

ENCLOSURE 2

SEQUOYAH NUCLEAR PLANT

RADIOLOGICAL IMPACT ASSESSMENT REPORT

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TENNESSEE VALLEY AUTHORITY

RADIOLOGICAL IMPACT ASSESSMENT REPORT

SEQUOYAH NUCLEAR PLANT

JANUARY THROUGH DECEMBER 1991

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Radiological Impact Assessment  
Sequoyah Nuclear Plant  
January - December 1991

## INTRODUCTION

Potential doses to maximum individuals and the population around Sequoyah are calculated for each quarter as required in the Sequoyah Offsite Dose Calculation Manual Control 5.2. Measured plant releases for the reporting period are used to estimate these doses. Dispersion of radioactive effluents in the environment is estimated in accordance with the guidance provided by Regulatory Guides 1.109, 1.111 and 1.113 using meteorological data and riverflow data measured during the period. Using dose calculation methodologies which are described in detail in the SQN ODCM, the doses are calculated and used to determine compliance with the dose limits contained in Sequoyah's ODCM. In this report, the doses resulting from releases are described and compared to quarterly and annual limits established for Sequoyah.

## SUMMARY OF LIQUID AND GASEOUS EFFLUENT RELEASES - 1991

Although nuclear plants are designed to contain the radioactive material created by the fission process, small amounts of this material escape from the fuel rods. Also, very small amounts of the structures and components of the systems become activated through the bombardment of neutrons and are worn away. This radioactive material can be transported throughout plant systems and released to the environment.

### Effluent Monitoring

Plant paths through which radioactivity is released are monitored. These monitors record the radiation levels for each release. Monitors which are used for liquid releases will automatically alarm and stop any release which is above regulatory limits. Gaseous release monitors also provide alarming mechanisms to allow for the termination of any release above limits.

### Airborne Releases

The noble gas fission products do not mix with water and are given off in a gaseous form. A very small amount of solid radioactivity is given off along with these noble gases. These releases are processed so that the radioactive material is filtered and/or decayed prior to release through the plant vents. Sampling and monitoring methods are used to determine the amount of radioactive material released. If these methods indicate that radioactivity in airborne effluents above preset limits, then releases are terminated.

### Liquid Releases

Some small amounts of radioactive material migrate into the primary coolant water. The primary coolant water is routed through a purification system to remove most of these particles; however, not all are removed. Some of the radioactive liquids may leak from pipes or valves in the system. These liquids are collected in floor and equipment drains and sumps. The collected liquids are then processed through a clean-up system, composed of storage tanks, recycling systems, and demineralizers, to remove contaminants. The purified water is then monitored to determine the amount of radioactive material remaining in the water prior to its release. Steps are taken to ensure that the amount of radioactivity released to the environment is as low as reasonably achievable (ALARA). If the levels of radioactivity are above preset limits, the releases are circulated through the clean-up system again for additional processing. All radioactivity released from the plant into the Tennessee River is quantified prior to release.

### DOSE LIMITS

The U.S. Nuclear Regulator Commission (NRC) requires nuclear power plants to be designed, built, and operated in such a way that the levels of radioactive material released into unrestricted areas is as low as reasonably achievable (ALARA). To ensure that this is done, the plant's operating license includes requirements for Controls which govern the release of radioactivity. These Controls, contained in the Sequoyah ODCM, specify limits for the release of radioactive effluents, as well as limits for doses to the general public from the release of these effluents. These limits are set well below the NRC 10 CFR 20 limits which govern the concentrations of radioactivity and exposures permissible in unrestricted areas. This ensures that radioactive effluent releases are ALARA.

The ODCM limits for doses at or beyond the site boundary from airborne noble gases releases are:

Less than or equal to 5 mrad per quarter and 10 mrad per year for gamma radiation,

- and -

Less than or equal to 10 mrad per quarter and 20 mrad per year for beta radiation.

The ODCM limit for the dose to a member of the general public at or beyond the site boundary from iodines and particulates released in airborne effluents is:

Less than or equal to 7.5 mrem per quarter and 15 mrem per year to any organ.

The ODCM limit for doses to a member of the general public from radioactive material in liquid effluents released to unrestricted areas, is:

Less than or equal to 1.5 mrem per quarter and 3 mrem per year to the total body,

- and -

Less than or equal to 5 mrem per quarter and 10 mrem per year to any organ

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

Less than or equal to 25 mrem per year to the total body,

Less than or equal to 75 mrem per year to the thyroid,

- and -

Less than or equal to 25 mrem per year to any other organ.

#### DOSE CALCULATIONS

Estimated doses to the public are determined using computer models (the Gaseous Effluent Licensing Code, GELC, and the Quarterly Water Dose Assessment Code, QWATA). These models are based on guidance provided by the NRC (in Regulatory Guides 1.109, 1.110 and 1.113) for determining the potential dose to individuals and populations living in the vicinity of the plant. The area around the plant is analyzed to determine the pathways through which the public may receive a dose. The doses calculated are a representation of the dose to a "maximum exposed individual." Some of the factors used in these calculations (such as ingestion rates) are maximum values. Many of these factors are obtained from NUREG/CR-1004. The values chosen will tend to overestimate the dose to this "maximum" person. In reality, the expected dose to actual individuals is lower. The

calculation methods and results of the calculations are presented in the following sections.

#### DOSES FROM AIRBORNE EFFLUENTS

For airborne effluents, the public can be exposed to radiation from several sources:

- direct radiation from the radioactivity in the air,
- direct radiation from radioactivity deposited on the ground,
- inhalation of airborne radioactivity,
- ingestion of vegetation which contains radioactivity deposited from the atmosphere, and
- ingestion of milk and beef which contains radioactivity deposited from the atmosphere onto vegetation which is then eaten by milk and beef animals.

The concentrations of radioactivity in the air and the soil are estimated by the computer model GELC which uses the actual meteorological conditions to determine the distribution of the effluents in the atmosphere. Again, as many of the parameters as possible are based on actual site specific data. The model that is used to estimate dose, as well as the parameters input to the model, is described in detail in Section 7.0 of the Sequoyah Nuclear Plant Offsite Dose Calculation Manual.

#### Airborne Release Points and Meteorological Data

Meteorological data at Sequoyah are measured continuously. Measurements collected include the wind speed, wind direction, and the temperature at heights of 10, 46 and 91 meters above the ground. Average quarterly joint frequency distributions (JFDs) are calculated for each release point using the appropriate levels of meteorological data. A joint frequency distribution gives the percentage of the time in a quarter that the wind is blowing out of a particular upwind compass sector in a particular range of wind speeds for a given stability class A through G. The wind speeds are divided into nine wind speed ranges. For calculational purposes, calms are distributed into the lowest windspeed range (0-0.5 mph) according to the directional probabilities in the 0.6-1.4 mph range. Stability classes are determined from the vertical temperature gradient between two measurement levels.

All releases from Sequoyah are considered ground-level releases to determine the dispersion of the airborne effluents. The ground-level JFD is derived from windspeeds and directions measured 10 meters above ground and from the vertical temperature gradient between 10 and 46 meters.

The JFDs for each quarter of 1991 are listed in Tables 1, 2, 3 and 4.

#### External Exposure Dose - Airborne Effluents

Dose estimates for maximum external air exposures (gamma-air and beta-air doses) are made for points at and beyond the site boundary. These doses are calculated based on the reported releases for all noble gas nuclides. The reported dose is chosen for the offsite location with the highest calculated exposure during the quarter. The doses calculated for Sequoyah Nuclear Plant for each quarter in 1991 are as shown below.

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#### Individual Doses from Airborne Effluents External Air Exposures (mrad)

	<u>Dose</u>	<u>Location</u>
<u>First Quarter 1991</u>		
γ Air dose	1.5E-02 mrad	SSW at 1840 meters
β Air dose	4.2E-02 mrad	SSW at 1840 meters
<u>Second Quarter 1991</u>		
γ Air dose	2.6E-02 mrad	N at 950 meters
β Air dose	7.3E-02 mrad	N at 950 meters
<u>Third Quarter 1991</u>		
γ Air dose	5.7E-02 mrad	S at 1570 meters
β Air dose	1.5E-01 mrad	S at 1570 meters
<u>Fourth Quarter 1991</u>		
γ Air dose	2.5E-02 mrad	NNW at 730 meters
β Air dose	5.2E-02 mrad	NNW at 730 meters

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Submersion Dose - Airborne Effluents

External doses to the skin and total body, due to submersion in a cloud of noble gases, are estimated for the nearest residence in each sector. These doses are calculated based on the reported releases for noble gas nuclides. The highest of these exposures is chosen and is assumed to be the maximum individual dose. The submersion doses calculated for Sequoyah Nuclear Plant for each quarter in 1991 are as shown below.

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Individual Doses from Airborne Effluents  
Submersion Exposures (mrem)

	<u>Dose</u>	<u>Location</u>
<u>First Quarter 1991</u>		
Total Body	1.1E-02 mrem	SSW at 2019 meters
Skin	2.6E-02 mrem	SSW at 2019 meters
<u>Second Quarter 1991</u>		
Total Body	1.3E-02 mrem	N at 1353 meters
Skin	3.1E-02 mrem	N at 1353 meters
<u>Third Quarter 1991</u>		
Total Body	3.6E-02 mrem	SSW at 2019 meters
Skin	8.2E-02 mrem	SSW at 2019 meters
<u>Fourth Quarter 1991</u>		
Total Body	1.8E-02 mrem	SSW at 2019 meters
Skin	3.8E-02 mrem	SSW at 2019 meters

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# Organ Dose - Airborne Effluents

Internal doses to organs due to releases of airborne effluents are estimated for the inhalation, ground contamination, and ingestion pathways. The ingestion pathway is further divided into four possible contributing pathways: ingestion of cow/goat milk, ingestion of beef, and ingestion of vegetables. Doses from applicable pathways are calculated for each real receptor location defined in Table 5. Doses are calculated based on the reported iodine and particulate releases. To determine the maximum organ dose, the dose contribution from the three pathways are summed for each receptor. For the ingestion dose, however, only those pathways that exist for each receptor are considered in the sum, i.e., milk ingestion doses are included only for farms where milk is consumed without commercial preparation and vegetable ingestion is included only for those locations where a garden is identified. To conservatively account for beef ingestion, a beef ingestion dose equal to that for the highest site boundary location is added to each identified receptor. For ground contamination, the dose added to the organ dose being calculated is the total body dose calculated for that location, i.e., it is assumed that the dose to an individual organ is equal to the total body dose. The organ doses calculated for Sequoyah Nuclear Plant for each quarter in 1991 are shown below.

