi/ml	4.81E-12	6.93E-12	5.94E-12	2.93E-11	1.09E-11	
<b>B. Tritium</b>							
1. Total release	Ci	7.00E+01	1.26E+02	4.32E+02	2.28E+02	8.56E+02	18.10
2. Average diluted concentration	uCi/ml	2.20E-07	3.58E-07	1.14E-06	7.96E-07	6.41E-07	
<b>C. Dissolved and entrained gases</b>							
1. Total release	Ci	0.00E+00	2.41E-06	3.77E-03	1.72E-03	5.50E-03	19.06
2. Average diluted concentration	uCi/ml	0.00E+00	6.96E-15	9.92E-12	6.01E-12	4.12E-12	
3.Percent ODCM limit ( 2.0E-4 uCi/ml )	%	0.00E+00	3.48E-09	4.96E-06	3.01E-06	2.06E-06	
<b>D. Gross alpha radioactivity</b>							
1. Total release	Ci	0	0	0	0	0	N/A
<b>E. ODCM limits ( from A and B )</b>							
1. Percent of ODCM Qtr total body limit	%	3.28E-02	4.29E-02	1.56E-01	1.84E-01	N/A	
2. Percent of ODCM annual total body limit	%	1.64E-02	3.78E-02 *	1.16E-01 *	2.08E-01 *	2.08E-01 *	
3. Percent of ODCM Qtr max. organ limit**	%	1.04E-02	1.33E-02	4.71E-02	5.83E-02	N/A	
4. Percent of ODCM annual max. organ limit**	%	5.19E-03	1.19E-02 *	3.54E-02 *	6.27E-02 *	6.27E-02 *	
<b>E. Volume of waste released (undiluted)</b>	liters	8.97E+06	1.10E+07	7.60E+06	4.69E+07	7.44E+07	3.0
<b>F. Volume of dilution water</b>	liters	3.18E+11	3.51E+11	3.80E+11	2.87E+11	1.34E+12	4.3

\* Cumulative

\*\* See page 3 for max. organ for each quarter and cumulative.

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

JANUARY - DECEMBER, 2009

*Virgil C. Summer Nuclear Station, South Carolina Electric & Gas*

**TABLE 4**  
**LIQUID EFFLUENTS**

Nuclides Released*	Units	Continuous Mode						Batch Mode				
		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual Total	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual Total	
Strontium-89	Ci	0	0	0	0	0	8.61E-06	4.27E-07	0	0	9.04E-06	
Strontium-90	Ci	0	0	0	0	0	3.74E-06	5.00E-06	0	0	8.74E-06	
Cesium-134	Ci	0	0	0	0	0	4.57E-05	7.18E-05	7.40E-05	1.92E-05	2.11E-04	
Cesium-137	Ci	0	0	0	0	0	1.15E-04	2.12E-04	1.60E-04	5.24E-05	5.39E-04	
Iodine-131	Ci	0	0	0	0	0	0	1.96E-05	5.10E-05	2.20E-05	9.26E-05	
Cobalt-57	Ci	0	0	0	0	0	0	0	0	0	0	
Cobalt-58	Ci	0	0	0	0	0	9.70E-05	1.06E-04	2.38E-05	1.48E-04	3.75E-04	
Cobalt-60	Ci	0	0	0	0	0	6.85E-04	1.34E-03	1.27E-03	5.07E-04	3.80E-03	
Iron-59	Ci	0	0	0	0	0	0	0	0	6.24E-06	6.24E-06	
Zinc-65	Ci	0	0	0	0	0	0	2.15E-06	0	0	2.15E-06	
Manganese-54	Ci	0	0	0	0	0	9.60E-05	1.52E-04	1.25E-04	3.23E-05	4.05E-04	
Chromium-51	Ci	0	0	0	0	0	0	7.00E-06	0	1.62E-04	1.69E-04	
Zirconium-Niobium-95	Ci	0	0	0	0	0	9.43E-06	4.65E-06	4.17E-06	3.72E-05	5.55E-05	
Molybdenum-99	Ci	0	0	0	0	0	0	0	4.61E-05	1.09E-05	5.70E-05	
Technetium-99m	Ci	0	0	0	0	0	0	2.29E-05	6.00E-05	1.75E-05	1.00E-04	
Cerium-144	Ci	0	0	0	0	0	0	0	0	0	0	
Other:	Be-7	Ci	0	0	0	0	0	8.05E-05	2.60E-04	1.55E-05	0	3.56E-04
	Na-24	Ci	0	0	0	0	0	0	0	7.04E-06	1.32E-06	8.36E-06
	Fe-55	Ci	0	0	0	0	0	3.48E-04	1.73E-05	0	3.80E-04	7.45E-04
	As-76	Ci	0	0	0	0	0	0	0	0	3.87E-05	3.87E-05
	Ge-77	Ci	0	0	0	0	0	0	0	0	9.99E-07	9.99E-07
	Rb-88	Ci	0	0	0	0	0	0	0	0	1.95E-05	1.95E-05
	Ru-103	Ci	0	0	0	0	0	0	0	0	5.37E-07	5.37E-07
	Ag-110m	Ci	0	0	0	0	0	0	0	0	4.90E-06	4.90E-06
	Sn-113	Ci	0	0	0	0	0	0	0	0	4.54E-07	4.54E-07
	Sb-124	Ci	0	0	0	0	0	0	0	0	9.63E-06	9.63E-06
	Sb-125	Ci	0	0	0	0	0	3.71E-05	1.91E-04	3.54E-04	1.28E-04	7.10E-04
	Te-123m	Ci	0	0	0	0	0	0	0	0	5.35E-05	5.35E-05
	Te-125m	Ci	0	0	0	0	0	0	0	0	6.74E-03	6.74E-03
	Te-129m	Ci	0	0	0	0	0	0	0	0	9.19E-06	9.19E-06
	Te-132	Ci	0	0	0	0	0	0	0	0	4.22E-07	4.22E-07
	I-132	Ci	0	0	0	0	0	0	0	0	1.04E-06	1.04E-06
	I-133	Ci	0	0	0	0	0	0	1.83E-05	5.28E-05	1.56E-06	7.27E-05
	I-135	Ci	0	0	0	0	0	0	0	1.00E-05	0	1.00E-05
Total for Period (above)	Ci	0	0	0	0	0	1.53E-03	2.43E-03	2.25E-03	8.40E-03	1.46E-02	
Ar-41	Ci	0	0	0	0	0	0	0	0	3.32E-05	3.32E-05	
Kr-85m	Ci	0	0	0	0	0	0	0	0	1.00E-05	1.00E-05	
Kr-88	Ci	0	0	0	0	0	0	0	0	1.10E-05	1.10E-05	
Xenon-133	Ci	0	0	0	0	0	0	2.44E-06	3.69E-03	1.62E-03	5.31E-03	
Xenon-133m	Ci	0	0	0	0	0	0	0	5.29E-05	4.80E-06	5.77E-05	
Xenon-135	Ci	0	0	0	0	0	0	0	2.86E-05	4.25E-05	7.11E-05	
Total Entrained Gases	Ci	0	0	0	0	0	0	2.44E-06	3.77E-03	1.72E-03	5.50E-03	

