

QUAD CITIES STATION

RADIOACTIVE WASTE AND ENVIRONMENTAL MONITORING

ANNUAL REPORT 1982

HAZLETON ENVIRONMENTAL SCIENCES

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QUAD CITIES NUCLEAR POWER STATION
RADIOACTIVE WASTE AND ENVIRONMENTAL MONITORING
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INTRODUCTION

Units 1 and 2 of the Quad Cities Station located near Cordova, Illinois next to the Mississippi River, are 800 MWe boiling water reactors, similar in design to Dresden Units 2 and 3. The plant has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from Quad Cities are released to the Mississippi River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere after delay to permit decay of short half-life gases. Releases to the atmosphere are calculated on the basis of analyses of daily grab samples of noble gases and continuously collected composite samples of iodine and particulate matter. The results of effluent analyses are summarized on a monthly basis and reported to the Nuclear Regulatory Commission as required per Technical Specifications. Airborne concentrations of noble gases, I-131 and particulate radioactivity in off-site areas are calculated using effluent and meteorological data on isotopic composition of effluents.

Environmental monitoring is conducted by sampling at indicator and reference (background) locations in the vicinity of the Quad Cities plant to measure changes in radiation or radioactivity levels that may be attributable to plant operations. If significant changes attributable to Quad Cities are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and I-131 in milk are the most critical pathways at this site; however, an environmental monitoring program is conducted which includes other pathways of less importance.

SUMMARY

Gaseous and liquid effluents for the period remained at a fraction of the Technical Specification limits. Calculations of environmental concentrations based on effluent, Mississippi River flow, and meteorological data for the period indicate that consumption by the public of radionuclides attributable to the plant are unlikely to exceed the regulatory limits. Gamma radiation exposure from noble gases released to the atmosphere represented the critical pathway for the period with a maximum individual dose estimated to be 0.34 mrem for the year, when a shielding and occupancy factor of 0.7 is assumed. Environmental monitoring results confirm that dose via other pathways was not significant.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations and isotopic composition of noble gases, radioiodine, and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1. A total of $1.17 \text{ E}+04$ curies of fission and activation gases was released with an average release rate of $3.71\text{E}+02 \text{ } \mu\text{Ci/sec}$.

A total of 0.23 curies of I-131 was released during the year, with an average release rate of $6.67\text{E}-03 \text{ } \mu\text{Ci/sec}$.

A total of 0.18 curies of beta-gamma emitters and $1.64\text{E}-04$ curies of alpha emitters was released as airborne particulate matter, with an average release rate of $5.71\text{E}-03 \text{ } \mu\text{Ci/sec}$.

A total of $1.23\text{E}+02$ curies of tritium was released, with an average release rate of $3.88\text{E}+00 \text{ } \mu\text{Ci/sec}$.

1.2 Liquids Released to the Mississippi

A total of $4.65\text{E}+06$ liters of radioactive liquid waste (prior to dilution) containing 0.40 curies (excluding tritium, gases, and alpha) were discharged after dilution with a total of $2.94\text{E}+09$ liters of water. These wastes were released at a quarterly average concentration of $8.35\text{E}-07 \text{ } \mu\text{Ci/ml}$ during the first and second quarters, discharged on an unidentified nuclide basis; and $2.44\text{E}-07 \text{ } \mu\text{Ci/ml}$ during the third and fourth quarters, which is 5.6% of the Technical Specification release limits for unidentified radioactivity. A total of $9.29\text{E}-06$ curies of alpha radioactivity and 7.80 curies of tritium were released. Quarterly release estimates and principal radio-nuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped to Richland, Washington; Beatty, Nevada; and Barnwell Nuclear Center, South Carolina. The record of waste shipments is summarized in Table 2.0-1.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

Gamma Dose Rates

Gamma air and whole body dose rates off-site were calculated based on measured release rates, isotopic composition of the noble gases, and meteorological data for the period (Table 3.1-1). Isodose contours of whole body dose are shown in Figure 3.1-1 for the year. Based on measured effluents and meteorological data, the

maximum dose to an individual would be 0.34 mrem for the year, with an occupancy or shielding factor of 0.7 included. The maximum gamma air dose was 0.65 mrad.

Beta Air and Skin Rates

The range of beta particles in air is relatively small (on the order of a few meters or less): consequently, plumes of gaseous effluents may be considered "infinite" for purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate because this depends on the beta particle energies, thickness of inert skin, and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7 mg/cm² and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year was 0.93 mrem.

The air concentrations of radioactive noble gases at the off-site receptor locations are given in Figure 3.1-2. The maximum off-site beta air dose for the year was 0.56 mrad.

Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine, and the radioiodine, I-131, released during routine operation of the plant, may be made available to man thus resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk by an infant. Calculation made in previous years indicate that contributions to doses from inhalation of I-131 and I-133, and I-133 in milk are negligible.

Iodine-131 Concentrations in Air

The calculated concentration contours for I-131 in air are shown in Figure 3.1-3. Included in these calculations is an iodine cloud depletion factor which accounts for the phenomenon of elemental iodine deposition on the ground. The maximum off-site average concentration is estimated to be 2.66E-02 pCi/m³ for the year.

Dose to Infant's Thyroid

The hypothetical thyroid dose to an infant living near the plant via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May to October. The maximum infant's thyroid dose was 1.66 mrem during the year (Table 3.1-1).

Concentrations of Particulates in Air

Concentration contours of radioactive airborne particulates are shown in Figure 3.1-4. The maximum off-site average level is estimated to be 1.69E-03 pCi/m³.

Summary of Doses

Table 3.1-1 summarizes the doses resulting from releases of airborne radioactivity via the different exposure pathways.

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating aquatic foods, and exposure while walking on the shoreline. Not all of these pathways are applicable at a given time or station but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC* developed equations were used to calculate the doses to the whole body, lower GI tract, thyroid, bone and skin; specific parameters for use in the equations are given in the Commonwealth Edison Off-site Dose Calculation Manual. The maximum whole body dose for the year was 0.06 mrem and no organ dose exceeded 0.24 mrem.

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each quarter of the year is given in Appendix II. The data are presented as cumulative joint frequency distributions of 296' level wind direction and wind speed class by atmospheric stability class determined from the temperature difference between the 296' and 33' levels. Data recovery for all measurements on the tower was about 98.6%.

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the radiological environmental monitoring program as required in current Technical Specifications. This program went into effect in November 1977 and differs from previous programs in the number and types of analyses performed. Tables 5.0-2 to 5.0-5 summarize data for the year.

Except for tables of special interest, tables listing all data are no longer included in the annual report. All data tables are available for inspection at the Station or in the Corporate offices.

Specific findings for various environmental media are discussed below.

* Nuclear Regulatory Commission, Regulatory Guide 1.109 (Rev. 1).

5.1 Gamma Radiation

External radiation dose from on-site sources and noble gases released to the atmosphere was measured at six indicator and ten reference (background) locations using solid lithium fluoride thermoluminescent dosimeters (TLD). A comparison of the TLD results for reference stations with on-site and off-site indicator stations is included in Table 5.1-1. Additional TLDs, a total of 61 were installed on June 1, 1980 such that each sector was covered at both five miles and the site boundary.