## Individual Doses from Airborne Effluents Maximum Organ (mrem)

	<u>Organ</u>	<u>Age Group</u>	<u>Dose</u>
<u>First Quarter 1991</u>	Liver	Child	5.0E-04 mrem

Individual Pathway Contributions:

Vegetable Ingestion <sup>1</sup>	3.4E-04
Beef Ingestion <sup>2</sup>	3.3E-05
Inhalation <sup>1</sup>	1.3E-04
Ground Contamination <sup>1</sup>	6.0E-07
Milk Ingestion	N/A

<sup>1</sup>Maximum real receptor is located at 2686 meters in the SSW sector.

<sup>2</sup>Calculated for the site boundary at 1840 meters in the SSW sector.

Individual Doses from Airborne Effluents (Continued)  
 Maximum Organ (mrem)

	<u>Organ</u>	<u>Age Group</u>	<u>Dose</u>
<u>Second Quarter 1991</u>	Thyroid	Child	4.0E-03 mrem

Individual Pathway Contributions:

Vegetable Ingestion <sup>3</sup>	2.6E-03
Beef Ingestion <sup>4</sup>	3.7E-04
Inhalation <sup>3</sup>	9.6E-04
Ground Contamination <sup>3</sup>	1.4E-07
Milk Ingestion	N/A

<sup>3</sup>Maximum real receptor is located at 991 meters in the NNW sector.

<sup>4</sup>Calculated for the site boundary at 950 meters in the N sector.

<u>Third Quarter 1991</u>	Thyroid	Child	3.5E-03 mrem
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Individual Pathway Contributions:

Vegetable Ingestion <sup>5</sup>	2.6E-03
Beef Ingestion <sup>6</sup>	2.0E-04
Inhalation <sup>5</sup>	6.9E-04
Ground Contamination <sup>5</sup>	3.7E-06
Milk Ingestion	N/A

<sup>5</sup>Maximum real receptor is located at 2362 meters in the S sector.

<sup>6</sup>Calculated for the site boundary at 1570 meters in the S sector.

<u>Fourth Quarter 1991</u>	Thyroid	Child	1.7E-02 mrem
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Individual Pathway Contributions:

Vegetable Ingestion <sup>7</sup>	1.1E-02
Beef Ingestion <sup>8</sup>	9.4E-04
Inhalation <sup>7</sup>	4.6E-03
Ground Contamination <sup>7</sup>	6.6E-04
Milk Ingestion	N/A

<sup>7</sup> Maximum real receptor is located at 991 meters in the NNW sector.

<sup>8</sup> Calculated for the site boundary at 730 meters in the NNW sector.

### Dose Summary - Airborne Effluents

The table below gives a comparison of the calculated doses for 1991 to their respective quarterly limits.

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Doses from Airborne Effluents - 1991 Sequoyah Nuclear Plant				
<u>Dose Pathway</u>	<u>Quarter</u>	<u>Dose</u>	<u>Quarterly Limit</u>	<u>Percent of Limit</u>
Airborne-Gamma air Dose	1	1.5E-02 rad	5 mrad	< 1 %
	2	2.6E-02 mrad		< 1 %
	3	5.7E-02 mrad		1 %
	4	2.5E-02 mrad		< 1 %
Airborne-Beta air Dose	1	4.2E-02 mrad	10 mrad	< 1 %
	2	7.3E-02 mrad		< 1 %
	3	1.5E-01 mrad		2 %
	4	5.2E-02 mrad		< 1 %
Airborne-Max Organ Dose	1	5.0E-04 mrem	7.5 mrem	< 1 %
	2	4.0E-03 mrem		< 1 %
	3	3.5E-03 mrem		< 1 %
	4	1.7E-02 mrem		< 1 %

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As is shown by the table, all calculated quarterly doses were well below the allowable limits established in Sequoyah's ODCM. A comparison of the doses since 1983 is presented by quarter in Table 6.

#### DOSES FROM LIQUID EFFLUENTS

For liquid effluents, the public can be exposed to radiation from three sources:

the ingestion of water from the Tennessee River,

the ingestion of fish caught in the Tennessee River, and

direct exposure from radioactive material deposited in the river sediment (recreation).

The concentrations of radioactivity in the Tennessee River are estimated by a computer model which uses measured hydraulic data downstream of Sequoyah. Parameters used to determine the doses are based on guidance given by the NRC (in Regulatory Guides 1.109) for maximum ingestion rates, exposure times, etc. Wherever possible, parameters used in the dose calculation are site specific use factors determined by TVA. The models that are used to estimate doses, as well as the parameters input to the models, are described in Section 6.0 of the Sequoyah Nuclear Plant Offsite Dose Calculation Manual.

#### Liquid Release Points and River Data

Radioactivity concentrations in the Tennessee River are calculated assuming that releases of liquid effluents are continuous. All routine liquid releases from Sequoyah are made through diffusers which extend into the Tennessee River. It is assumed that releases to the river through these diffusers will initially be entrained in one-fifth of the water which flows past the plant. The QWATA code makes the assumption that this mixing condition holds true until the water is completely mixed at the first downstream dam, at Tennessee River mile 471.0. The average river flows past the plant site were 57,536 ft<sup>3</sup>/s for the first quarter of 1991, 28,775 ft<sup>3</sup>/s for the second quarter of 1991, 32,101 ft<sup>3</sup>/s for the third quarter of 1991 and 45,329 ft<sup>3</sup>/s for the fourth quarter.

Dose Estimates - Liquid Effluents

Doses are calculated for recreation, consumption of fish, and drinking water for locations between the plant site and the mouth of the Tennessee River. The maximum potential recreation dose is calculated for a location immediately downstream from the plant outfall. The maximum individual dose from ingestion of fish is assumed to be that calculated for the consumption of fish caught anywhere between the plant and the first downstream dam (Chickamauga Dam). The maximum individual dose from drinking water is assumed to be that calculated at the nearest downstream public water supply (C. F. Industries). This could be interpreted as indicating that the maximum individual, as assumed for liquid releases from Sequoyah, is an individual who obtains all of his drinking water at C. F. Industries, consumes 21 kg (6.9 kg for a child) per year of fish caught from the Tennessee River between Sequoyah and Chickamauga Dam, and spends 500 hours per year standing on the shoreline just below the outfall from Sequoyah. Dose estimates for the maximum individual due to liquid effluents for 1991 are presented below.

Individual Doses from Liquid Effluents  
(mrem)

	<u>Organ</u>	<u>Age Group</u>	<u>Dose</u>
<u>First Quarter 1991</u>	Total Body	Adult	3.2E-03 mrem
		Individual Pathway Contributions:	
			Water Ingestion 5.8E-04
			Fish Ingestion 2.1E-03
			Recreation 5.1E-04
	Liver	Adult	3.9E-03 mrem
		Individual Pathway Contributions:	
			Water Ingestion 5.9E-04
			Fish Ingestion 2.8E-03
			Recreation 5.1E-04

Individual Doses from Liquid Effluents (Continued)  
 (mrem)

Second Quarter 1991

Total Body Adult 9.5E-03 mrem

Individual Pathway Contributions:  
 Water Ingestion 1.3E-03  
 Fish Ingestion 5.8E-03  
 Recreation 2.4E-03

Liver Adult 1.2E-02 mrem

Individual Pathway Contributions:  
 Water Ingestion 1.4E-03  
 Fish Ingestion 7.9E-03  
 Recreation 2.4E-03

Third Quarter 1991

Total Body Adult 1.2E-02 mrem

Individual Pathway Contributions:  
 Water Ingestion 1.3E-03  
 Fish Ingestion 8.2E-03  
 Recreation 2.3E-03

Liver Adult 1.5E-02 mrem

Individual Pathway Contributions:  
 Water Ingestion 1.3E-03  
 Fish Ingestion 1.1E-02  
 Recreation 2.3E-03

Fourth Quarter 1991

Total Body Adult 1.6E-02 mrem

Individual Pathway Contributions:  
 Water Ingestion 9.1E-04  
 Fish Ingestion 1.3E-02  
 Recreation 1.7E-03

Liver Adult 2.1E-02 mrem

Individual Pathway Contributions:  
 Water Ingestion 9.5E-04  
 Fish Ingestion 1.8E-02  
 Recreation 1.7E-03

Dose Summary - Liquid Effluents

The table below gives a comparison of the calculated doses for 1991 to their respective quarterly limits.

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Doses from Liquid Effluents - 1991 Sequoyah Nuclear Plant				
<u>Dose Pathway</u>	<u>Quarter</u>	<u>Dose</u>	<u>Quarterly Limit</u>	<u>Percent of Quarterly Limit</u>
Liquid-Total Body Dose	1	3.2E-03 mrem	1.5 mrem	< 1 %
	2	9.5E-03 mrem		< 1 %
	3	1.2E-02 mrem		< 1 %
	4	1.6E-02 mrem		1 %
Liquid-Max Organ Dose	1	3.9E-03 mrem	5 mrem	< 1 %
	2	1.2E-02 mrem		< 1 %
	3	1.5E-02 mrem		< 1 %
	4	2.1E-02 mrem		< 1 %

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As is shown by the table, all calculated quarterly doses were well below the allowable limits established in Sequoyah's ODCM. A comparison of the doses since 1983 is presented by quarter in Table 6.