\*Tritium not included. See Table 3 for tritium numbers ----- No Unidentified nuclides found

## ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

January - December, 2009

*Virgil C. Summer Nuclear Station*  
*South Carolina Electric & Gas*Table 5  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

1. Solid Waste Shipped Offsite for Burial or Disposal (Not irradiated fuel).

Type of Waste	Unit	2009 Total	Est. Total Error, %
a. Spent resins, filters, sludge, evaporator bottoms, etc.	m3 Ci	2.24E+01 1.13E+02	+/-25
b. Dry compressible waste contaminated equip., etc.	m3 Ci	1.69E+02 3.54E+00	+/-25
c. Irradiated components, control rods, etc.	m3 Ci	0 0	N/A
d. Other	m3 Ci	0 0	N/A

2. Estimate of major nuclide composition for the year (by type of waste) for concentrations above 1.0%. Activities for nuclides are in Curies.

a.	Fe-55	57.2%	6.47E+01
	Ni-63	15.4%	1.75E+01
	Co-60	12.6%	1.43E+01
	Cs-137	6.3%	7.06E+00
	Mn-54	3.2%	3.66E+00
	Cs-134	3.0%	3.39E+00
b.	Fe-55	45.4%	1.61E+00
	Ni-63	14.6%	5.16E-01
	Co-60	13.9%	4.93E-01
	Co-58	7.1%	2.53E-01
	Cr-51	6.9%	2.44E-01
	Zr-95	3.1%	1.09E-01
	H-3	1.9%	6.61E-02
	Mn-54	1.7%	6.01E-02
	Cs-137	1.1%	4.03E-02
c.	None	N/A	N/A
d.	None	N/A	N/A

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**  
**January - December, 2009**

***Virgil C. Summer Nuclear Station***  
***South Carolina Electric & Gas***

**Table 5**  
**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS**

**3A. Solid Waste Disposition**

Numbers of Shipments	Mode of Transportation	Destination
4	Hittman Trucking	Barnwell Disposal Facility SC
1	Hittman Trucking	Barnwell Processing Facility SC
4	R&R Trucking	Studsvik Processing Facility TN
1	Studsvik Logistics, LLC	Studsvik Processing Facility TN

**Notes:**

Twelve (12) partial shipments of DAW were made from Studsvik (Memphis, TN) to Envirocare (Clive, UT) totaling 439.7ft3.

Four (4) shipments were sent for direct burial at Barnwell.

One (1) shipment was sent to the Barnwell Processing Facility and disposed of at the Barnwell Disposal Facility.