5.2 Airborne I-131 and Particulate Radioactivity

Concentrations of airborne I-131 and particulate radioactivity at monitoring locations are summarized in Tables 5.0-2 through 5.0-5. Locations of the samplers are shown in figure 5.0-1. Airborne I-131 remained below the LLD of 0.1 pCi/m³ throughout the year.

Gross beta concentrations ranged from 0.010 to 0.068 pCi/m³ at indicator locations with an average concentration of 0.028 pCi/m³ for the year. No radioactivity attributable to station operation was detected in any sample.

5.3 Aquatic Radioactivity

Surface water samples were collected daily and composited for analysis weekly from the Inlet Canal, Blowdown Diffuser Pipe, Spray Canal Blowdown Pipe, East Moline Water Works, and Davenport Water Works. The cooling water samples were analyzed weekly for gross beta concentrations. A composite sample from each quarter from the blowdown diffuser pipe did not indicate measurable radioactivity attributable to station operation. Annual mean gross beta concentration in the blowdown diffuser pipe water sample measured 3.9 pCi/l while annual mean beta concentration in water collected at inlet canal measured 3.8 pCi/l indicating that there was no measurable amount of radioactivity attributable to the station releases.

Samples from the two water works were composited monthly and analyzed for gamma emitters. All samples analyzed were below the limits of detection for the program indicating that there was no measurable amount of radioactivity due to station operation present.

Levels of gamma radioactivity in fish collected were measured and found in all cases to be below the lower limits of detection for the program.

A sediment sample was analyzed by gamma spectrometry. Gamma-emitters were either below the limits of detection or at the level usually encountered in the environment (Cs-137, 0.16 pCi/g dry weight) indicating the presence of no radioactivity due to station operation.

5.4 Milk

Milk samples were collected monthly from November through April and weekly from May through October and analyzed for iodine-131. Sampled locations were the Hansen Dairy Farm located about 5.5 miles north-east of the Station, and Musal Dairy Farm located 5.5 miles southwest of the Station. Turner Farm went out of dairy business at the end of April 1981 and was replaced by Musal Dairy Farm in early May 1981. Radioiodine was below the limits of detection of 0.5 pCi/l during the grazing period (May to October) and 5.0 pCi/l during the non-grazing period (November to April).

5.5 Special Collection

No special collections were made during the period.

6.0 ANALYTICAL PROCEDURES

A description of the procedures used for analyzing radioactivity in environmental samples is given in Appendix III of the report for the period January - December 1981. Procedures used during the period covered by this report remained essentially unchanged.

7.0 MILCH ANIMAL CENSUS

A census of milch animals was conducted within five miles of the Station and the finding is presented below. The survey was conducted by "door-to-door" canvas and by information from Illinois and Iowa Agricultural Agents. The census was conducted by G. Kreuder on September 4, 1982.

There were no dairy farms within a five mile radius of the Quad Cities Nuclear Power Station.

8.0 NEAREST RESIDENT CENSUS

A census of the nearest residents was conducted by G. Kreuder in December 1982. The location of residences remained unchanged from the previous census.

APPENDIX I
DATA TABLES AND FIGURES

Table 1.1-1

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT Jan - June 1982

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 1st	Quarter 2nd	Est. Total Error, %
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A. Fission & Activation Gases

1. Total release	CI	3.7E03	4.6E03	
2. Average release rate for period	uCi/sec	4.8E02	5.8E02	
3. a. Percent of Tech. Spec. limit Chimney	%	1.0E-01	1.7E-01	
b. Percent of Tech. Spec. limit Stack	%	7.6E-01	5.9E-01	

B. Iodines

1. Total Iodine-131	CI	1.3E-01	5.5E-02	
2. Average release rate for period	uCi/sec	1.6E-02	4.7E-03	
3. a. Percent of Tech. Spec. limit station	%	7.7E-01	6.0E-01	

C. Particulates

1. Particulates with half-lives > 8 days	CI	7.7E-02	3.9E-02	
2. Average release rate for period	uCi/sec	9.9E-03	5.0E-03	
3. Gross alpha radioactivity		4.6E-05	1.7E-05	

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT JULY-DECEMBER OF 1982

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter THIRD	Quarter FOURTH	Est. Total Error, %
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A. Fission & Activation Gases

1. Total release	CI	2.5E03	9.15E02	
2. Average release rate for period	uCi/sec	3.1E02	1.15E02	
3. a. Percent of Tech. Spec. limit Chimney	%	9.3E-02	2.27E-02	
b. Percent of Tech. Spec. limit Stack	%	3.4E-01	1.70E-01	

B. Iodines

1. Total Iodine-131	CI	3.6E-2	1.17E-02	
2. Average release rate for period	uCi/sec	4.5E-3	1.47E-03	
3. a. Percent of Tech. Spec. limit station	%	4.6E-01	2.7E-01	

C. Particulates

1. Particulates with half-lives > 8 days	CI	2.9E-02	3.45E-02	
2. Average release rate for period	uCi/sec	3.6E-02	4.33E-03	
3. Gross alpha radioactivity		5.4E-06	4.70E-05	

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1st & 2nd QTR.

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 1st	Quarter 2nd	Est. Total Error, %
--	------	----------------	----------------	------------------------

D. Tritium

1. Total release	CI	2.7E01	2.2E01	
2. Average release rate for period	uCi/sec	3.45E00	2.8E00	

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT JULY-DECEMBER 1982

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter THIRD	Quarter FOURTH	Est. Total Error, %
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D. Tritium

1. Total release	CI	2.7E01	4.66E 01	
2. Average release rate for period	uCI/sec	3.4E00	5.86E00	

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS - Elevated Release

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter	Quarter

1. Fission gases

Kr-85	CI	<LLD	<LLD		
Kr-85m	CI	2.6E02	4.8E02		
Kr-87	CI	5.6E01	8.5E01		
Kr-88	CI	2.9E02	6.2E02		
Xe-133	CI	4.9E02	2.5E02		
Xe-135	CI	2.9E02	4.1E02		
Xe-135m	CI	3.5E02	5.1E02		
Xe-138	CI	9.4E02	1.5E03		
	CI				
	CI				
Unidentified	CI	<LLD	<LLD		
Total for Period	CI	2.7E03	3.9E03		

2. Iodines

I-131	CI	1.2E-01	8.0E-02		
I-133	CI	5.1E-01	3.9E-01		
I-135	CI	1.1E00	6.1E-01		
Total for Period	CI	2.1E00	1.1E00		

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS- ELEVATED RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter THIRD	Quarter FOURTH	Quarter	Quarter