# POPULATION DOSES

Population doses for highest exposed organ due to airborne effluents are calculated for an estimated 1,060,000 persons living within a 50-mile radius of the plant site. Ingestion population doses are calculated assuming that each individual consumes milk, vegetables, and meat produced with the sector annulus in which he resides. Doses from external pathways and inhalation are based on the 50-mile human population distribution. Population dose estimates for airborne effluents are presented below.

From liquid releases during 1991, the total population along the Tennessee River was estimated to receive population doses as shown below.

<u>Sequoyah Nuclear Plant</u>			
<u>Population Doses - 1991</u>			
	Total Body Dose	Maximum Organ Dose (organ)	
<u>First Quarter 1991</u>			
Liquid	8.3E-02 man-rem	8.7E-02 man-rem (liver)	
Airborne	6.8E-02 man-rem	6.8E-02 man-rem (liver)	
<u>Second Quarter 1991</u>			
Liquid	3.3E-01 man-rem	3.4E-01 man-rem (liver)	
Airborne	6.9E-02 man-rem	6.9E-02 man-rem (thyroid)	
<u>Third Quarter 1991</u>			
Liquid	3.8E-01 man-rem	4.0E-01 man-rem (liver)	
Airborne	1.6E-01 man-rem	1.6E-01 man-rem (thyroid)	
<u>Fourth Quarter 1991</u>			
Liquid	2.0E-01 man-rem	2.3E-01 man-rem (Liver)	
Airborne	2.0E-01 man-rem	2.1E-01 man-rem (Thyroid)	

Population doses can be compared to the natural background dose to the same population of about 159,000 man-rem/yr (Based on 150 mrem/year for natural background.).

#### DIRECT RADIATION

External gamma radiation levels were measured by thermoluminescent dosimeters (TLDs) deployed around SQN. During the preoperational period from August 1975 to January 1980, these levels averaged approximately 23 mR/quarter at onsite stations and 19 mR/quarter offsite. These higher values measured onsite may be attributable to natural variations in environmental radiation levels, earth moving activities onsite, the mass of concrete employed in the construction of the plants, or other undetermined influences.

Analysis of environmental TLD data for the period of November 1990 to November 1991 showed that the quarterly gamma radiation levels determined from these TLDs during this reporting period averaged approximately 14.4 mR/quarter at onsite stations and approximately 12.6 mR/quarter at offsite stations. This is consistent with levels reported at TVA's nonoperating nuclear power plant construction sites where the average radiation levels onsite are generally 2-5 mR/quarter higher than the levels offsite. Fluctuations in natural background dose rates and in TLD readings tend to mask any small increments which may be due to plant operations. Thus, there was no identifiable increase in dose rate levels attributable to direct radiation from plant equipment and/or gaseous effluents.

#### DOSE TO MEMBERS OF THE PUBLIC INSIDE THE SITE BOUNDARY

No routine activities within the site boundary by members of the public have been identified which would lead to their radiation exposure.

#### TOTAL DOSE

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

The annual total body dose to the maximum individual is conservatively estimated by summing the following doses:

- the total body air submersion dose for each quarter,

- the critical organ dose from airborne effluents for each quarter,

- the total body dose from liquid effluents for each quarter,

- the maximum organ dose from liquid effluents for each quarter, and

any identifiable increase in direct radiation dose levels as measured by the environmental monitoring program.

This dose is compared to the limit for total body or any organ dose (other than thyroid) to determine compliance.

The annual thyroid dose to the maximum individual is conservatively estimated by summing the following doses:

- the total body air submersion dose for each quarter,
- the thyroid dose from airborne effluents for each quarter,
- the total body dose from liquid effluents for each quarter,
- the thyroid dose from liquid effluents for each quarter, and
- any identifiable increase in direct radiation dose levels as measured by the environmental monitoring program.

This dose is compared to the limit for thyroid dose to determine compliance.

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Total Dose from Fuel Cycle - Calendar Year 1991  
Sequoyah Nuclear Plant

Dose	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
<u>Total Body or any Organ Dose</u> (except thyroid)				
Total body air submersion dose	1.1E-02	1.3E-02	3.6E-02	1.8E-02
Critical organ dose (airborne)	5.0E-04	4.0E-03	3.5E-03	1.7E-02
Total body dose (liquid)	3.2E-03	9.5E-03	1.2E-02	1.6E-02
Maximum organ dose (liquid)	3.9E-03	1.2E-02	1.5E-02	2.1E-02
Direct radiation dose	0.0E-00	0.0E-00	0.0E-00	0.0E-00
Total	1.9E-02	3.9E-02	6.7E-02	7.2E-02
Cumulative Total Dose (Total Body or other organ)				2.0E-01

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Total Dose from Fuel Cycle - Calendar Year 1991  
 Sequoyah Nuclear Plant

Dose	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
<u>Thyroid Dose</u>				
Total body air submersion dose	1.1E-02	1.3E-02	3.6E-02	1.8E-02
Thyroid dose (airborne)	4.9E-04	4.0E-03	3.5E-03	1.7E-02
Total body dose (liquid)	3.2E-03	9.5E-03	1.2E-02	1.6E-02
Thyroid dose (liquid)	1.3E-03	4.2E-03	4.9E-03	3.3E-03
Direct radiation dose	0.0E-00	0.0E-00	0.0E-00	0.0E-00
Total (Thyroid)	1.6E-02	3.1E-02	5.6E-02	6.4E-02
Cumulative Total Dose (Thyroid)				1.6E-01

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# CONCLUSION

As a result of operation of Sequoyah Nuclear Plant, radioactive effluents were released to the atmosphere and the Tennessee River. The released radioactivity resulted in estimated potential doses to the public which are well below the ODCM Limits and Regulatory Guidance. Cumulative doses for the calendar year are given below along with a comparison to the respective annual limits for the doses.

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Cumulative Doses from Effluents Sequoyah Nuclear Plant			
<u>Dose Pathway</u>	<u>Dose</u>	<u>Annual Limit</u>	<u>Percent of Annual Limit</u>
Airborne-Gamma air Dose	1.2E-01 mrad	10 mrad	1 %
Airborne-Beta air Dose	3.2E-01 mrad	20 mrad	2 %
Airborne-Max Organ Dose	2.5E-02 mrem	15 mrem	< 1 %
Liquid-Total Body Dose	4.1E-02 mrem	3 mrem	1 %
Liquid-Max Organ Dose	5.2E-02 mrem	10 mrem	< 1 %
Total Dose - Total Body or organ other than thyroid	2.0E-01 mrem	25 mrem	< 1 %
Total Dose - Thyroid	1.6E-01 mrem	75 mrem	< 1 %

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TABLE 1 (page 1 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FIRST QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	
N	0.0	0.0	0.0	0.0	0.051	0.406	0.0	0.0	0.0	0.457
NNE	0.0	0.0	0.0	0.0	0.304	0.881	0.0	0.0	0.0	1.185
NE	0.0	0.0	0.0	0.152	0.152	0.152	0.0	0.0	0.0	0.457
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
SE	0.0	0.0	0.0	0.101	0.0	0.0	0.0	0.0	0.0	0.101
SSE	0.0	0.0	0.0	0.051	0.0	0.051	0.0	0.0	0.0	0.101
S	0.0	0.0	0.0	0.0	0.051	0.101	0.0	0.0	0.0	0.152
SSW	0.0	0.0	0.051	0.051	0.660	0.660	0.0	0.0	0.0	1.421
SW	0.0	0.0	0.0	0.152	0.254	0.203	0.0	0.0	0.0	0.609
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
WNW	0.0	0.0	0.0	0.0	0.051	0.406	0.0	0.0	0.0	0.457
NW	0.0	0.0	0.0	0.0	0.051	0.152	0.051	0.0	0.0	0.254
NNW	0.0	0.0	0.0	0.0	0.051	0.152	0.0	0.0	0.0	0.203
SUBTOTAL	0.0	0.0	0.152	0.107	1.624	3.146	0.051	0.0	0.0	5.479

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS A 108  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 108  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 0

STABILITY CLASS B (-1.9 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	
N	0.0	0.0	0.0	0.0	0.051	0.101	0.0	0.0	0.0	0.152
NNE	0.0	0.0	0.051	0.304	0.254	0.203	0.051	0.0	0.0	0.861
NE	0.0	0.0	0.051	0.355	0.0	0.051	0.0	0.0	0.0	0.457
ENE	0.0	0.0	0.051	0.101	0.051	0.0	0.0	0.0	0.0	0.203
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.101	0.051	0.0	0.0	0.0	0.0	0.0	0.152
SE	0.0	0.0	0.051	0.101	0.0	0.0	0.0	0.0	0.0	0.152
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.051	0.203	0.051	0.0	0.0	0.0	0.304
SSW	0.0	0.0	0.0	0.101	0.254	0.203	0.0	0.0	0.0	0.554
SW	0.0	0.0	0.101	0.101	0.101	0.0	0.0	0.0	0.0	0.304
WSW	0.0	0.0	0.0	0.0	0.051	0.051	0.0	0.0	0.0	0.101
W	0.0	0.0	0.0	0.0	0.0	0.051	0.0	0.0	0.0	0.051
WNW	0.0	0.0	0.0	0.0	0.0	0.051	0.0	0.0	0.0	0.051
NW	0.0	0.0	0.0	0.0	0.0	0.355	0.0	0.0	0.0	0.355
NNW	0.0	0.0	0.0	0.0	0.101	0.051	0.0	0.0	0.0	0.152
SUBTOTAL	0.0	0.0	0.406	1.167	1.065	1.147	0.051	0.0	0.0	1.854

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS B 79  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 79  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 04/26/91