**3B. Irradiated Fuel Shipments (Disposition)**

Number of Shipments	Mode of Transportation	Destination
0	N/A	N/A

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

**JANUARY - DECEMBER 2009**

***Virgil C. Summer Nuclear Station  
South Carolina Electric & Gas***

**Table 6  
GASEOUS AND LIQUID DOSES**

ODCM Section	GASEOUS LIMITS	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		TOTAL ANNUAL DOSE
		DOSE	Percent of Limit	DOSE	Percent of Limit	DOSE	Percent of Limit	DOSE	Percent of Limit	
1.2.3.1.a,b	5 mrad gamma / qtr. 10 mrad gamma / yr.	2.75E-06 mrad	5.50E-05 2.75E-05	9.79E-07 mrad	1.96E-05 3.73E-05 *	0.00E+00 mrad	0.00E+00 3.73E-05 *	2.45E-03 mrad	4.90E-02 2.45E-02 *	2.45E-03
1.2.3.1.a,b	10 mrad beta / qtr. 20 mrad beta / yr.	1.09E-06 mrad	1.09E-05 5.46E-06	3.84E-07 mrad	3.84E-06 7.38E-06 *	0.00E+00 mrad	0.00E+00 7.38E-06 *	1.01E-03 mrad	1.01E-02 5.05E-03 *	1.01E-03
1.2.4.1.a,b	7.5 mrem organ/qtr 15 mrem organ/yr.	4.70E-07 mrem**	6.27E-06 3.13E-06	1.31E-05 mrem**	1.75E-04 9.07E-05 *	7.47E-05 mrem**	9.96E-04 5.89E-04 *	1.05E-03 mrem**	1.40E-02 7.60E-03 *	1.14E-03
1.1.3.1a,b	LIQUID LIMITS		4.91E-04 mrem	6.44E-04 mrem	4.29E-02 3.78E-02 *	2.34E-03 mrem	1.56E-01 1.16E-01 *	2.76E-03 mrem	1.84E-01 2.08E-01 *	6.24E-03
	1.5 mrem / qtr. 3 mrem / yr.	3.28E-02 1.64E-02								
1.1.3.1a,b	5 mrem organ/qtr*** 10 mrem organ/yr.	5.19E-04 mrem (Liver)	1.04E-02 5.19E-03	6.66E-04 mrem (Liver)	1.33E-02 1.19E-02 *	2.36E-03 mrem (Liver)	4.71E-02 3.54E-02 *	2.92E-03 mrem (GI-LLI)	5.83E-02 6.27E-02 *	6.33E-03 (Liver)

\* Includes contribution from previous quarters

\*\* Includes dose from all nuclides

\*\*\* See page 3 for max organ for each quarter

**TABLE 7**

**JOINT FREQUENCY DISTRIBUTION  
BY QUARTER FOR 2009**

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	6	3	2	1	0	12	10.14
NNE	0	2	0	4	2	0	8	14.65
NE	0	1	3	3	2	1	10	15.85
ENE	0	0	1	0	1	0	2	15.59
E	0	1	0	0	0	0	1	7.93
ESE	0	0	1	0	0	0	1	8.15
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	1	0	1	0	0	2	11.59
SSW	0	1	1	0	0	0	2	8.35
SW	0	5	10	0	0	0	15	8.90
WSW	2	16	17	1	0	0	36	8.28
W	1	6	9	1	0	0	17	9.15
WNW	0	3	5	3	0	0	11	9.70
NW	2	6	6	0	0	0	14	7.08
NNW	2	5	4	4	0	0	15	9.51
Total	7	53	60	19	6	1	146	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	1	6	6	12	0	0	25 11.97
NNE	0	7	2	7	0	0	16 11.00
NE	0	5	9	2	0	1	17 9.95
ENE	0	2	1	0	0	0	3 7.49
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	3	0	0	0	3 9.91
SSW	0	1	1	2	0	0	4 11.20
SW	0	9	5	0	0	0	14 7.12
WSW	1	13	2	0	0	0	16 6.19
W	0	8	2	0	0	0	10 6.82
WNW	0	7	1	1	0	0	9 7.02
NW	1	3	3	2	0	0	9 8.97
NNW	0	7	4	3	0	0	14 9.24
Total	3	68	39	29	0	1	140

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	4	2	2	3	2	0	10.23
NNE	2	4	5	18	3	0	13.40
NE	1	6	10	10	0	0	10.56
ENE	1	7	3	0	0	0	7.09
E	0	4	4	0	0	0	8.31
ESE	0	4	1	0	0	0	7.00
SE	0	2	1	0	0	0	7.85
SSE	0	3	1	0	0	0	6.83
S	2	10	4	1	0	0	6.73
SSW	0	8	8	1	0	0	8.33
SW	2	10	2	0	0	0	5.74
WSW	0	6	4	0	0	0	7.10
W	0	3	4	2	0	0	10.09
WNW	0	7	1	1	0	0	6.80
NW	1	3	6	2	0	0	9.21
NNW	1	4	2	3	0	0	9.00
Total	14	83	58	41	5	0	201

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	6	16	17	2	0	0	7.49
NNE	0	22	16	12	0	0	9.32
NE	5	22	32	13	0	0	9.56
ENE	1	18	34	8	0	0	9.66
E	4	30	14	0	0	0	7.12
ESE	6	21	12	0	0	0	6.25
SE	12	20	10	1	0	0	6.24
SSE	14	28	10	0	0	0	5.73
S	7	31	24	5	1	0	7.78
SSW	8	32	36	15	3	0	9.29
SW	23	24	9	0	0	0	5.50
WSW	17	20	4	2	0	0	5.32
W	15	25	18	2	0	0	6.81
WNW	21	14	4	0	0	0	4.44
NW	1	25	15	0	0	0	7.20
NNW	5	4	10	3	0	0	8.36
Total	145	352	265	63	4	0	829

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	6	4	2	0	0	0	4.86
NNE	6	6	1	0	0	0	4.78
NE	0	1	2	0	0	0	8.15
ENE	4	3	2	0	0	0	5.41
E	1	4	3	0	0	0	6.27
ESE	7	2	1	0	0	0	3.41
SE	9	40	1	0	0	0	5.38
SSE	19	33	0	0	0	0	4.30
S	15	40	10	0	0	0	5.66
SSW	11	59	6	0	0	0	5.61
SW	17	53	3	1	0	0	5.43
WSW	21	40	3	0	0	0	5.19
W	15	29	5	1	0	0	5.48
WNW	16	8	0	0	0	0	3.81
NW	3	7	0	0	0	0	4.35
NNW	2	1	2	0	0	0	5.25
Total	152	330	41	2	0	0	525