1. Fission gases

Kr-85	CI	<LLD	<LLD		
Kr-85m	CI	1.2E02	5.92E00		
Kr-87	CI	9.3E01	1.83E01		
Kr-88	CI	1.9E02	1.55E01		
Xe-133	CI	2.4E02	1.30E00		
Xe-135	CI	8.5E01	2.52E02		
Xe-135m	CI	7.7E02	1.21E02		
Xe-138	CI	5.6E02	2.24E02		
	CI				
	CI				
Unidentified	CI	<LLD	<LLD		
Total for Period	CI	2.1E03	6.38E02		

2. Iodines

I-131	CI	2.3E-02	7.66E-03		
I-133	CI	1.3E-01	4.73E-02		
I-135	CI	1.8E-01	6.94E-02		
Total for Period	CI	3.3E-01	1.24E-01		

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS- Elevated Release

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter	Quarter

3. Particulates

Sr-89	CI	1.6E-02	1.1E-02		
Sr-90	CI	4.0E-05	5.3E-05		
Cs-134	CI	<LLD	3.5E-05		
Cs-137	CI	3.5E-04	3.8E-04		
Ba-140	CI	3.0E-02	1.6E-02		
La-140	CI	<LLD	<LLD		
Cr51	CI	<LLD	<LLD		
Mn54	CI	<LLD	<LLD		
Co58	CI	<LLD	<LLD		
Co60	CI	1.6E-04	1.7E-04		
I131	CI	1.0E-02	3.6E-03		
Ag110m	CI	<LLD	<LLD		
Ce 141	CI	1.1E-02	1.8E-04		
Ce 144	CI	9.8E-04	<LLD		
	CI				
	CI				
	CI				
Unidentified	CI				

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS- ELEVATED RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter THIRD	Quarter FOURTH	Quarter	Quarter

3. Particulates

Sr-89	CI	6.5E-06	1.85E-05		
Sr-90	CI	1.1E-04	1.03E-04		
Cs-134	CI	2.1E-04	2.25E-05		
Cs-137	CI	7.6E-03	2.75E-04		
Ba-140	CI	8.8E-03	1.24E-02		
La-140	CI	<LLD	<LLD		
Cr51	CI	<LLD	<LLD		
Mn54	CI	<LLD	<LLD		
Co58	CI	<LLD	<LLD		
Co60	CI	3.7E-04	9.51E-03		
I131	CI	1.5E-03	2.20E-03		
Ag110m	CI	<LLD	<LLD		
CE 141	CI	3.3E-05	8.91E-05		
	CI				
	CI				
	CI				
	CI				
Unidentified	CI				

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS- Ground Release

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter	Quarter

1. Fission gases

Kr-85	CI	<LLD	<LLD		
Kr-85m	CI	<LLD	<LLD		
Kr-87	CI	<LLD	<LLD		
Kr-88	CI	<LLD	<LLD		
Xe-133	CI	3.3E02	2.8E01		
Xe-135	CI	3.1E02	2.5E02		
Xe-135m	CI	3.8E02	4.0E02		
Xe-138	CI	<LLD	<LLD		
	CI				
	CI				
Unidentified	CI				
Total for Period	CI	1.02E03	6.8E02		

2. Iodines

I-131	CI	5.3E-03	1.7E-02		
I-133	CI	2.9E-02	7.6E-02		
I-135	CI	4.6E-02	1.4E-01		
Total for Period	CI	8.0E-02	2.3E-01		

Table 1.1-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS-GROUND RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3rd	Quarter 4th	Quarter	Quarter

1. Fission gases

Kr-85	CI	<LLD	<LLD		
Kr-85m	CI	<LLD	<LLD		
Kr-87	CI	<LLD	<LLD		
Kr-88	CI	<LLD	<LLD		
Xe-133	CI	8.0E01	6.41E00		
Xe-135	CI	1.8E02	6.54E01		
Xe-135m	CI	1.5E02	1.07E02		
Xe-138	CI	<LLD	8.30E01		
	CI				
	CI				
Unidentified	CI	<LLD	<LLD		
Total for Period	CI	4.1E02	2.62E02		

2. Iodines

I-131	CI	1.2E-02	3.52E-03		
I-133	CI	6.8E-02	1.75E-02		
I-135	CI	8.1E-02	2.53E-02		
Total for Period	CI	1.6E-01	4.63E-02		

Table 1.1-1 (continued)
 QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS—Ground Release

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter	Quarter

3. Particulates

Sr-89	CI	8.7E-05	2.1E-04		
Sr-90	CI	9.1E-06	6.1E-06		
Cs-134	CI	5.6E-05	5.4E-05		
Cs-137	CI	2.6E-04	2.6E-04		
Ba-140	CI	1.2E-03	1.8E-03		
La-140	CI	<LLD	<LLD		
Cr51	CI	3.6E-05	3.1E-04		
Mn54	CI	4.6E-05	9.7E-05		
Co58	CI	7.4E-06	1.3E-04		
Co60	CI	4.8E-03	2.7E-03		
I131	CI	7.7E-04	1.4E-04		
Ag110m	CI	<LLD	9.2E-06		
Ca 144	CI	6.4E-05	<LLD		
Tc 99m	CI	5.2E-04	<LLD		
Zn 65	CI	<LLD	1.2E-04		
Cs 136	CI	<LLD	2.2E-05		
	CI				
Unidentified	CI				

Table 1.1-1 (continued)
 QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

GASEOUS EFFLUENTS- GROUND RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter THIRD	Quarter FOURTH	Quarter	Quarter

3. Particulates

Sr-89	CI	3.6E-05	8.95E-06		
Sr-90	CI	4.7E-05	1.50E-05		
Cs-134	CI	6.6E-05	3.93E-04		
Cs-137	CI	3.1E-04	4.96E-04		
Ba-140	CI	1.9E-03	7.53E-04		
La-140	CI	<LLD	<LLD		
LESS THAN 8 DAY HALF LIFE					
Cr51	CI	6.2E-05	<LLD		
Mn54	CI	1.1E-04	2.46E-04		
Co58	CI	3.9E-05	3.1E-05		
Co60	CI	2.6E-03	8.85E-03		
I131	CI	9.9E-04	3.25E-04		
Ag110m	CI	1.0E-05	<LLD		
ZN 65	CI	1.5E-05	4.1E-05		
ZR 95	CI	1.4E-05	<LLD		
NB 95	CI	2.9E-05	<LLD		
RU 103	CI	1.5E-05	6.8E-06		
CE 141	CI	1.9E-05	<LLD		
CS 136	CI	7.2E-06	<LLD		
Unidentified	CI				