MEAN WIND SPEED = 6.7 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 1 (page 2 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FIRST QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	
N	0.0	0.0	0.0	0.0	0.203	0.152	0.0	0.0	0.0	0.355
NNE	0.0	0.0	0.152	0.354	0.152	0.203	0.051	0.0	0.0	0.812
NE	0.0	0.0	0.152	0.354	0.0	0.0	0.0	0.0	0.0	0.710
NNE	0.0	0.0	0.203	0.051	0.0	0.0	0.0	0.0	0.0	0.254
E	0.0	0.0	0.254	0.0	0.0	0.0	0.0	0.0	0.0	0.254
ESE	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
SE	0.0	0.0	0.051	0.101	0.0	0.0	0.0	0.0	0.0	0.152
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.101	0.051	0.051	0.0	0.0	0.0	0.203
SSW	0.0	0.0	0.051	0.152	0.254	0.101	0.0	0.0	0.0	0.558
SW	0.0	0.0	0.0	0.152	0.304	0.101	0.0	0.0	0.0	0.558
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.101	0.0	0.0	0.0	0.101
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.101	0.101	0.152	0.0	0.0	0.0	0.355
SUBTOTAL	0.0	0.0	0.912	1.471	1.085	0.863	0.051	0.0	0.0	4.363

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS C 88  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 88  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 0

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.3; DELTA-T=-0.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	
N	0.004	0.101	1.319	0.761	1.624	1.319	0.051	0.0	0.0	5.183
NNE	0.004	0.101	1.069	1.674	1.319	1.674	0.101	0.0	0.0	5.843
NE	0.005	0.0	0.463	0.57	0.101	0.101	0.0	0.0	0.0	1.374
NNE	0.003	0.051	0.406	0.0	0.0	0.0	0.0	0.0	0.0	0.459
E	0.001	0.0	0.203	0.0	0.0	0.0	0.0	0.0	0.0	0.204
ESE	0.001	0.0	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.102
SE	0.000	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
SSE	0.001	0.0	0.254	0.051	0.0	0.0	0.051	0.0	0.0	0.357
S	0.004	0.101	0.558	0.761	0.303	0.507	0.051	0.0	0.0	2.185
SSW	0.008	0.051	1.170	2.740	1.471	1.015	0.051	0.0	0.0	6.705
SW	0.007	0.051	1.268	1.370	0.761	0.101	0.0	0.0	0.0	3.350
WSW	0.002	0.001	0.355	0.507	0.152	0.355	0.051	0.0	0.0	1.474
W	0.001	0.0	0.303	0.406	0.152	0.254	0.0	0.0	0.0	1.016
WNW	0.001	0.0	0.101	0.457	0.203	0.507	0.0	0.0	0.0	1.268
W	0.001	0.0	0.303	0.863	0.913	1.015	0.0	0.0	0.0	2.895
WNW	0.002	0.0	0.355	1.015	1.979	0.863	0.0	0.0	0.0	4.212
SUBTOTAL	0.051	0.807	8.478	11.111	8.879	7.712	0.355	0.0	0.0	37.291

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS D 439  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 735  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 04/26/91

MEAN WIND SPEED = 5.3 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS



TABLE 1 (page 3 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FIRST QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.004	0.152	1.522	0.913	0.460	0.152	0.0	0.0	0.0	3.405
NNE	0.008	0.355	2.142	1.214	0.355	0.051	0.0	0.0	0.0	4.125
NE	0.002	0.355	0.355	0.051	0.051	0.0	0.0	0.0	0.0	0.814
NNE	0.001	0.101	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.204
E	0.001	0.254	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.305
ESE	0.000	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.051
SE	0.001	0.152	0.203	0.0	0.0	0.0	0.0	0.0	0.0	0.356
SSE	0.002	0.204	0.406	0.203	0.051	0.0	0.051	0.0	0.0	1.017
S	0.004	0.203	1.065	0.862	0.060	0.860	0.0	0.0	0.0	3.454
SSW	0.009	0.304	2.263	2.484	1.218	0.964	0.0	0.0	0.0	7.264
SW	0.007	0.304	1.877	1.471	0.457	0.152	0.0	0.0	0.0	4.265
WSW	0.002	0.101	0.609	0.304	0.051	0.101	0.0	0.0	0.0	1.149
W	0.001	0.051	0.152	0.457	0.051	0.051	0.0	0.0	0.0	0.762
WNW	0.001	0.254	0.152	0.203	0.203	0.051	0.0	0.0	0.0	0.864
NW	0.002	0.051	0.457	0.304	0.406	0.101	0.0	0.0	0.0	1.321
NNW	0.001	0.203	0.761	0.304	0.304	0.355	0.0	0.0	0.0	1.831
SUBTOTAL	0.051	1.194	12.177	8.777	4.465	2.634	0.051	0.0	0.0	31.355

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS E 862  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 614  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 1

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

JAN 1, 91 - MAR 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.051	0.913	0.051	0.0	0.0	0.0	0.0	0.0	1.015
NNE	0.0	0.254	4.110	0.0	0.0	0.0	0.0	0.0	0.0	4.363
NE	0.0	0.355	1.065	0.0	0.0	0.0	0.0	0.0	0.0	1.421
NNE	0.0	0.152	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.152
E	0.0	0.254	0.101	1.0	0.0	0.0	0.0	0.0	0.0	2.355
ESE	0.0	0.254	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.254
SE	0.0	0.152	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.152
SSE	0.0	0.152	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.254
S	0.0	0.0	0.457	0.101	0.0	0.0	0.0	0.0	0.0	0.558
SSW	0.0	0.152	0.507	0.406	0.101	0.0	0.0	0.0	0.0	1.165
SW	0.0	0.0	0.406	0.507	0.051	0.0	0.0	0.0	0.0	0.964
WSW	0.0	0.0	0.101	0.051	0.0	0.0	0.0	0.0	0.0	0.152
W	0.0	0.0	0.152	0.101	0.0	0.0	0.0	0.0	0.0	0.254
WNW	0.0	0.0	1.101	0.051	0.051	0.0	0.0	0.0	0.0	0.203
NW	0.0	0.0	0.254	0.101	0.0	0.0	0.0	0.0	0.0	0.355
NNW	0.0	0.0	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.101
SUBTOTAL	0.0	1.774	8.371	1.170	0.203	0.0	0.0	0.0	0.0	11.720

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS F 231  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 231  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPPE RATE MEASURED BETWEEN 9.25 AND 45.00 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.75 METER LEVEL

DATE PRINTED: 04/24/91

MEAN WIND SPEED = 2.4 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 1 (page 4 of 4)  
SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FIRST QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR  
STABILITY CLASS G - (DELTA T = 4.0 C/100 M)  
SEQUOYAH NUCLEAR PLANT  
JAN 1, 91 - MAR 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.3	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	24.5	TOTAL
N	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
NNE	0.0	0.101	1.774	0.0	0.0	0.0	0.0	0.0	0.0	1.875
NE	0.0	0.254	0.964	0.0	0.0	0.0	0.0	0.0	0.0	1.218
NNE	0.0	0.304	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.405
E	0.0	0.152	0.152	0.0	0.0	0.0	0.0	0.0	0.0	0.304
ESE	0.0	0.152	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.203
SE	0.0	0.152	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.203
SSE	0.0	0.152	0.101	0.0	0.0	0.0	0.0	0.0	0.0	0.254
S	0.0	0.051	0.355	0.0	0.0	0.0	0.0	0.0	0.0	0.406
SSW	0.0	0.051	0.254	0.203	0.0	0.0	0.0	0.0	0.0	0.507
SW	0.0	0.0	0.203	0.203	0.0	0.0	0.0	0.0	0.0	0.406
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.051	0.0	0.0	0.0	0.0	0.0	0.0	0.051
SUBTOTAL	0.0	1.370	4.150	0.406	0.0	0.0	0.0	0.0	0.0	5.936

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2124  
TOTAL HOURS OF STABILITY CLASS G 117  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 117  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 1971  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 3.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 04/26/91

MEAN WIND SPEED = 2.0 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 2 (page 1 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
SECOND QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥25.5	
N	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
NNE	0.0	0.0	0.0	0.045	0.164	0.046	0.0	0.0	0.0	0.255
NE	0.0	0.0	0.138	0.045	0.092	0.046	0.0	0.0	0.0	0.321
NNE	0.0	0.0	0.0	0.184	0.0	0.0	0.0	0.0	0.0	0.184
E	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
ESE	0.0	0.0	0.046	0.092	0.0	0.0	0.0	0.0	0.0	0.138
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.046	0.046	0.092	0.092	0.0	0.0	0.0	0.377
S	0.0	0.0	0.0	0.231	0.092	0.0	0.0	0.0	0.0	0.323
SSW	0.0	0.0	0.0	0.007	0.099	0.046	0.0	0.0	0.0	0.152
SW	0.0	0.0	0.046	0.461	0.184	0.0	0.0	0.0	0.0	0.692
WSW	0.0	0.0	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.092
W	0.0	0.0	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.092
WNW	0.0	0.0	0.0	0.0	0.046	0.092	0.0	0.0	0.0	0.138
SW	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
NNW	0.0	0.0	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.092
SUBTOTAL	0.0	0.0	0.323	2.456	1.071	0.461	0.0	0.0	0.0	5.110

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS A 111  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 111  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2169  
TOTAL HOURS CALM 0

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥25.5	
N	0.0	0.0	0.046	0.092	0.0	0.0	0.0	0.0	0.0	0.138
NNE	0.0	0.0	0.092	0.169	0.046	0.0	0.0	0.0	0.0	0.307
NE	0.0	0.0	0.461	0.461	0.0	0.0	0.0	0.0	0.0	0.922
NNE	0.0	0.0	0.0	0.138	0.0	0.0	0.0	0.0	0.0	0.138
E	0.0	0.0	0.231	0.0	0.0	0.0	0.0	0.0	0.0	0.231
ESE	0.0	0.0	0.277	0.0	0.0	0.0	0.0	0.0	0.0	0.277
SE	0.0	0.0	0.184	0.092	0.0	0.0	0.0	0.0	0.0	0.277
SSE	0.0	0.0	0.092	0.138	0.046	0.046	0.0	0.0	0.0	0.323
S	0.0	0.0	0.046	0.277	0.046	0.138	0.0	0.0	0.0	0.507
SSW	0.0	0.0	0.184	1.107	0.415	0.046	0.0	0.0	0.0	1.752
SW	0.0	0.0	0.0	0.507	0.164	0.0	0.0	0.0	0.0	0.671
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
WNW	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
SW	0.0	0.0	0.0	0.0	0.138	0.0	0.0	0.0	0.0	0.138
NNW	0.0	0.0	0.0	0.092	0.046	0.046	0.0	0.0	0.0	0.184
SUBTOTAL	0.0	0.0	1.890	3.319	0.961	0.277	0.0	0.0	0.0	6.455