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	1	0	0	0	0	0	3.20
NNE	1	0	0	0	0	0	2.41
NE	1	0	0	0	0	0	2.31
ENE	3	0	0	0	0	0	2.24
E	4	2	0	0	0	0	3.05
ESE	3	0	0	0	0	0	1.73
SE	3	12	0	0	0	0	4.65
SSE	12	15	0	0	0	0	4.17
S	5	46	0	0	0	0	4.97
SSW	11	18	0	0	0	0	4.13
SW	21	13	0	0	0	0	3.69
WSW	11	9	0	0	0	0	3.78
W	11	10	0	0	0	0	3.67
WNW	16	1	0	0	0	0	3.06
NW	4	1	0	0	0	0	2.69
NNW	0	2	0	0	0	0	4.34
Total	107	129	0	0	0	0	236

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 6 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	2	0	0	0	0	0	2.98
NNE	1	1	0	0	0	0	3.31
NE	1	1	0	0	0	0	3.90
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	1	0	0	0	0	5.80
SSE	1	8	0	0	0	0	4.55
S	5	7	0	0	0	0	4.43
SSW	6	3	0	0	0	0	3.49
SW	8	1	0	0	0	0	2.66
WSW	8	7	0	0	0	0	4.10
W	6	3	0	0	0	0	3.87
WNW	0	0	0	0	0	0	0.00
NW	1	0	0	0	0	0	2.51
NNW	0	0	0	0	0	0	0.00
Total	39	32	0	0	0	0	71

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 1- 1 00:00 to 9- 3-31 23:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	20	34	30	19	3	0	106	8.76
NNE	10	42	24	41	5	0	122	10.32
NE	8	36	56	28	2	2	132	10.12
ENE	9	30	41	8	1	0	89	8.72
E	9	41	21	0	0	0	71	6.82
ESE	16	27	15	0	0	0	58	5.62
SE	24	75	12	1	0	0	112	5.68
SSE	46	87	11	0	0	0	144	4.88
S	34	135	41	7	1	0	218	6.29
SSW	36	122	52	18	3	0	231	7.16
SW	71	115	29	1	0	0	216	5.43
WSW	60	111	30	3	0	0	204	5.72
W	48	84	38	6	0	0	176	6.30
WNW	53	40	11	5	0	0	109	5.02
NW	13	45	30	4	0	0	92	7.01
NNW	10	23	22	13	0	0	68	8.54
Total	467	1047	463	154	15	2	2148	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 12  
 Hours of No Stability Class : 12  
 Total hours of observation : 2160

TABLE 7  
 FIRST QUARTER 2009  
 PAGE 8 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	12	6	0	1	1	0	20	5.12
NNE	1	3	1	1	2	1	9	12.25
NE	0	2	0	5	6	1	14	17.37
ENE	0	2	1	1	1	0	5	11.60
E	0	2	1	0	0	0	3	7.69
ESE	0	1	1	0	0	0	2	6.43
SE	0	0	1	0	0	0	1	9.30
SSE	0	3	0	0	0	0	3	6.12
S	0	1	1	0	0	0	2	7.23
SSW	0	6	1	1	0	0	8	7.83
SW	2	11	6	0	0	0	19	6.98
WSW	2	23	14	3	0	0	42	8.00
W	2	10	11	6	0	0	29	9.54
WNW	4	6	4	0	0	0	14	6.79
NW	1	7	2	0	0	0	10	6.38
NNW	4	15	2	0	0	0	21	5.62
Total	28	98	46	18	10	2	202	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T with Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	2	16	0	0	0	0	5.16
NNE	7	6	2	9	1	0	9.68
NE	2	5	8	13	1	0	11.91
ENE	0	0	1	1	0	0	10.78
E	0	0	1	0	0	0	8.55
ESE	0	0	4	0	0	0	10.19
SE	0	1	2	0	0	0	9.04
SSE	1	4	1	1	0	0	7.57
S	0	3	3	0	0	0	7.89
SSW	1	3	6	2	0	0	9.32
SW	1	11	5	0	0	0	7.18
WSW	2	16	5	0	0	0	6.67
W	2	4	5	1	0	0	8.01
WNW	4	9	4	0	0	0	5.93
NW	1	3	1	0	0	0	6.45
NNW	2	4	2	0	0	0	6.62
Total	25	85	50	27	2	0	189

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	2	8	1	0	0	0	11 5.38
NNE	4	10	8	5	2	1	30 10.06
NE	2	2	7	10	2	0	23 12.46
ENE	0	2	5	2	0	0	9 9.22
E	2	2	6	1	0	0	11 7.86
ESE	0	2	3	0	0	0	5 7.96
SE	0	0	2	0	0	0	2 10.68
SSE	2	1	4	0	0	0	7 7.04
S	1	13	3	0	0	0	17 6.65
SSW	2	9	13	2	0	0	26 8.54
SW	3	17	1	0	0	0	21 5.45
WSW	3	14	2	0	0	0	19 5.37
W	2	4	2	2	0	0	10 7.88
WNW	0	8	4	0	0	0	12 7.09
NW	1	2	2	0	0	0	5 6.21
NNW	0	6	1	0	0	0	7 6.21
Total	24	100	64	22	4	1	215

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	5	18	7	7	0	0	7.79
NNE	8	23	12	9	0	0	8.10
NE	7	19	40	10	0	0	9.45
ENE	1	20	31	11	0	0	9.54
E	1	37	9	3	0	0	7.39
ESE	2	39	2	0	0	0	6.42
SE	5	68	5	0	0	0	5.76
SSE	9	47	15	1	0	0	6.33
S	12	47	31	2	0	0	6.98
SSW	5	46	32	2	0	0	7.66
SW	10	39	10	0	0	0	6.08
WSW	12	33	6	0	0	0	5.61
W	12	20	12	1	0	0	6.63
WNW	11	4	2	0	0	0	3.85
NW	5	4	4	1	0	0	6.16
NNW	4	8	8	0	0	0	7.02
Total	109	472	226	47	0	0	854