Table 1.2-1

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 1st	Quarter 2nd	Est. Total Error, %
A. Fission and Activation Products				
1. Total release (not including tritium, gases, alpha)	CI	1.5E-01	5.3E-02	
2. Average diluted concentration during period	uCi/ml	9.4E-07	7.3E-07	
3. Percent of applicable limit	%	6.7E00	6.9E+00	
4. Maximum diluted concentration during period	uCi/ml	4.3E-06	3.2E-06	
B. Tritium				
1. Total release	CI	8.0E-01	3.6E-01	
2. Average diluted concentration during period	uCi/ml	5.0E-06	4.9E-08	
3. Percent of applicable limit	%	1.7E-01	1.6E-03	
C. Dissolved and Entrained Gases				
1. Total release	CI	9.9E-03	2.0E-02	
2. Average diluted concentration during period	uCi/ml	6.2E-03	2.7E-07	
3. Percent of applicable limit	%	2.1E-03	9.1E-03	
D. Gross Alpha Radioactivity				
1. Total release	CI	3.5E-06	2.6E-05	
2. Average concentration released	uCi/ml	2.2E-13	3.6E-11	
E. Volume of waste released (prior to dilution)				
	Liters	4.5E05	2.0E05	
F. Volume of dilution water used during period				
	Liters	1.6E08	7.3E07	

Table 1.2-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter THIRD	Quarter FOURTH	Est. Total Error, %
A. Fission and Activation Products				
1. Total release (not including tritium, gases, alpha)	CI	5.0E-02	1.50E-01	
2. Average diluted concentration during period	uCi/ml	4.3E-07	5.81E-08	
3. Percent of applicable limit	%	6.6E00	2.95E-01	
4. Maximum diluted concentration during period	uCi/ml	8.9E-07	7.6E-07	
B. Tritium				
1. Total release	CI	1.2E00	5.44E00	
2. Average diluted concentration during period	uCi/ml	1.0E-05	2.1E-06	
3. Percent of applicable limit	%	4.3E-01	7.0E-02	
C. Dissolved and Entrained Gases				
1. Total release	CI	3.8E-03	2.89E-01	
2. Average diluted concentration during period	uCi/ml	3.3E-08	1.1E-07	
3. Percent of applicable limit	%	1.1E-03	3.72E-03	
D. Gross Alpha Radioactivity				
1. Total release	CI	6.5E-06	1.50E-07	
2. Average concentration released	uCi/ml	5.6E-11	5.79E-14	
E. Volume of waste released (prior to dilution)				
	Liters	8.2E05	5.18E06	
F. Volume of dilution water used during period				
	Liters	1.2E08	2.59E09	

Table 1.2-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

LIQUID EFFLUENTS

	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter	Quarter
Sr-89	CI	1.1E-04	7.6E-04		
Sr-90	CI	2.4E-05	2.5E-05		
Tc-99m		9.8E-04	1.5E-03		
Cs-134	CI	6.6E-04	4.3E-04		
Ce-141		1.4E-05	2.4E-05		
Cs-137	CI	3.1E-02	1.7E-03		
Np-239		4.5E-04	1.7E-05		
I-131	CI	1.1E-03	3.3E-03		
I-133		3.3E-03	3.1E-03		
Co-58	CI	4.2E-04	4.8E-04		
Sr-91		3.4E-04	4.7E-04		
Co-60	CI	1.5E-02	6.3E-03		
I-135		1.6E-03	1.2E-03		
Fe-59	CI	<LLD	<LLD		
Na-24		<LLD	4.6E-04		
Zn-65	CI	8.4E-04	3.2E-04		
Cs-138		<LLD	7.0E-04		
Mn-54	CI	8.5E-02	2.8E-02		
Sr-92		<LLD	8.6E-06		
Cr-51	CI	1.6E-04	2.9E-04		
Zr-95	CI	<LLD	3.3E-05		
Nb-95	CI	<LLD	<LLD		
Mo-99	CI	1.1E-03	1.7E-03		
Aq110m	CI	<LLD	<LLD		
Ba-140	CI	8.6E-04	1.5E-03		
Cs136	CI	<LLD	1.1E-04		
La-140	CI	<LLD	<LLD		
Y-92	CI	<LLD	1.6E-04		
Unidentified	CI				
Total for Period (above)	CI	1.5E-01	5.3E-02		
Xe-133	CI	7.2E-03	1.9E-02		
Xe-135	CI	2.7E-03	7.4E-04		

Table 1.2-1 (continued)

QUAD CITIES NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1982

LIQUID EFFLUENTS

	Unit	Continuous Mode		Batch Mode	
		Quarter THIRD	Quarter FOURTH	Quarter	Quarter
Sr-89	CI	3.6E-05	5.12E-04		
Sr-90	CI	2.0E-04	5.25E-04		
TC 99M		1.4E-03	1.97E-03		
Cs-134	CI	1.1E-03	1.16E-03		
CE 141		2.3E-05	1.90E-04		
Cs-137	CI	5.3E-03	6.75E-03		
NP 239		2.6E-04	<LLD		
I-131	CI	4.3E-03	2.91E-03		
I-133		9.8E-03	7.92E-03		
Co-58	CI	5.2E-04	6.15E-04		
SR 91		1.2E-03	1.02E-03		
Co-60	CI	1.1E-02	2.37E-02		
Y-92		2.1E-04	<LLD		
Fa-59	CI	1.7E-05	<LLD		
I-135		4.7E-03	5.70E-03		
Zn-65	CI	1.4E-04	8.7E-05		
SR 92		4.9E-04	1.28E-04		
Mn-54	CI	9.1E-04	1.77E-03		
RU 105		<LLD	2.8E-04		
Cr-51	CI	4.5E-04	4.0E-03		
RU 103		<LLD	7.19E-05		
Zr-95	CI	6.1E-05	1.6E-04		
SB 124		<LLD	1.9E-05		
Nb-95	CI	1.8E-05	7.8E-02		
Mo-99	CI	9.5E-04	7.0E-04		
Ag110m	CI	<LLD	5.7E-04		
Ba-140	CI	2.1E-03	3.22E-03		
Cs136	CI	9.6E-05	1.16E-04		
La-140 LESS THAN 8 DAY HALF	CI	<LLD	<LLD		
NA 24	CI	9.9E-04	7.6E-03		
Unidentified	CI	<LLD	<LLD		
Total for Period (above)	CI	4.7E-02	1.5E-01		
Xe-133	CI	9.5E-04	1.6E-01		
Xe-135	CI	6.1E-04	8.4E-01		
XE 133M QCRC # 103			1.2E-04		

Table 2.0-1

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

WUAD-CITIES STATION

JANUARY 1962

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
01/04/62	HACNE	BSC	22.50	30510.90
01/04/62	HITIMAN	BSC	105.00	3110.04
01/06/62	HITIMAN	BSC	105.00	4710.01
01/07/62	TRISTATE	USE	1209.75	42.40
01/07/62	HITIMAN	BSC	105.00	1240.51
01/08/62	HITIMAN	BSC	105.00	3202.02
01/12/62	HITIMAN	BSC	105.00	0509.43
01/13/62	HITIMAN	BSC	105.00	0943.03
01/13/62	HACNE	BSC	11.00	260000.00
01/15/62	HACNE	BSC	105.00	3505.53
01/15/62	HACNE	BSC	105.00	0596.50
01/16/62	HACNE	USE	105.00	3511.01
01/19/62	HACNE	BSC	11.00	260000.00
01/21/62	HITIMAN	USE	105.00	10810.99
01/21/62	HACNE	BSC	11.00	260000.00
01/21/62	HACNE	BSC	105.00	0221.00
01/22/62	HACNE	BSC	105.00	0276.30
01/25/62	HITIMAN	BSC	90.00	0031.30
01/25/62	HITIMAN	USE	105.00	12734.02
01/27/62	HITIMAN	USE	105.00	19543.94
01/27/62	HACNE	BSC	11.00	267000.00
01/27/62	HACNE	BSC	90.00	0991.13
01/29/62	TRISTATE	USE	1209.75	70.80
01/29/62	HACNE	BSC	11.00	190000.00
01/29/62	HACNE	BSC	105.00	12130.20