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS B 141  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 140  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2169  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.71 METER LEVEL

DATE PRINTED: 07/30/91

MEAN WIND SPEED = 4.4 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 2 (page 2 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
SECOND QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR  
STABILITY CLASS C 1-1.74 DELTA-T=1.5 C/100 M  
SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	CALM	WIND SPEED(MPH)								TOTAL
		0.0-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	24.5	
N	0.0	0.0	0.0	0.184	0.0	0.0	0.0	0.0	0.0	0.184
NNE	0.0	0.0	0.599	0.231	0.138	0.0	0.0	0.0	0.0	0.968
NE	0.0	0.0	0.736	0.092	0.0	0.0	0.0	0.0	0.0	0.828
ENE	0.0	0.0	0.184	0.046	0.0	0.0	0.0	0.0	0.0	0.231
E	0.0	0.0	0.184	0.0	0.0	0.0	0.0	0.0	0.0	0.184
ESE	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SE	0.0	0.0	0.415	0.046	0.0	0.0	0.0	0.0	0.0	0.461
SSE	0.0	0.0	0.092	0.138	0.0	0.0	0.0	0.0	0.0	0.231
S	0.0	0.0	0.138	0.121	0.092	0.0	0.0	0.0	0.0	0.351
SSW	0.0	0.0	0.277	0.599	0.184	0.0	0.0	0.0	0.0	0.968
SW	0.0	0.0	0.323	0.692	0.046	0.0	0.0	0.0	0.0	1.065
WSW	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.046	0.0	0.0	0.046	0.0	0.0	0.0	0.092
NW	0.0	0.0	0.0	0.046	0.092	0.0	0.0	0.0	0.0	0.138
NNW	0.0	0.0	0.0	0.046	0.138	0.0	0.0	0.0	0.0	0.184
SUBTOTAL	0.0	0.0	3.043	2.336	0.692	0.231	0.0	0.0	0.0	6.302

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS C 142  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 141  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2169  
TOTAL HOURS CALM 0

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR  
STABILITY CLASS D 1-1.54 DELTA-T=0.5 C/100 M  
SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	CALM	WIND SPEED(MPH)								TOTAL
		0.0-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	24.5	
N	0.0	0.092	1.337	0.645	0.277	0.046	0.0	0.0	0.0	2.397
NNE	0.0	0.046	2.444	1.095	0.231	0.046	0.0	0.0	0.0	4.827
NE	0.0	0.046	1.475	0.369	0.092	0.0	0.0	0.0	0.0	2.962
ENE	0.0	0.0	0.645	0.046	0.0	0.0	0.0	0.0	0.0	0.692
E	0.0	0.0	0.692	0.046	0.0	0.0	0.0	0.0	0.0	0.738
ESE	0.0	0.0	0.323	0.046	0.0	0.0	0.0	0.0	0.0	0.369
SE	0.0	0.0	0.599	0.046	0.0	0.0	0.0	0.0	0.0	0.645
SSE	0.0	0.138	0.692	0.337	0.184	0.0	0.0	0.0	0.0	1.337
S	0.0	0.046	2.905	1.213	0.645	0.211	0.0	0.0	0.0	5.027
SSW	0.0	0.046	2.997	4.011	0.738	0.092	0.0	0.0	0.0	7.884
SW	0.0	0.046	1.982	2.075	0.277	0.0	0.0	0.0	0.0	4.337
WSW	0.0	0.046	0.323	0.323	0.092	0.0	0.0	0.0	0.0	0.738
W	0.0	0.138	0.369	0.046	0.092	0.0	0.0	0.0	0.0	0.645
WNW	0.0	0.0	0.092	0.0	0.046	0.092	0.0	0.0	0.0	0.231
NW	0.0	0.046	0.184	0.138	0.046	0.092	0.0	0.0	0.0	0.599
NNW	0.0	0.092	0.184	0.599	0.461	0.184	0.0	0.0	0.0	1.521
SUBTOTAL	0.0	0.676	17.243	11.987	3.427	0.784	0.0	0.0	0.0	34.117

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS D 742  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 740  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2169  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 0.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.75 METER LEVEL

MEAN WIND SPEED = 3.4 MPH

DATE PRINTED: 07/30/91

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 2 (page 3 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
SECOND QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	CALM	WIND SPEED (MPH)								TOTAL
		0-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	
N	0.009	0.692	4.564	0.369	0.194	0.0	0.0	0.0	0.0	5.818
NNE	0.004	0.692	1.338	0.553	0.189	0.0	0.0	0.0	0.0	3.231
NNE	0.001	0.323	0.415	0.139	0.0	0.0	0.0	0.0	0.0	0.877
NNE	0.002	0.138	0.248	0.0	0.0	0.0	0.0	0.0	0.0	0.385
E	0.001	0.184	0.184	0.0	0.046	0.0	0.0	0.0	0.0	0.418
ESE	0.001	0.277	0.138	0.0	0.0	0.0	0.0	0.0	0.0	0.418
SE	0.001	4.123	0.184	0.046	0.0	0.0	0.0	0.0	0.0	0.194
SSE	0.002	0.692	0.553	0.123	0.0	0.0	0.0	0.0	0.0	1.370
S	0.004	0.599	2.951	0.692	0.138	0.0	0.0	0.0	0.0	4.388
SSW	0.009	0.169	4.841	1.014	0.369	0.0	0.0	0.0	0.0	6.602
SW	0.005	0.169	2.534	1.475	0.277	0.092	0.0	0.0	0.0	4.938
WSW	0.002	0.369	0.553	0.323	0.0	0.046	0.0	0.0	0.0	1.292
W	0.001	0.277	0.323	0.231	0.046	0.0	0.0	0.0	0.0	0.877
WNW	0.001	0.231	0.277	0.046	0.092	0.0	0.0	0.0	0.0	0.600
NW	0.002	0.507	0.441	0.092	0.046	0.0	0.0	0.0	0.0	1.104
NNW	0.001	0.553	0.874	0.231	0.092	0.0	0.0	0.0	0.0	1.754
SUBTOTAL	0.046	6.757	30.655	5.537	1.475	0.138	0.0	0.0	0.0	94.424

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS E 751  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 751  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2149  
TOTAL HOURS CALM 1

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F (1.5: DELTA-T=+ 1.5 C/100 M)

SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	CALM	WIND SPEED (MPH)								TOTAL
		0-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	
N	0.015	0.184	1.337	0.184	0.0	0.0	0.0	0.0	0.0	1.721
NNE	0.024	0.461	2.121	0.231	0.0	0.0	0.0	0.0	0.0	2.838
NE	0.004	0.184	0.184	0.0	0.0	0.0	0.0	0.0	0.0	0.372
ENE	0.002	0.184	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.233
E	0.001	0.138	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.140
ESE	0.002	0.138	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.186
SE	0.005	0.323	0.231	0.0	0.0	0.0	0.0	0.0	0.0	0.559
SSE	0.004	0.331	0.184	0.0	0.0	0.0	0.0	0.0	0.0	0.518
S	0.007	0.231	0.507	0.046	0.0	0.0	0.0	0.0	0.0	0.791
SSW	0.007	0.092	0.599	0.092	0.0	0.046	0.0	0.0	0.0	0.817
SW	0.005	0.046	0.599	0.092	0.0	0.0	0.0	0.0	0.0	0.744
WSW	0.002	0.046	0.138	0.138	0.0	0.0	0.0	0.0	0.0	0.323
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.001	0.046	0.231	0.0	0.0	0.0	0.0	0.0	0.0	0.279
NW	0.001	0.0	0.138	0.092	0.046	0.0	0.0	0.0	0.0	0.279
NNW	0.007	0.138	0.553	0.046	0.0	0.0	0.0	0.0	0.0	0.744
SUBTOTAL	0.092	2.444	6.919	0.922	0.046	0.046	0.0	0.0	0.0	10.468

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS F 227  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 227  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2149  
TOTAL HOURS CALM 2

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LARGE PATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 07/30/91

MEAN WIND SPEED = 2.1 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 2 (page 4 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
SECOND QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

APR 1, 91 - JUN 30, 91

WIND DIRECTION	WIND SPEED(MPH)									TOTAL
	CALM	0.4-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	24.5-30	
N	0.0	0.0	0.184	0.046	0.0	0.0	0.0	0.0	0.0	0.231
NNE	0.0	0.046	0.553	0.184	0.0	0.0	0.0	0.0	0.0	0.784
NE	0.0	0.0	0.369	0.0	0.0	0.0	0.0	0.0	0.0	0.369
NNE	0.0	0.138	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138
E	0.0	0.184	0.692	0.0	0.0	0.0	0.0	0.0	0.0	0.877
ESE	0.0	0.138	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138
SE	0.0	0.323	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.369
SSE	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.046
S	0.0	0.092	0.138	0.0	0.0	0.0	0.0	0.0	0.0	0.231
SSW	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SW	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
WSW	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUBTOTAL	0.0	1.014	1.475	0.231	0.0	0.0	0.0	0.0	0.0	2.720

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS G 59  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 59  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2169  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPPE RATE MEASURED BETWEEN 3.25 AND 45.29 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.71 METER LEVEL