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	5	2	5	0	0	0	6.01
NNE	5	4	0	0	0	0	4.07
NE	2	2	1	0	0	0	5.54
ENE	1	3	1	0	0	0	6.09
E	2	5	3	0	0	0	6.08
ESE	3	4	1	0	0	0	5.04
SE	10	25	0	0	0	0	5.16
SSE	24	30	0	0	0	0	4.34
S	17	44	4	0	0	0	4.97
SSW	22	46	12	0	0	0	5.49
SW	25	38	3	0	0	0	4.56
WSW	18	28	2	0	0	0	4.62
W	15	26	0	0	0	0	4.30
WNW	11	6	1	0	0	0	3.90
NW	16	7	1	0	0	0	3.89
NNW	4	1	1	0	0	0	4.77
Total	180	271	35	0	0	0	486

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23  
 Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00  
 Stability Class: F delta T/ delta z 61->10 m Delta T With Substitution  
 Wind Sensor Height : 10 meter  
 Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	1	0	0	0	0	0	1	2.40
NNE	1	0	0	0	0	0	1	1.30
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	1	0	0	0	0	0	1	3.84
ESE	0	0	0	0	0	0	0	0.00
SE	0	6	0	0	0	0	6	6.24
SSE	6	11	1	0	0	0	18	4.82
S	9	23	0	0	0	0	32	4.70
SSW	5	12	0	0	0	0	17	3.84
SW	18	7	0	0	0	0	25	3.36
WSW	12	12	0	0	0	0	24	3.95
W	8	10	0	0	0	0	18	4.01
WNW	13	2	0	0	0	0	15	2.85
NW	6	2	0	0	0	0	8	3.16
NNW	1	0	0	0	0	0	1	1.49
Total	81	85	1	0	0	0	167	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 6 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	1	0	0	0	0	0	1	3.68
SSE	3	1	0	0	0	0	4	3.73
S	6	10	0	0	0	0	16	4.34
SSW	4	4	0	0	0	0	8	3.98
SW	18	4	0	0	0	0	22	3.53
WSW	11	1	0	0	0	0	12	3.27
W	1	1	0	0	0	0	2	3.56
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	44	21	0	0	0	0	65	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 4- 1 00:00 to 9- 6-30 23:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	27	50	13	8	1	0	99 6.23
NNE	26	46	23	24	5	2	126 8.83
NE	13	30	56	38	9	1	147 11.03
ENE	2	27	39	15	1	0	84 9.45
E	6	46	20	4	0	0	76 7.27
ESE	5	46	11	0	0	0	62 6.61
SE	16	100	10	0	0	0	126 5.78
SSE	45	97	21	2	0	0	165 5.53
S	45	141	42	2	0	0	230 5.91
SSW	39	126	64	7	0	0	236 6.71
SW	77	127	25	0	0	0	229 5.20
WSW	60	127	29	3	0	0	219 5.63
W	42	75	30	10	0	0	157 6.41
WNW	43	35	15	0	0	0	93 4.94
NW	30	25	10	1	0	0	66 5.03
NNW	15	34	14	0	0	0	63 6.11
Total	491	1132	422	114	16	3	2178

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 6  
 Hours of No Stability Class : 6  
 Total hours of observation : 2184

TABLE 7  
 SECOND QUARTER 2009  
 PAGE 8 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	4	13	0	0	1	0	5.55
NNE	3	16	0	0	0	0	5.16
NE	0	4	6	1	0	0	8.05
ENE	1	6	1	1	0	0	7.26
E	1	5	2	0	0	0	6.70
ESE	0	0	0	0	0	0	0.00
SE	0	2	0	0	0	0	5.33
SSE	0	1	0	0	0	0	6.77
S	0	1	0	0	0	0	5.86
SSW	2	6	0	0	0	0	6.14
SW	1	13	2	0	0	0	6.07
WSW	1	17	11	0	0	0	7.45
W	0	12	6	0	0	0	7.08
WNW	0	8	3	0	0	0	6.97
NW	3	7	2	0	0	0	5.60
NNW	10	11	3	0	0	0	4.74
Total	26	122	36	2	1	0	187

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	9	10	1	1	0	0	5.13
NNE	4	16	5	1	0	0	6.35
NE	2	10	7	4	0	0	9.17
ENE	0	6	3	2	0	0	8.85
E	1	2	0	1	0	0	7.43
ESE	0	0	1	0	0	0	8.70
SE	0	1	0	0	0	0	5.93
SSE	0	0	1	0	0	0	9.70
S	1	1	2	0	0	0	7.40
SSW	3	4	3	0	0	0	6.12
SW	1	9	2	0	0	0	6.35
WSW	5	8	2	0	0	0	5.50
W	0	9	1	0	0	0	6.06
WNW	1	4	0	0	0	0	4.44
NW	2	3	0	0	0	0	4.06
NNW	3	10	1	0	0	0	5.78
Total	32	93	29	9	0	0	163