MONTHLY TOTALS

4412.00

1403931.00

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

FEBRUARY 1962

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
02/01/62	HITIMAN	USE	105.00	9800.00
02/01/62	HITIMAN	USE	40.00	1245.49
02/04/62	HACRE	BSC	105.00	1359.30
02/04/62	HACRE	BSC	106.00	6017.20
02/05/62	HACRE	BSC	11.00	7000.00
02/05/62	HACRE	BSC	105.00	1344.72
02/08/62	HITIMAN	USE	105.00	20142.74
02/08/62	HITIMAN	USE	40.00	0118.00
02/10/62	HITIMAN	USE	05.00	34.23
02/10/62	HACRE	BSC	11.00	141000.00
02/10/62	HACRE	BSC	105.00	14012.33
02/11/62	HITIMAN	BSC	105.00	30734.21
02/17/62	HITIMAN	BSC	105.00	14205.00
02/17/62	HITIMAN	USE	40.00	0530.10
02/18/62	HITIMAN	BSC	105.00	17400.94
02/19/62	HACRE	BSC	105.00	21244.01
02/19/62	HITIMAN	BSC	105.00	17401.21
02/22/62	HACRE	BSC	105.00	14043.44
02/22/62	TRISTATE	USE	1204.73	100.73
02/23/62	HITIMAN	USE	05.00	32.41
02/24/62	HITIMAN	BSC	105.00	0002.14
02/25/62	HACRE	BSC	105.00	13508.00
02/25/62	TRISTATE	USE	578.50	33.03
02/26/62	HACRE	USE	40.00	077.33
02/26/62	HITIMAN	BSC	105.00	10349.03
02/26/62	HACRE	BSC	11.00	100300.00

MONTHLY TOTALS

4007.41

303702.04

USE - U.S. ECOLOGY

BSC - BARNWELL SOUTH CAROLINA

CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/C

WUAD-CITIES STATION

MARCH 1982

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
03/01/82	HITIMAN	USE	105.00	0830.54
03/01/82	HACNE	BSC	11.00	70200.00
03/03/82	HITIMAN	BSC	105.00	1738.84
03/03/82	HITIMAN	USE	135.00	439.23
03/04/82	HACNE	USE	105.00	14305.00
03/05/82	HITIMAN	USE	106.00	1037.00
03/05/82	HACNE	BSC	11.00	22000.00
03/05/82	HACNE	BSC	105.00	4320.00
03/08/82	HACNE	USE	40.00	212.70
03/08/82	HACNE	USE	105.00	14630.44
03/10/82	HITIMAN	BSC	105.00	13043.87
03/10/82	HACNE	BSC	11.00	53200.00
03/11/82	HACNE	USE	105.00	14472.42
03/11/82	HITIMAN	USE	135.00	208.82
03/12/82	HITIMAN	USE	40.00	232.50
03/12/82	HACNE	BSC	105.00	21049.84
03/12/82	HACNE	BSC	11.00	40800.00
03/15/82	HITIMAN	USE	105.00	13313.24
03/15/82	HACNE	USE	40.00	179.70
03/17/82	HITIMAN	BSC	105.00	23239.10
03/18/82	HACNE	BSC	105.00	14044.61
03/19/82	HACNE	BSC	105.00	20010.50
03/19/82	HACNE	USE	135.00	638.01
03/22/82	HITIMAN	USE	105.00	13440.73
03/22/82	HITIMAN	USE	40.00	11177.74
03/24/82	HITIMAN	BSC	105.00	13012.00
03/25/82	HITIMAN	USE	105.00	10400.23
03/25/82	TRISTATE	USE	1209.73	09.81
03/26/82	HITIMAN	USE	40.00	14033.83
03/26/82	HITIMAN	BSC	105.00	13100.00
03/29/82	HITIMAN	USE	40.00	12204.03
03/29/82	HACNE	BSC	105.00	12649.00
03/31/82	HITIMAN	BSC	105.00	13210.00

MONTHLY TOTALS

4274.73

510013.71

USE - U.S. ECOLOGY
 BSC - DARNELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

WADSWORTH STATION

APRIL 1982

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
04/01/82	HITIMAN	BSC	105.00	14145.00
04/01/82	HACNE	USE	105.00	1504.30
04/02/82	HACNE	BSC	105.00	14039.00
04/02/82	HITIMAN	USE	40.00	10500.51
04/05/82	HACNE	USE	105.00	1327.21
04/07/82	HACNE	USE	40.00	0101.09
04/07/82	HACNE	USE	05.00	04.01
04/08/82	HACNE	USE	105.00	14312.20
04/12/82	HITIMAN	USE	100.00	5907.40
04/12/82	HITIMAN	BSC	105.00	10515.00
04/14/82	HITIMAN	BSC	105.00	10000.00
04/15/82	HACNE	USE	105.00	1213.63
04/16/82	HITIMAN	BSC	105.00	10447.00
04/16/82	HACNE	USE	105.00	1717.00
04/19/82	HITIMAN	USE	105.00	24851.33
04/21/82	HITIMAN	USE	105.00	12750.03
04/21/82	HITIMAN	BSC	105.00	4040.00
04/23/82	HITIMAN	BSC	105.00	11901.00
04/23/82	HACNE	BSC	105.00	10020.00
04/26/82	HITIMAN	BSC	105.00	0742.00
04/27/82	TRIESTE	USE	1209.73	40.04
04/29/82	TRIESTE	USE	030.00	11.00

MONTHLY TOTALS

5910.83

195139.71

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NULLEAK CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

MAY 1962

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
05/10/62	CN	BSC	105.00	4074.60
05/10/62	HITIMAN	BSC	52.50	10773.07
05/12/62	CN	BSC	105.00	0351.00
05/13/62	HITIMAN	USE	105.00	955.44
05/14/62	CN	BSC	105.00	0411.00
05/17/62	HITIMAN	USE	105.00	24796.31
05/19/62	CN	BSC	105.00	0104.00
05/20/62	HITIMAN	BSC	105.00	0002.00
05/21/62	CN	BSC	52.50	4341.00
05/24/62	CN	BSC	105.00	0055.00
05/26/62	CN	BSC	105.00	0500.00
05/27/62	CN	BSC	105.00	0375.00
05/28/62	CN	USE	105.00	12900.00