DATE PRINTED: 03/30/91

MEAN WIND SPEED = 1.9 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS



TABLE 3 (page 1 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
THIRD QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.0	0.0	0.092	0.137	0.0	0.0	0.0	0.0	0.229
NNE	0.0	0.0	0.0	0.825	0.458	0.275	0.0	0.0	0.0	1.558
NE	0.0	0.0	0.183	0.687	0.0	0.137	0.0	0.0	0.0	1.008
ENE	0.0	0.0	0.0	0.137	0.0	0.0	0.0	0.0	0.0	0.137
E	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.085	0.0	0.0	0.0	0.0	0.0	0.085
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.092	0.046	0.0	0.0	0.0	0.0	0.137
SW	0.0	0.0	0.0	0.092	0.046	0.0	0.0	0.0	0.0	0.137
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
NNW	0.0	0.046	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.137
SUBTOTAL	0.0	0.046	0.183	2.062	0.779	0.458	0.0	0.0	0.0	3.526

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2182  
TOTAL HOURS OF STABILITY CLASS A 77  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 77  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 0

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.0	0.0	0.0	0.092	0.046	0.0	0.0	0.0	0.137
NNE	0.011	0.0	0.137	1.054	0.275	0.092	0.0	0.0	0.0	1.569
NE	0.021	0.0	0.275	0.413	0.046	0.0	0.0	0.0	0.0	0.754
ENE	0.007	0.0	0.092	0.046	0.0	0.0	0.0	0.0	0.0	0.145
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.004	0.0	0.046	0.046	0.0	0.0	0.0	0.0	0.0	0.095
SE	0.004	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.049
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.092	0.0	0.0	0.0	0.0	0.092
SSW	0.0	0.0	0.0	0.046	0.275	0.0	0.0	0.0	0.0	0.321
SW	0.0	0.0	0.0	0.092	0.137	0.0	0.0	0.0	0.0	0.229
WSW	0.0	0.0	0.0	0.092	0.0	0.0	0.0	0.0	0.0	0.092
W	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
SUBTOTAL	0.046	0.0	0.596	1.833	0.962	0.137	0.0	0.0	0.0	3.575

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2182  
TOTAL HOURS OF STABILITY CLASS B 78  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 78  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 10/29/91

MEAN WIND SPEED = 4.7 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS



TABLE 3 (page 2 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
THIRD QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.0	0.0	0.0	0.367	0.0	0.0	0.0	0.0	0.0	0.367
NNE	0.0	0.0	0.0	0.367	0.825	0.137	0.0	0.0	0.0	1.329
NE	0.0	0.0	0.0	0.275	0.092	0.0	0.0	0.0	0.0	0.367
NNE	0.0	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.0	0.092
E	0.0	0.0	0.137	0.0	0.046	0.0	0.0	0.0	0.0	0.183
ESE	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SE	0.0	0.0	0.092	0.137	0.0	0.0	0.0	0.0	0.0	0.229
SSE	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.0	0.0	0.092
S	0.0	0.0	0.046	0.046	0.092	0.0	0.0	0.0	0.0	0.183
SSW	0.0	0.0	0.046	0.412	0.046	0.0	0.0	0.0	0.0	0.504
SW	0.0	0.0	0.137	0.550	0.183	0.0	0.0	0.0	0.0	0.871
WSW	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
NW	0.0	0.0	0.0	0.046	0.046	0.0	0.0	0.0	0.0	0.092
NNW	0.0	0.046	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.092
SUBTOTAL	0.0	0.046	1.227	2.812	0.642	0.0	0.0	0.0	0.0	4.537

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2188  
TOTAL HOURS OF STABILITY CLASS C 99  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 99  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 0

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.004	0.137	1.375	0.962	0.321	0.092	0.0	0.0	0.0	2.891
NNE	0.004	0.092	1.696	2.291	1.058	0.092	0.0	0.0	0.0	5.183
NE	0.004	0.137	1.512	0.367	0.137	0.0	0.0	0.0	0.0	2.158
NNE	0.002	0.092	0.779	0.0	0.0	0.0	0.0	0.0	0.0	0.873
E	0.001	0.137	0.275	0.0	0.0	0.0	0.0	0.0	0.0	0.412
ESE	0.001	0.046	0.412	0.0	0.0	0.0	0.0	0.0	0.0	0.459
SE	0.001	0.0	0.596	0.0	0.0	0.0	0.0	0.0	0.0	0.597
SSE	0.001	0.092	0.504	0.550	0.0	0.0	0.0	0.0	0.0	1.147
S	0.008	0.137	2.979	2.337	0.550	0.0	0.0	0.0	0.0	6.011
SSW	0.009	0.092	1.437	5.729	0.642	0.0	0.0	0.0	0.0	9.908
SW	0.006	0.046	2.291	2.796	0.137	0.0	0.0	0.0	0.0	5.276
WSW	0.001	0.092	0.367	0.687	0.092	0.0	0.0	0.0	0.0	1.239
W	0.001	0.092	0.321	0.275	0.0	0.0	0.0	0.0	0.0	0.688
WNW	0.001	0.092	0.275	0.229	0.092	0.0	0.0	0.0	0.0	0.688
NW	0.001	0.0	0.229	0.0	0.0	0.0	0.0	0.0	0.0	0.230
NNW	0.001	0.183	0.275	0.412	0.183	0.0	0.0	0.0	0.0	1.055
SUBTOTAL	0.046	1.467	17.324	16.636	3.162	0.183	0.0	0.0	0.0	18.818

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2188  
TOTAL HOURS OF STABILITY CLASS D 849  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 847  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 1

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 3.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 10/28/91

MEAN WIND SPEED = 3.6 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 3 (page 3 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
THIRD QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.234	1.879	4.629	0.412	0.367	0.092	0.0	0.0	0.0	7.613
NNE	0.195	1.054	4.354	0.733	0.137	0.0	0.0	0.0	0.0	6.473
NE	0.021	0.321	0.275	0.046	0.0	0.0	0.0	0.0	0.0	0.663
ENE	0.012	0.137	0.183	0.046	0.0	0.0	0.0	0.0	0.0	0.378
E	0.010	0.092	0.183	0.0	0.0	0.0	0.0	0.0	0.0	0.285
ESE	0.008	0.092	0.137	0.0	0.0	0.0	0.0	0.0	0.0	0.237
SE	0.021	0.321	0.275	0.046	0.0	0.0	0.0	0.0	0.0	0.663
SSE	0.010	0.050	0.275	0.092	0.0	0.0	0.0	0.0	0.0	0.446
S	0.076	0.733	1.375	0.137	0.0	0.0	0.0	0.0	0.0	2.321
SSW	0.172	0.917	2.850	0.917	0.046	0.0	0.0	0.0	0.0	5.900
SW	0.109	0.596	2.429	0.733	0.046	0.0	0.0	0.0	0.0	3.913
WSW	0.059	0.733	0.917	0.321	0.046	0.0	0.0	0.0	0.0	2.076
W	0.040	0.596	0.594	0.046	0.0	0.0	0.0	0.0	0.0	1.385
WNW	0.033	0.504	0.412	0.0	0.0	0.0	0.0	0.0	0.0	0.950
NW	0.023	0.229	0.412	0.137	0.046	0.0	0.0	0.0	0.0	0.848
NNW	0.059	0.458	1.146	0.183	0.0	0.0	0.0	0.0	0.0	1.845
SUBTOTAL	1.100	9.212	21.357	3.850	0.687	0.092	0.0	0.0	0.0	36.287

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2188  
TOTAL HOURS OF STABILITY CLASS E 796  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 792  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 24

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.114	0.458	2.750	0.387	0.0	0.0	0.0	0.0	0.0	3.689
NNE	0.132	1.375	2.337	0.046	0.0	0.0	0.0	0.0	0.0	3.890
NE	0.008	0.229	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.237
ENE	0.005	0.092	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.142
E	0.003	0.092	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.095
ESE	0.005	0.092	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.142
SE	0.008	0.229	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.237
SSE	0.013	0.129	0.137	0.0	0.0	0.0	0.0	0.0	0.0	0.380
S	0.023	0.229	0.412	0.0	0.0	0.0	0.0	0.0	0.0	0.664
SSW	0.026	0.137	0.596	0.0	0.0	0.0	0.0	0.0	0.0	0.759
SW	0.020	0.046	0.504	0.046	0.0	0.0	0.0	0.0	0.0	0.615
WSW	0.011	0.137	0.183	0.092	0.0	0.0	0.0	0.0	0.0	0.424
W	0.010	0.092	0.183	0.0	0.0	0.0	0.0	0.0	0.0	0.285
WNW	0.002	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.047
NW	0.011	0.092	0.229	0.046	0.0	0.0	0.0	0.0	0.0	0.378
NNW	0.021	0.092	0.504	0.092	0.0	0.0	0.0	0.0	0.0	0.709
SUBTOTAL	0.412	3.621	7.974	0.587	0.0	0.0	0.0	0.0	0.0	12.695

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2184  
TOTAL HOURS OF STABILITY CLASS F 277  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 277  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 9

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 10/29/91

MEAN WIND SPEED = 1.9 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 3 (page 4 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
THIRD QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

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

SEQUOYAH NUCLEAR PLANT

JUL 1, 91 - SEP 30, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.046
NNE	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.046
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
S	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SSW	0.0	0.0	0.183	0.0	0.0	0.0	0.0	0.0	0.0	0.183
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.046
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
NNW	0.0	0.0	0.046	0.0	0.0	0.0	0.0	0.0	0.0	0.046
SUBTOTAL	0.0	0.082	0.367	0.046	0.046	0.0	0.0	0.0	0.0	0.550

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2188  
TOTAL HOURS OF STABILITY CLASS G 12  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 12  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2182  
TOTAL HOURS CALM 0

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.99 METERS  
WIND SPEED AND DIRECTION MEASURED AT THE 9.75 METER LEVEL