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)							Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	8	7	3	2	0	0	20	6.35
NNE	2	16	18	7	0	0	43	8.90
NE	0	17	11	12	0	0	40	9.80
ENE	3	8	5	2	0	0	18	7.54
E	2	8	3	0	0	0	13	6.92
ESE	0	4	1	0	0	0	5	7.34
SE	0	3	2	0	0	0	5	7.77
SSE	1	5	1	0	0	0	7	6.23
S	0	4	3	0	0	0	7	7.81
SSW	3	11	6	0	0	0	20	6.46
SW	3	15	5	0	0	0	23	5.97
WSW	5	8	3	0	0	0	16	5.93
W	5	5	2	0	0	0	12	5.03
WNW	4	1	0	0	0	0	5	3.81
NW	6	6	3	0	0	0	15	4.97
NNW	1	3	3	0	0	0	7	6.97
Total	43	121	69	23	0	0	256	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	13	27	7	10	0	0	5.27
NNE	16	37	43	14	0	0	8.25
NE	12	35	65	12	0	0	8.81
ENE	3	45	35	2	0	0	7.89
E	2	43	16	0	0	0	7.32
ESE	2	39	3	0	0	0	6.09
SE	2	30	3	0	0	0	6.20
SSE	2	35	4	0	0	0	6.22
S	7	24	8	0	0	0	6.30
SSW	14	70	13	0	0	0	5.91
SW	24	53	7	0	0	0	5.18
WSW	19	24	5	1	0	0	5.05
W	16	20	3	0	0	0	4.73
WNW	15	8	1	0	0	0	3.93
NW	5	8	1	0	0	0	4.48
NNW	5	5	1	1	0	0	5.10
Total	157	503	215	40	0	0	915

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : .35  
 Hours of No Stability Class : .35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	3	1	0	1	0	0	5 6.10
NNE	3	5	1	0	0	0	9 5.25
NE	1	3	2	0	0	0	6 7.02
ENE	4	2	0	0	0	0	6 3.21
E	7	13	0	0	0	0	20 4.46
ESE	3	7	0	0	0	0	10 4.87
SE	7	26	0	0	0	0	33 4.86
SSE	26	35	0	0	0	0	61 4.39
S	29	42	3	0	0	0	74 4.68
SSW	22	58	1	0	0	0	81 4.78
SW	41	27	1	0	0	0	69 3.95
WSW	24	16	0	0	0	0	40 3.94
W	27	3	0	0	0	0	30 2.93
WNW	9	5	1	0	0	0	15 3.87
NW	11	3	0	0	0	0	14 3.47
NNW	4	5	1	0	0	0	10 4.48
Total	221	251	10	1	0	0	483

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	1	1	0	0	0	0	3.77
NE	1	0	0	0	0	1	2.38
ENE	1	0	0	0	0	1	2.96
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	2	2	0	0	0	4	3.96
SSE	4	8	0	0	0	0	4.48
S	8	9	1	0	0	0	4.87
SSW	14	8	1	0	0	0	4.16
SW	15	2	0	0	0	0	3.19
WSW	17	4	0	0	0	0	3.20
W	10	8	0	0	0	0	3.62
WNW	16	2	0	0	0	0	3.06
NW	2	2	0	0	0	0	3.48
NNW	0	2	0	0	0	0	4.63
Total	91	48	2	0	0	0	141

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 6 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	1	0	0	0	0	0	1	1.03
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	1	0	0	0	0	1	4.06
SSW	1	1	0	0	0	0	2	3.43
SW	5	0	0	0	0	0	5	3.26
WSW	10	0	0	0	0	0	10	2.79
W	3	2	0	0	0	0	5	3.96
WNW	3	1	0	0	0	0	4	3.03
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	23	5	0	0	0	0	28	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9- 7- 1 00:00 to 9- 9-30 23:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	37	58	11	14	1	0	121 6.44
NNE	29	91	67	22	0	0	209 7.70
NE	16	69	91	29	0	0	205 8.92
ENE	12	67	44	7	0	0	130 7.63
E	13	71	21	1	0	0	106 6.69
ESE	6	50	5	0	0	0	61 5.95
SE	11	64	5	0	0	0	80 5.61
SSE	33	84	6	0	0	0	123 5.18
S	45	82	17	0	0	0	144 5.38
SSW	59	158	24	0	0	0	241 5.41
SW	90	119	17	0	0	0	226 4.82
WSW	81	77	21	1	0	0	180 4.96
W	61	59	12	0	0	0	132 4.59
WNW	48	29	5	0	0	0	82 4.12
NW	29	29	6	0	0	0	64 4.49
NNW	23	36	9	1	0	0	69 5.20
Total	593	1143	361	75	1	0	2173

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 35  
 Hours of No Stability Class : 35  
 Total hours of observation : 2208

TABLE 7  
 THIRD QUARTER 2009  
 PAGE 8 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	1	5	4	12	22 22.23
NNE	0	1	13	12	8	3	37 15.68
NE	0	2	22	11	2	0	37 12.46
ENE	0	0	8	3	2	0	13 14.01
E	0	0	1	0	0	0	1 8.29
ESE	0	1	1	0	0	0	2 8.36
SE	0	0	1	0	0	0	1 9.63
SSE	0	2	0	0	0	0	2 6.03
S	1	2	1	3	0	0	7 10.14
SSW	0	0	1	0	0	0	1 11.19
SW	0	2	0	0	0	0	2 7.88
WSW	0	2	1	0	0	0	3 7.78
W	0	2	0	0	0	0	2 6.14
WNW	1	5	1	0	0	0	7 6.68
NW	0	1	4	0	0	0	5 9.32
NNW	1	2	3	1	0	0	7 9.16
Total	3	22	58	35	16	15	149