MONTHLY TOTALS

1200.00

127540.10

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

JUNE 1962

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
-----	-----	-----	-----	-----
06/02/62	CN	BSC	105.00	6744.00
06/03/62	CN	BSC	105.00	4015.00
06/04/62	CN	BSC	105.00	4702.00
06/07/62	TRI STATE	USE	1204.75	20.64
06/07/62	CN	USE	105.00	21814.70
06/09/62	CN	BSC	105.00	4041.40
06/09/62	CN	BSC	105.00	4634.10
06/10/62	CN	USE	157.50	433.34
06/11/62	CN	BSC	105.00	10320.00
06/14/62	CN	USE	105.00	22900.30
06/15/62	CN	BSC	105.00	4207.00
06/16/62	CN	BSC	105.00	1023.40
06/17/62	CN	BSC	105.00	1538.40
06/18/62	CN	USE	157.50	6746.40
06/21/62	CN	USE	105.00	10132.30
06/30/62	CN	BSC	105.00	6438.50
06/30/62	CN	BSC	105.00	6611.50

MONTHLY TOTALS

5014.75

165041.65

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

WUAD-CITIES STATION

JULY 1982

DATE	CO TRANS	BURIAL SITE	VOLUME	MILLICURIES
-----	-----	-----	-----	-----
07/01/82	CN	BSC	105.00	7438.60
07/01/82	CN	BSC	105.00	7305.30
07/06/82	CN	BSC	105.00	6432.20
07/07/82	CN	BSC	105.00	7311.90
07/07/82	CN	BSC	105.00	6671.80
07/08/82	CN	BSC	105.00	7077.80
07/09/82	CN	BSC	105.00	4622.30
07/09/82	CN	BSC	105.00	7752.20
07/12/82	CN	USE	105.00	4012.42
07/12/82	CN	USE	105.00	10317.40
07/14/82	CN	USE	105.00	4609.14
07/15/82	CN	USE	105.00	4450.60
07/15/82	TRI STATE	USE	1249.75	51.02
07/16/82	CN	BSC	105.00	7341.60
07/16/82	CN	USE	105.00	7336.44
07/21/82	CN	USE	105.00	8837.20
07/22/82	CN	USE	105.00	8124.50
07/23/82	CN	USE	105.00	3839.60
07/23/82	CN	USE	105.00	6459.74
07/26/82	TRI STATE	USE	646.14	27.40
07/26/82	CN	USE	105.00	7514.60
07/28/82	CN	USE	157.50	621.12
07/29/82	CN	BSC	105.00	8073.10
07/30/82	CN	BSC	105.00	8847.30
07/30/82	CN	USE	105.00	4608.03

MONTHLY TOTALS

4603.44

169708.74

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

AUG. 1982

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
-----	-----	-----	-----	-----
08/02/82	CN	BSC	105.00	7094.10
08/02/82	CN	USE	105.00	5543.20
08/05/82	CN	BSC	105.00	8358.80
08/05/82	CN	USE	105.00	13283.92
08/06/82	CN	USE	105.00	16643.15
08/09/82	CN	USE	105.00	13072.70
08/11/82	CN	USE	157.00	1131.39
08/12/82	CN	USE	105.00	9542.50
08/13/82	CN	USE	105.00	10543.14
08/16/82	CN	USE	105.00	11004.87
08/16/82	CN	BSC	105.00	9736.90
08/18/82	CN	BSC	105.00	10011.00
08/18/82	CN	USE	105.00	381.97
08/19/82	CN	USE	105.00	7874.48
08/23/82	CN	USE	105.00	13057.39
08/23/82	CN	BSC	105.00	4553.90
08/25/82	CN	BSC	105.00	10056.80
08/25/82	CN	BSC	105.00	10488.10
08/30/82	CN	BSC	105.00	9919.50

MONTHLY TOTALS

2047.00

177407.59

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

SEPI 1982

DATE	CO TRANS	BURIAL SITE	VOLUME	MILLICURIES
-----	-----	-----	-----	-----
09/01/82	CN	BSC	105.00	10375.40
09/01/82	CN	BSC	105.00	9645.40
09/02/82	CN	USE	105.00	5185.08
09/03/82	TRI STATE	USE	552.30	48.85
09/08/82	CN	BSC	105.00	8736.00
09/08/82	CN	BSC	105.00	7752.30
09/09/82	TRI STATE	USE	1209.75	20.79
09/10/82	CN	BSC	105.00	6871.20
09/10/82	CN	BSC	105.00	7540.90
09/13/82	CN	USE	105.00	13722.30
09/15/82	CN	USE	105.00	11106.45
09/15/82	CN	USE	105.00	8903.93
09/17/82	CN	USE	105.00	661.70
09/20/82	TRI STATE	USE	1105.50	10.17
09/22/82	CN	BSC	105.00	7752.12
09/23/82	CN	USE	105.00	5675.26
09/24/82	CN	USE	105.00	6532.00
09/24/82	CN	BSC	105.00	8043.20
09/27/82	CN	BSC	105.00	8513.10
09/27/82	CN	USE	105.00	6802.16
09/29/82	CN	USE	105.00	330.34
09/30/82	TRI STATE	USE	1209.75	24.45

MONTHLY TOTALS

6127.30

134253.13

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)
 SOLID RADIOACTIVE WASTE SUMMARY
 UNITS 1/2
 QUAD-CITIES STATION
 OCT. 1982

DATE	CO TRANS	BURIAL SITE	VOLUME	MILLICURIES
-----	-----	-----	-----	-----
10/01/82	CN	BSC	105.00	7718.90
10/01/82	CN	BSC	105.00	4543.30
10/04/82	CN	BSC	105.00	342.35
10/04/82	CN	USE	105.00	301.88
10/06/82	CN	BSC	105.00	4108.40
10/06/82	CN	USE	105.00	8988.01
10/07/82	CN	USE	105.00	4888.16
10/08/82	TRI STATE	USE	1289.75	80.62
10/13/82	CN	BSC	105.00	1966.10
10/13/82	CN	USE	105.00	2767.50
10/14/82	CN	BSC	105.00	8854.70
10/15/82	CN	BSC	105.00	8645.80
10/15/82	CN	BSC	105.00	8302.20
10/18/82	CN	BSC	105.00	8347.30
10/20/82	TRI STATE	USE	1289.75	51.88
10/21/82	CN	BSC	105.00	7354.55
10/22/82	CN	BSC	105.00	9071.20
10/22/82	CN	BSC	105.00	8862.20
10/25/82	CN	USE	105.00	5127.82
10/27/82	CN	BSC	105.00	7988.90
10/27/82	CN	USE	105.00	5462.83
10/28/82	TRI STATE	USE	1289.75	81.72
10/29/82	CN	BSC	105.00	8809.90