DATE PRINTED: 10/29/91

MEAN WIND SPEED = 2.4 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS

TABLE 4 (page 1 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FOURTH QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.0	0.0	0.0	0.047	0.237	0.047	0.0	0.0	0.0	0.331
NNE	0.0	0.0	0.047	0.189	0.568	0.189	0.0	0.0	0.0	0.994
NE	0.0	0.0	0.047	0.426	0.426	0.047	0.0	0.0	0.0	0.947
ENE	0.0	0.0	0.047	0.047	0.0	0.0	0.0	0.0	0.0	0.095
E	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.047
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.047	0.047	0.095	0.0	0.0	0.0	0.189
SSW	0.0	0.0	0.0	0.0	0.142	0.047	0.0	0.0	0.0	0.189
SW	0.0	0.0	0.0	0.142	0.2*4	0.047	0.0	0.0	0.0	0.473
WSW	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.047
W	0.0	0.0	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.047
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.047	0.047	0.0	0.0	0.0	0.095
NNW	0.0	0.0	0.0	0.0	0.0	0.237	0.0	0.0	0.0	0.237
SUBTOTAL	0.0	0.0	0.189	0.947	1.752	0.805	0.0	0.0	0.0	3.693

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS A 78  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A 78  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 0

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>24.5	TOTAL
N	0.0	0.0	0.047	0.095	0.047	0.095	0.0	0.0	0.0	0.184
NNE	0.0	0.0	0.047	0.237	0.663	0.189	0.0	0.0	0.0	1.136
NE	0.0	0.0	0.047	0.473	0.047	0.0	0.0	0.0	0.0	0.568
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.047
ESE	0.0	0.0	0.095	0.0	0.0	0.0	0.0	0.0	0.0	0.095
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.095	0.0	0.0	0.0	0.095
S	0.0	0.0	0.0	0.0	0.095	0.142	0.0	0.0	0.0	0.237
SSW	0.0	0.0	0.0	0.0	0.426	0.047	0.0	0.0	0.0	0.473
SW	0.0	0.0	0.0	0.142	0.095	0.095	0.0	0.0	0.0	0.331
WSW	0.0	0.0	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.047
W	0.0	0.0	0.0	0.0	0.047	0.047	0.0	0.0	0.0	0.095
WNW	0.0	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.047
NW	0.0	0.0	0.0	0.0	0.095	0.095	0.0	0.0	0.0	0.189
NNW	0.0	0.0	0.0	0.0	0.0	0.095	0.0	0.0	0.0	0.095
SUBTOTAL	0.0	0.0	0.284	0.947	1.562	0.947	0.0	0.0	0.0	3.741

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS B 79  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B 79  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 0

TABLE 4 (page 2 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FOURTH QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.0	0.0	0.142	0.142	0.047	0.0	0.0	0.0	0.331
NNE	0.0	0.0	0.095	0.149	0.179	0.237	0.0	0.0	0.0	0.600
NE	0.0	0.0	0.142	0.237	0.0	0.095	0.0	0.0	0.0	0.473
NNE	0.0	0.0	0.095	0.0	0.0	0.0	0.0	0.0	0.0	0.095
E	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.047
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.047
SSE	0.0	0.0	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.047
S	0.0	0.0	0.0	0.095	0.047	0.142	0.0	0.0	0.0	0.284
SSW	0.0	0.0	0.095	0.237	0.331	0.09	0.0	0.0	0.0	0.758
SW	0.0	0.0	0.0	0.149	0.284	0.5	0.0	0.0	0.0	0.473
WSW	0.0	0.0	0.0	0.095	0.047	0.047	0.0	0.0	0.0	0.188
W	0.0	0.0	0.095	0.0	0.0	0.087	0.0	0.0	0.0	0.142
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.142	0.0	0.0	0.0	0.0	0.142
NNW	0.0	0.0	0.0	0.142	0.047	0.095	0.0	0.0	0.0	0.284
SUBTOTAL	0.0	0.0	0.468	1.373	1.420	0.852	0.0	0.0	0.0	4.114

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2171  
TOTAL HOURS OF STABILITY CLASS C 49  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C 49  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 0

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

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

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	≥24.5	TOTAL
N	0.0	0.142	0.710	1.136	1.373	0.331	0.0	0.0	0.0	3.693
NNE	0.0	0.095	1.563	0.994	1.042	2.178	0.0	0.0	0.0	5.871
NE	0.0	0.047	1.326	0.237	0.189	0.047	0.0	0.0	0.0	1.867
NNE	0.0	0.0	0.379	0.0	0.047	0.0	0.0	0.0	0.0	0.473
E	0.0	0.0	0.095	0.0	0.0	0.0	0.0	0.0	0.0	0.095
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.047	0.188	0.047	0.0	0.0	0.0	0.0	0.0	0.284
SSE	0.0	0.0	0.331	0.0	0.047	0.095	0.0	0.0	0.0	0.473
S	0.0	0.047	0.521	0.284	0.710	0.852	0.0	0.0	0.0	2.415
SSW	0.0	0.142	1.136	2.462	1.136	0.142	0.0	0.0	0.0	5.019
SW	0.0	0.095	1.410	1.941	0.900	0.047	0.0	0.0	0.0	4.593
WSW	0.0	0.0	0.284	0.237	0.142	0.189	0.0	0.0	0.0	0.852
W	0.0	0.047	0.237	0.237	0.237	0.189	0.0	0.0	0.0	0.947
WNW	0.0	0.047	0.0	0.284	0.568	0.237	0.0	0.0	0.0	1.136
NW	0.0	0.095	0.142	0.379	0.331	0.237	0.0	0.0	0.0	1.184
NNW	0.0	0.095	0.426	0.521	0.616	0.284	0.0	0.0	0.0	1.941
SUBTOTAL	0.0	0.400	8.948	8.759	7.339	4.830	0.0	0.0	0.0	30.776

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2171  
TOTAL HOURS OF STABILITY CLASS D 444  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D 450  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 0

TABLE 4 (page 3 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
FOURTH QUARTER 1991  
JOINT FREQUENCY DISTRIBUTION IN PERCENT  
FOR GROUND-LEVEL RELEASES

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E ( $\sim 0.5$ ;  $\Delta T = 1.5$  C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	$\geq 24.5$	TOTAL
N	0.052	0.112	2.131	2.841	0.663	0.047	0.0	0.0	0.0	5.876
NNE	0.050	0.426	1.176	1.231	0.7	0.0	0.0	0.0	0.0	7.603
NE	0.020	0.379	0.473	1.189	0.0	0.0	0.0	0.0	0.0	1.061
ENE	0.002	0.047	0.047	0.047	0.0	0.0	0.0	0.0	0.0	0.144
E	0.004	0.142	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.194
ESE	0.004	0.142	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.194
SE	0.005	0.095	0.142	0.0	0.0	0.0	0.0	0.0	0.0	0.242
SSE	0.016	0.426	0.284	0.0	0.047	0.047	0.0	0.0	0.0	0.821
S	0.040	0.331	2.272	1.515	0.473	0.331	0.0	0.0	0.0	4.944
SSW	0.076	0.568	2.841	1.752	0.189	0.189	0.0	0.0	0.0	5.618
SW	0.054	0.237	2.131	1.705	0.237	0.142	0.0	0.0	0.0	4.505
WSW	0.014	0.169	0.426	0.142	0.142	0.047	0.0	0.0	0.0	0.961
W	0.009	0.189	0.189	0.331	0.0	0.047	0.0	0.0	0.0	0.766
WNW	0.004	0.047	0.142	0.237	0.047	0.0	0.0	0.0	0.0	0.478
NW	0.012	0.047	0.473	0.473	0.047	0.047	0.0	0.0	0.0	1.101
NNW	0.029	0.284	0.994	1.278	0.331	0.047	0.0	0.0	0.0	2.965
SUBTOTAL	0.426	3.693	14.820	11.742	2.888	0.947	0.0	0.0	0.0	14.517

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS E 767  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E 728  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 5

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F ( $1.5$ ;  $\Delta T = 4.0$  C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	$\geq 24.5$	TOTAL
N	0.084	0.426	2.320	0.568	0.047	0.0	0.0	0.0	0.0	3.446
NNE	0.173	0.521	5.114	0.284	0.0	0.0	0.0	0.0	0.0	6.061
NE	0.070	1.136	1.136	0.0	0.0	0.0	0.0	0.0	0.0	2.342
ENE	0.009	0.284	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.293
E	0.010	0.284	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.342
ESE	0.004	0.142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.146
SE	0.010	0.331	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.342
SSE	0.015	0.284	0.189	0.0	0.0	0.0	0.0	0.0	0.0	0.488
S	0.016	0.047	0.473	0.047	0.0	0.0	0.0	0.0	0.0	0.584
SSW	0.031	0.142	0.652	0.047	0.0	0.0	0.0	0.0	0.0	1.072
SW	0.022	0.047	0.663	0.189	0.0	0.0	0.0	0.0	0.0	0.921
WSW	0.004	0.0	0.189	0.095	0.0	0.0	0.0	0.0	0.0	0.290
W	0.011	0.0	0.047	0.047	0.0	0.0	0.0	0.0	0.0	0.094
WNW	0.001	0.047	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.094
NW	0.001	0.0	0.047	0.0	0.047	0.0	0.0	0.0	0.0	0.094
NNW	0.020	0.095	0.568	0.568	0.0	0.0	0.0	0.0	0.0	1.251
SUBTOTAL	0.473	3.788	11.648	1.894	0.095	0.0	0.0	0.0	0.0	17.898

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
TOTAL HOURS OF STABILITY CLASS F 384  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F 378  
TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
TOTAL HOURS CALM 10



TABLE 4 (page 4 of 4)

SEQUOYAH NUCLEAR PLANT METEOROLOGICAL DATA  
 FOURTH QUARTER 1991  
 JOINT FREQUENCY DISTRIBUTION IN PERCENT  
 FOR GROUND-LEVEL RELEASES

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA S = 4.8 C/100 M)