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)							Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	1	0	3	0	5	9	20.83
NNE	0	4	7	2	3	0	16	11.95
NE	0	5	5	0	0	0	10	8.83
ENE	0	0	7	3	0	0	10	12.41
E	0	3	3	1	0	0	7	9.00
ESE	0	2	1	0	0	0	3	7.43
SE	0	0	1	0	0	0	1	9.51
SSE	0	0	0	0	0	0	0	0.00
S	0	0	1	0	0	0	1	10.60
SSW	0	1	0	0	0	0	1	6.42
SW	3	1	2	0	0	0	6	5.62
WSW	0	8	2	0	0	0	10	7.05
W	1	5	2	0	0	0	8	6.60
WNW	0	7	3	0	0	0	10	7.33
NW	1	1	3	0	0	0	5	7.82
NNW	5	5	4	4	0	0	18	8.11
Total	10	43	41	13	3	5	115	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	3	6	5	4	3	0	21 10.81
NNE	2	4	10	21	4	0	41 13.05
NE	1	8	15	3	1	0	28 9.78
ENE	1	4	5	2	1	0	13 9.70
E	0	2	0	1	0	0	3 10.38
ESE	1	0	1	0	0	0	2 5.91
SE	1	0	0	0	0	0	1 3.63
SSE	1	1	0	0	0	0	2 4.70
S	0	4	0	1	0	0	5 7.79
SSW	1	5	2	0	0	0	8 6.57
SW	4	4	4	0	0	0	12 5.95
WSW	1	3	0	0	0	0	4 5.11
W	1	6	1	0	0	0	8 5.99
WNW	1	5	1	0	0	0	7 5.72
NW	0	5	4	0	0	0	9 6.92
NNW	3	1	2	1	0	0	7 7.11
Total	21	58	50	33	9	0	171

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	8	7	23	8	8	0	54 11.02
NNE	7	29	44	6	2	0	88 8.65
NE	5	26	58	9	3	3	104 10.12
ENE	4	41	48	7	1	0	101 9.01
E	3	30	27	2	0	0	62 7.88
ESE	3	8	9	1	0	0	21 7.66
SE	8	7	2	0	0	0	17 4.68
SSE	9	1	4	1	0	0	15 5.81
S	15	19	14	2	0	0	50 6.72
SSW	11	17	8	0	0	0	36 5.74
SW	16	25	3	0	0	0	44 5.13
WSW	21	28	10	1	0	0	60 5.72
W	27	27	7	0	0	0	61 4.75
WNW	27	18	2	0	0	0	47 4.04
NW	12	18	8	0	0	0	38 5.46
NNW	13	7	19	3	1	0	43 8.05
Total	189	308	286	40	15	3	841

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)							Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	1	4	3	0	0	0	8	6.39
NNE	10	11	2	0	0	0	23	4.82
NE	4	13	9	0	0	0	26	6.69
ENE	2	13	3	0	0	0	18	6.51
E	4	23	4	0	0	0	31	5.52
ESE	2	4	0	0	0	0	6	4.30
SE	3	8	0	0	0	0	11	4.44
SSE	5	7	1	0	0	0	13	4.83
S	7	10	2	0	0	0	19	5.09
SSW	10	21	1	1	0	0	33	5.28
SW	22	16	3	0	0	0	41	4.47
WSW	22	24	5	0	0	0	51	4.78
W	12	39	1	0	0	0	52	4.82
WNW	9	12	0	0	0	0	21	4.09
NW	5	6	0	0	0	0	11	4.58
NNW	6	7	2	0	0	0	15	5.05
Total	124	218	36	1	0	0	379	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	5	2	0	0	0	0	7	2.96
NNE	3	0	0	0	0	0	3	3.35
NE	2	3	0	0	0	0	5	4.10
ENE	0	2	0	0	0	0	2	4.73
E	2	0	0	0	0	0	2	2.03
ESE	3	0	0	0	0	0	3	2.49
SE	5	3	0	0	0	0	8	3.42
SSE	8	5	0	0	0	0	13	3.92
S	15	6	0	0	0	0	21	3.45
SSW	8	7	0	0	0	0	15	3.64
SW	13	5	0	0	0	0	18	3.25
WSW	14	3	0	0	0	0	17	3.12
W	7	7	0	0	0	0	14	3.81
WNW	18	2	0	0	0	0	20	2.79
NW	7	3	0	0	0	0	10	3.07
NNW	5	3	0	0	0	0	8	3.78
Total	115	51	0	0	0	0	166	

Hours of Calm : 1  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

**TABLE 7**  
**FOURTH QUARTER 2009**  
**PAGE 6 OF 8**

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	4	0	0	0	0	0	2.23
NNE	1	0	0	0	0	0	3.65
NE	0	0	0	0	0	0	0.00
ENE	2	0	0	0	0	0	1.99
E	0	0	0	0	0	0	0.00
ESE	1	0	0	0	0	0	1.05
SE	3	0	0	0	0	0	2.14
SSE	7	4	0	0	0	0	3.50
S	11	4	0	0	0	0	2.95
SSW	28	3	0	0	0	0	2.47
SW	38	3	0	0	0	0	2.56
WSW	56	1	0	0	0	0	2.53
W	29	2	0	0	0	0	2.52
WNW	12	1	0	0	0	0	2.89
NW	8	0	0	0	0	0	2.18
NNW	3	0	0	0	0	0	2.44
Total	203	18	0	0	0	0	221