MONTHLY TOTALS	5969.25	127473.60
----------------	---------	-----------

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

WUAD-CITIES STATION

NOV. 1962

DATE	CU TRANS	BURIAL SITE	VOLUME	MILLICURIES
11/01/62	CN	USE	105.00	3297.00
11/03/62	CN	BSC	105.00	3072.00
11/05/62	CN	USE	105.00	3443.34
11/05/62	CN	BSC	105.00	0212.00
11/08/62	CN	BSC	105.00	1714.00
11/10/62	TRI STATE	USE	1204.75	10.10
11/12/62	CN	BSC	105.00	20000.40
11/12/62	CN	BSC	105.00	20017.40
11/15/62	CN	BSC	105.00	14750.50
11/15/62	CN	BSC	105.00	10404.00
11/16/62	TRI STATE	USE	1204.75	33.34
11/17/62	CN	BSC	105.00	10103.50
11/18/62	TRI STATE	USE	1204.75	15.11
11/18/62	CN	USE	170.00	1005.70
11/19/62	CN	USE	105.00	1100.10
11/19/62	CN	BSC	105.00	0330.30
11/22/62	CN	BSC	105.00	23004.21
11/22/62	CN	BSC	105.00	12076.00
11/24/62	CN	BSC	105.00	22200.70
11/24/62	CN	USE	105.00	10301.03

MONTHLY TOTALS

3719.25

203917.04

USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Table 2.0-1 (continued)

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

QUAD-CITIES STATION

DEC. 1982

DATE	CO TRANS	BURIAL SITE	VOLUME	MILLICURIES
12/01/82	CN	BSC	105.00	20276.30
12/02/82	CN	USE	105.00	12221.88
12/03/82	CN	BSC	105.00	19327.00
12/06/82	CN	USE	170.00	1746.30
12/07/82	TRI STATE	USE	1289.75	14.73
12/08/82	CN	BSC	105.00	9654.80
12/08/82	CN	BSC	105.00	15899.70
12/09/82	CN	BSC	103.70	8744.50
12/10/82	CN	BSC	105.00	9213.70
12/13/82	CN	BSC	105.00	9257.20
12/13/82	CN	BSC	105.00	9172.00
12/16/82	CN	BSC	105.00	9471.00
12/17/82	CN	BSC	105.00	2583.80
12/17/82	CN	BSC	105.00	1669.80
12/20/82	CN	BSC	105.00	9454.00
12/20/82	CN	BSC	105.00	9044.49
12/21/82	TRI STATE	USE	1289.75	59.43
12/22/82	CN	BSC	105.00	8634.90
12/22/82	CN	BSC	105.00	3625.30
12/27/82	TRI STATE	USE	1289.75	49.48
12/29/82	CN	BSC	105.00	1921.00
12/30/82	CN	BSC	105.00	2712.30

MONTHLY TOTALS

5927.95

164953.81

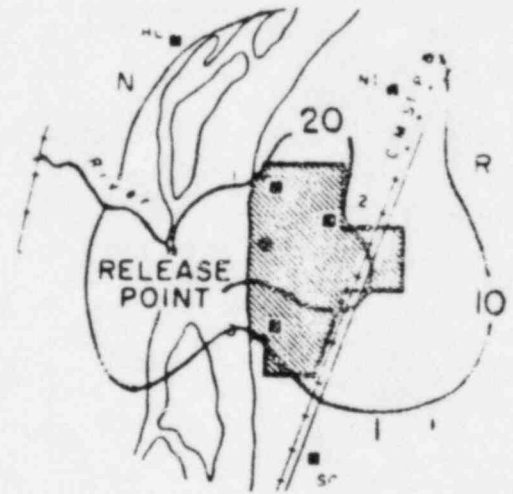
USE - U.S. ECOLOGY
 BSC - BARNWELL SOUTH CAROLINA
 CN - CHEM NUCLEAR CO.

Figure 3.1-1

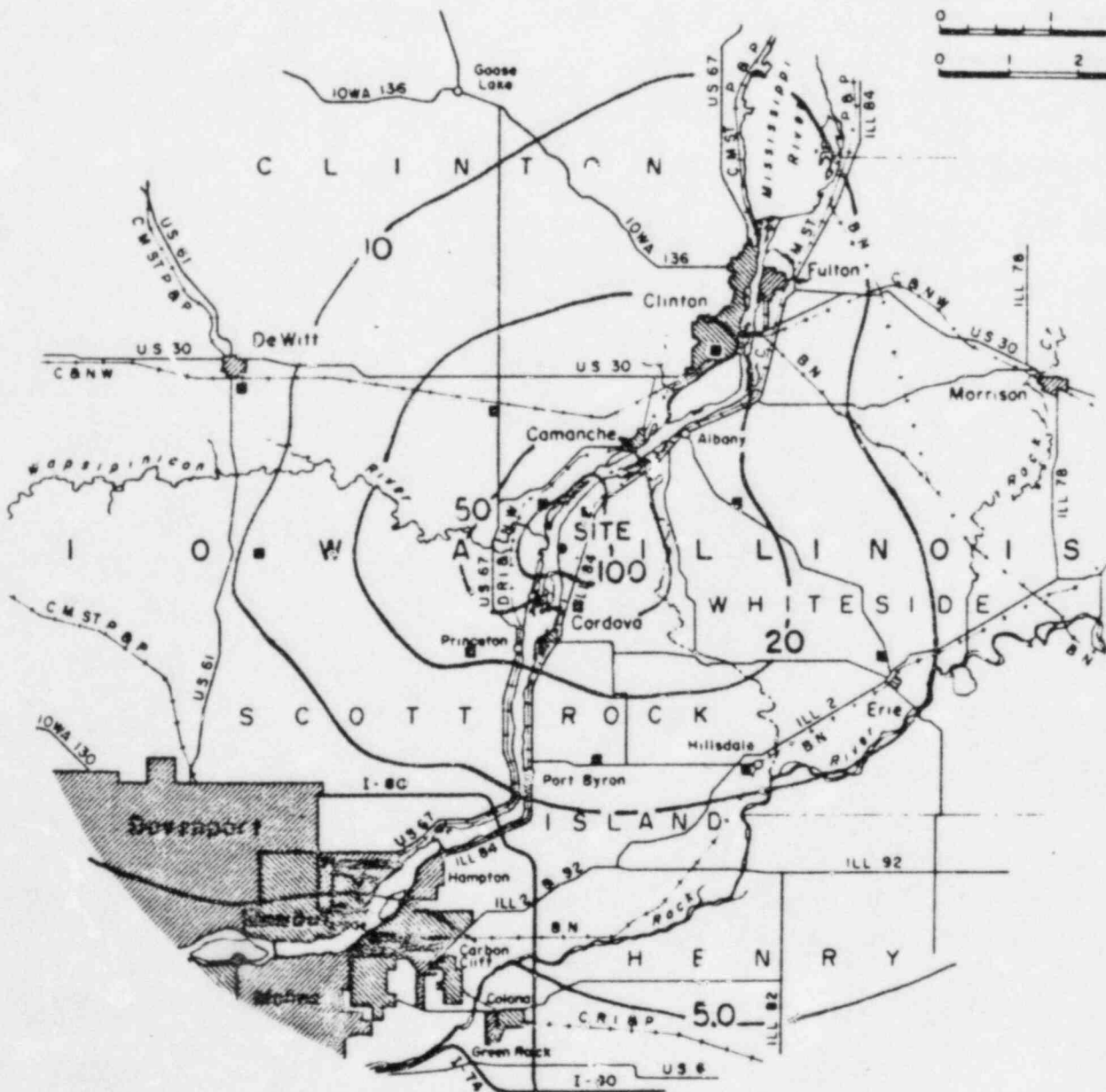
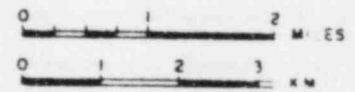
Estimated Cumulative Gamma Dose (mrem) from the Quad Cities Station for the period January-December 1982.