SEQUOYAH NUCLEAR PLANT

OCT 1, 91 - DEC 31, 91

WIND DIRECTION	WIND SPEED (MPH)									TOTAL
	CALM	0.5-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	24.5+	
N	0.017	0.142	0.189	0.0	0.0	0.0	0.0	0.0	0.0	0.348
NNE	0.042	0.189	0.616	0.0	0.0	0.0	0.0	0.0	0.0	0.847
NE	0.032	0.379	0.237	0.0	0.0	0.0	0.0	0.0	0.0	0.648
NNE	0.005	0.047	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.100
E	0.012	0.188	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.248
ESE	0.002	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.050
SE	0.012	0.237	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.249
SSE	0.030	0.331	0.237	0.0	0.0	0.0	0.0	0.0	0.0	0.598
S	0.020	0.189	0.189	0.0	0.0	0.0	0.0	0.0	0.0	0.399
SSW	0.032	0.095	0.511	0.0	0.0	0.0	0.0	0.0	0.0	0.648
SW	0.025	0.0	0.473	0.379	0.0	0.0	0.0	0.0	0.0	0.877
WSW	0.002	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.050
W	0.0	0.0	0.0	0.047	0.0	0.0	0.0	0.0	0.0	0.047
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.002	0.047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.050
SUBTOTAL	0.237	1.894	2.684	0.426	0.0	0.0	0.0	0.0	0.0	5.161

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 2173  
 TOTAL HOURS OF STABILITY CLASS G 110  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G 109  
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS 2112  
 TOTAL HOURS CALM 5

METEOROLOGICAL FACILITY: SEQUOYAH NUCLEAR PLANT  
 STABILITY BASED ON LAPSE RATE MEASURED BETWEEN 9.25 AND 45.95 METERS  
 WIND SPEED AND DIRECTION MEASURED AT THE 9.73 METER LEVEL

DATE PRINTED: 01/22/92

MEAN WIND SPEED = 1.8 MPH

NOTE: TOTALS AND SUBTOTALS ABOVE ARE OBTAINED FROM UNROUNDED NUMBERS



TABLE 5

SEQUOYAH NUCLEAR PLANT - RECEPTOR LOCATIONS

Site Boundary Locations (used for both all quarters)

	Sector	Distance (m)		Sector	Distance (m)
Site Boundary	N	950	Site Boundary	S	1570
Site Boundary	NNE	2260	Site Boundary	SSW	1840
Site Boundary	NE	1910	Site Boundary	SW	2470
Site Boundary	ENE	1680	Site Boundary	WSW	910
Site Boundary	E	1570	Site Boundary	W	670
Site Boundary	ESE	1460	Site Boundary	WNW	660
Site Boundary	SE	1460	Site Boundary	WW	660
Site Boundary	SSE	1550	Site Boundary	NNW	730

Actual Receptor Locations (based on the Fall 1991 Land Use Survey)

	Sector	Distance (m)		Sector	Distance (m)
Resident	N	1353	Garden	N	1829
Resident	NNE	2400	Garden	NNE	3048
Resident	NE	2248	Resident	ENE	2096
Garden	ENE	2496	Resident	E	1619
Garden	ESE	1791	Resident	ESE	1638
Garden	SE	3162	Resident	SE	1562
Garden	S	2362	Resident, Garden	SSE	1943
Garden	SSW	2686	Resident	S	2286
Garden	SW	3353	Resident	SSW	2019
Garden	WSW	1524	Resident	SW	2972
Garden	W	1987	Resident	WSW	1143
Garden	WNW	1867	Resident	W	1010
Garden	NW	1372	Resident	WNW	1753
Garden	NNW	991	Resident	NW	1448
Milk Cow Adult	N	4515	Resident	NNW	895
Milk Cow Adult	NE	8686	Milk Cow Adult	WNW	2096
Milk Cow Adult	NW	2134			

TABLE 6  
SUMMARY OF QUARTERLY DOSES\*

Year	QTR	Air Submersion		Real Pathway				Liquid Effluents	
		Air-γ	Air-β	TB	Skin	Max. Organ		TB	Max. Organ
		(mrad)		(mrem)		(mrem)		(mrem)	
1983	1	0.03	0.18	0.04	0.02	<.001	Bone	0.21	0.34 Bone
	2	0.12	0.48	0.21	0.10	0.02	GIT	0.15	0.23 Bone
	3	0.07	0.40	0.11	0.05	0.03	Bone	0.09	0.20 Bone
	4	0.07	0.41	0.09	0.04	0.003	Thyroid	0.11	0.14 Liver
1984	1	0.11	0.55	0.19	0.08	0.004	Thyroid	0.04	0.05 Liver
	2	0.17	0.94	0.29	0.12	0.04	Bone	0.04	0.04 Liver
	3	0.18	0.99	0.26	0.11	0.03	Thyroid	0.13	0.22 Bone
	4	0.07	0.39	0.12	0.05	0.005	Thyroid	0.04	0.06 Liver
1985	1	0.12	0.65	0.18	0.09	0.18	Thyroid	0.03	0.04 Bone
	2	0.10	0.63	0.18	0.07	0.003	Thyroid	0.14	0.21 Bone
	3	0.05	0.32	0.08	0.03	0.015	Thyroid	0.17	0.43 Bone
	4	<.001	0.001	0.0	0.0	0.018	Thyroid	0.02	0.02 Bone
1986	1	<.001	<.001	<.001	<.001	0.004	GIT	0.007	0.009 Liver
	2	<.001	<.001	<.001	<.001	0.014	Liver	0.018	0.021 Liver
	3	<.001	<.001	0.0	0.0	0.010	GIT	0.038	0.044 Bone
	4	<.001	<.001	0.0	0.0	0.010	GIT	0.011	0.012 Liver
1987	1	<.001	<.001	0.0	0.0	0.004	GIT	0.002	0.003 Liver
	2	<.001	<.001	0.0	0.0	0.006	GIT	0.017	0.021 Liver
	3	<.001	<.001	0.0	0.0	0.008	GIT	0.084	0.095 Bone
	4	<.001	<.001	0.0	0.0	0.006	GIT	0.034	0.039 Bone
1988	1	<.001	<.001	0.0	0.0	0.001	Liver	0.055	0.074 Liver
	2	0.003	0.014	0.004	0.002	0.003	Thyroid	0.18	0.21 Bone
	3	0.007	0.036	0.008	0.003	0.007	Bone	0.054	0.064 Bone
	4	0.007	0.037	0.012	0.005	0.003	GIT	0.009	0.01 Liver
1989	1	0.02	0.02	0.01	0.02	0.007	Thyroid	0.001	0.002 Thyroid
	2	0.03	0.06	0.02	0.03	0.003	Liver	0.002	0.002 Liver
	3	0.07	0.17	0.04	0.08	0.03	Thyroid	0.001	0.001 Liver
	4	0.22	0.61	0.15	0.34	0.009	Thyroid	0.005	0.006 Liver
1990	1	0.26	0.69	0.17	0.41	0.002	Liver	0.001	0.001 GITract
	2	0.05	0.15	0.04	0.09	0.002	Thyroid	0.002	0.005 GITract
	3	0.10	0.27	0.07	0.17	0.002	Thyroid	0.002	0.003 GITract
	4	0.008	0.02	0.006	0.015	0.002	Thyroid	0.001	0.002 Liver
1991	1	0.02	0.04	0.01	0.03	<.001	Liver	0.003	0.004 Liver
	2	0.03	0.07	0.01	0.03	0.004	Thyroid	0.010	0.012 Liver
	3	0.06	0.15	0.04	0.08	0.003	Thyroid	0.012	0.015 Liver
	4	0.03	0.05	0.02	0.04	0.017	Thyroid	0.016	0.021 Liver

\*Note: All calculated doses are below limits specified in Appendix I to 10 CFR 50.

ENCLOSURE 3

CORRECTION PAGE TO THE  
EFFLUENT AND WASTE DISPOSAL

SEMIANNUAL REPORT

2ND HALF 1990

SOLID WASTE (RADIOACTIVE SHIPMENTS)

(S52 920214 088)

\*EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
2nd HALF 1990  
SOLID WASTE (RADIOACTIVE SHIPMENTS)

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

1. <u>Type of Waste</u>	<u>Unit</u>	<u>6 Month Period</u>	<u>Est. Tot. Error %</u>
a. Spent resins, filter sludges, evaporator bottoms, etc.	m <sup>3</sup> Ci	3.01E+1 6.26E+2	+1.00E-1 +1.50E+1
* b. Dry Active Waste, Compressible Waste Contaminated Equipment, etc.	m <sup>3</sup> Ci	1.37E+2 2.72E+1	+1.00E-1 +1.50E+1
c. Irradiated Components, Control Rods, etc.	m <sup>3</sup> Ci	None None	N/A N/A
d. Other: (describe) Composite liners (containing wet rages, resin, mechanical filters and metal oxides in boric acid concentrates) and oil liners	m <sup>3</sup> Ci	None None	N/A N/A

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

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

	<u>Curies</u>	<u>Percent</u>
1. Manganese-54	3.14E+1	5.01E+0
2. Iron-55	1.13E+2	1.81E+1
3. Cobalt-58	2.34E+2	3.74E+1
4. Cobalt-60	1.03E+2	1.64E+1
5. Nickel-63	3.55E+1	5.67E+0
6. Cesium-134	4.88E+1	7.79E+0
7. Cesium-137	5.79E+1	9.26E+0

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

1. Chromium-51	2.34E+0	8.64E+0
2. Iron-55	1.14E+1	4.21E+1
3. Cobalt-58	7.11E+0	2.62E+1
4. Cobalt-60	3.51E+0	1.30E+1
5. Nickel-63	1.58E+0	5.83E+0
6. Niobium-95	6.03E-1	2.22E+0

c. Irradiated Components N/A N/A

d. Other: None N/A N/A

\*An error in the exponent was detected in the Solid Waste portion of the Second Half 1990 Effluent and Waste Disposal Semiannual Report. This page is being resubmitted with the corrected DAW curie amount. The original submittal was incorrect by a power of 10. The actual amount is 27.2 curies rather than 272 curies.