Hours of Calm : 1  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-23

Data Period : 9-10- 1 00:00 to 9-12-31 23:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	21	20	32	20	15	17	125	12.64
NNE	23	49	76	41	17	3	209	10.49
NE	12	57	109	23	6	3	210	9.85
ENE	9	60	71	15	4	0	159	9.27
E	9	58	35	4	0	0	106	7.23
ESE	10	15	12	1	0	0	38	6.48
SE	20	18	4	0	0	0	42	4.40
SSE	30	20	5	1	0	0	56	4.65
S	49	45	18	6	0	0	118	5.68
SSW	58	54	12	1	0	0	125	4.66
SW	96	56	12	0	0	0	164	4.23
WSW	114	69	18	1	0	0	202	4.45
W	77	88	11	0	0	0	176	4.46
WNW	68	50	7	0	0	0	125	4.23
NW	33	34	19	0	0	0	86	5.28
NNW	36	25	30	9	1	0	101	7.12
Total	665	718	471	122	43	23	2042	

Hours of Calm : 2  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 164  
 Hours of No Stability Class : 164  
 Total hours of observation : 2208

TABLE 7  
 FOURTH QUARTER 2009  
 PAGE 8 OF 8

## **TABLE 8**

**JOINT FREQUENCY DISTRIBUTION**

**BY QUARTER FOR 2009**

**( BATCH RELEASES )**

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	1	0	0	0	10.85
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	1	0	0	0	1

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	1	0	0	0	10.39
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	1	0	0	0	1

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0 0.00
NNE	0	0	0	0	0	0	0 0.00
NE	0	0	0	0	0	0	0 0.00
ENE	0	0	0	0	0	0	0 0.00
E	0	0	0	0	0	0	0 0.00
ESE	0	0	0	0	0	0	0 0.00
SE	0	0	0	0	0	0	0 0.00
SSE	0	0	0	0	0	0	0 0.00
S	0	0	0	0	0	0	0 0.00
SSW	0	0	0	0	0	0	0 0.00
SW	0	0	0	0	0	0	0 0.00
WSW	0	0	0	0	0	0	0 0.00
W	0	0	0	0	0	0	0 0.00
WNW	0	0	0	0	0	0	0 0.00
NW	0	0	0	0	0	0	0 0.00
NNW	0	0	0	0	0	0	0 0.00
Total	0	0	0	0	0	0	0 0.00

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++,  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	1	1	0	0	0	7.66
SSW	0	1	4	0	0	0	10.54
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	2	5	0	0	0	7

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9- 1- 6 09:00 to 9- 1- 6 17:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter                   +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	1	1	0	0	0	7.66
SSW	0	1	6	0	0	0	10.56
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	2	7	0	0	0	9

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 9

TABLE 8  
 FIRST QUARTER 2009  
 PAGE 8 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++,  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)							Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter                   +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	Mean Speed
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	
Hours of Calm	:	0						
Hours of Varying Wind Direction	:	0						
Hours of Missing Data	:	0						
Hours of Missing Data for All	:	0						
Hours of No Stability Class	:	0						
Total hours of observation	:	5						

TABLE 8  
FOURTH QUARTER 2009  
PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	1	0	0	0	9.36
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	1	0	0	0	1

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: E delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	1	2	0	0	0	3	8.30
W	0	0	1	0	0	0	1	9.21
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	1	3	0	0	0	4	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

**TABLE 8**  
**FOURTH QUARTER 2009**  
**PAGE 5 OF 8**

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

**TABLE 8**  
**FOURTH QUARTER 2009**  
**PAGE 6 OF 8**

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12- 9 22:00 to 9-12-10 02:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	1	3	0	0	0	8.56
W	0	0	1	0	0	0	9.21
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	1	4	0	0	0	5

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 5

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 8 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: A delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 1 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: B delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 2 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: C delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	1	0	0	0	0	7.26
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	1	0	0	0	0	1

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 3 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: D delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	3	3	0	0	0	7.84
W	0	0	1	0	0	0	9.45
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	3	4	0	0	0	7

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 4 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25  
 Data Period : 9-12-10 03:00 to 9-12-10 10:00  
 Stability Class: E delta T/ delta z 61->10 m Delta T With Substitution  
 Wind Sensor Height : 10 meter                   +++ Batch Release Times Only +++  
                         Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 5 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: F delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter      \*\*\* Batch Release Times Only \*\*\*  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed	
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	Total	
N	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0	

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 6 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class: G delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter                   +++ Batch Release Times Only +++  
Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	0	0	0	0	0	0

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8

TABLE 8  
 FOURTH QUARTER 2009  
 PAGE 7 OF 8

## JOINT WIND FREQUENCY DISTRIBUTION BY STABILITY CLASS

SITE: V. C. SUMMER Nuclear Station UNIT 1

Report Date : 10-02-25

Data Period : 9-12-10 03:00 to 9-12-10 10:00

Stability Class:ALL delta T/ delta z 61-&gt;10 m Delta T With Substitution

Wind Sensor Height : 10 meter +++ Batch Release Times Only +++

Hours at Each Wind Direction and Speed

Wind Direction	Wind Speed (miles/hour)						Mean Speed
	0.75- <4	4- <8	8- <13	13- <19	19- 24	>24	
N	0	0	0	0	0	0	0.00
NNNE	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0.00
WSW	0	3	3	0	0	0	7.84
W	0	1	1	0	0	0	8.35
WNW	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0.00
Total	0	4	4	0	0	0	8

Hours of Calm : 0  
 Hours of Varying Wind Direction : 0  
 Hours of Missing Data for All : 0  
 Hours of No Stability Class : 0  
 Total hours of observation : 8