Isopleth Labels

Small figure - multiply by 10^{-2}
Large figure - multiply by 10^{-3}



SCALE



SCALE

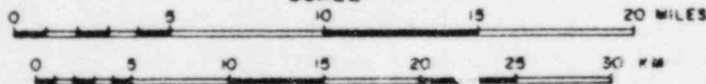


Figure 3.1-2

Estimated Total Concentration (pCi/m^3) of Noble Gases from the Quad Cities Station for the period January-December 1982.

Isopleth Labels

Small figure - multiply by 10^0
Large figure - multiply by 10^0

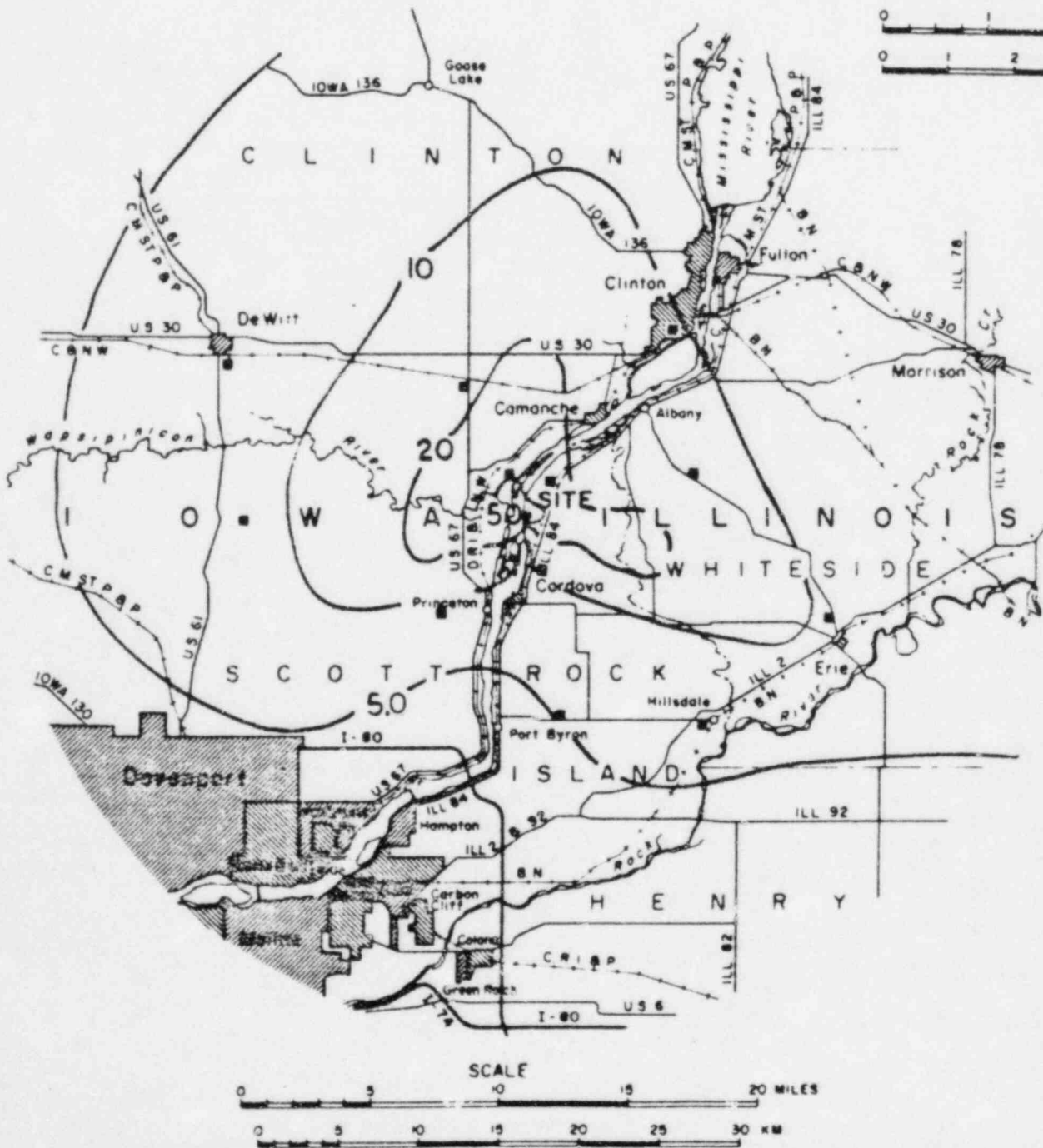
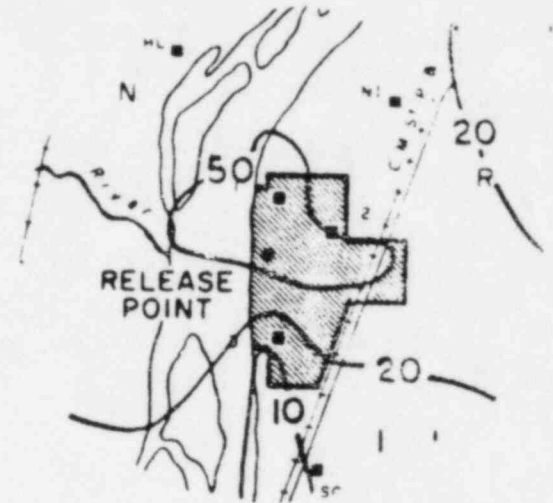


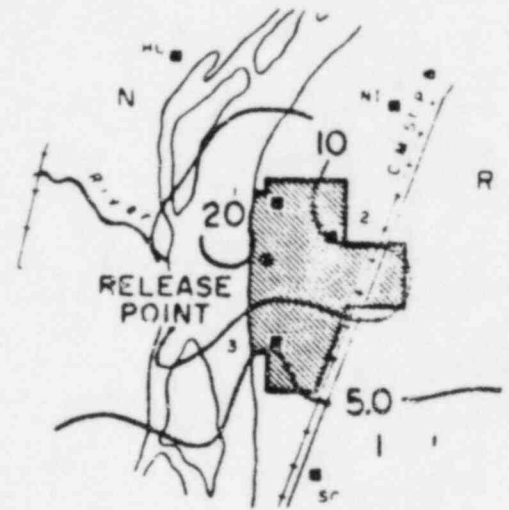
Figure 3.1-3

Estimated Total Concentration (pCi/m^3) of Iodine from the Quad Cities Station for the period January-December 1982.

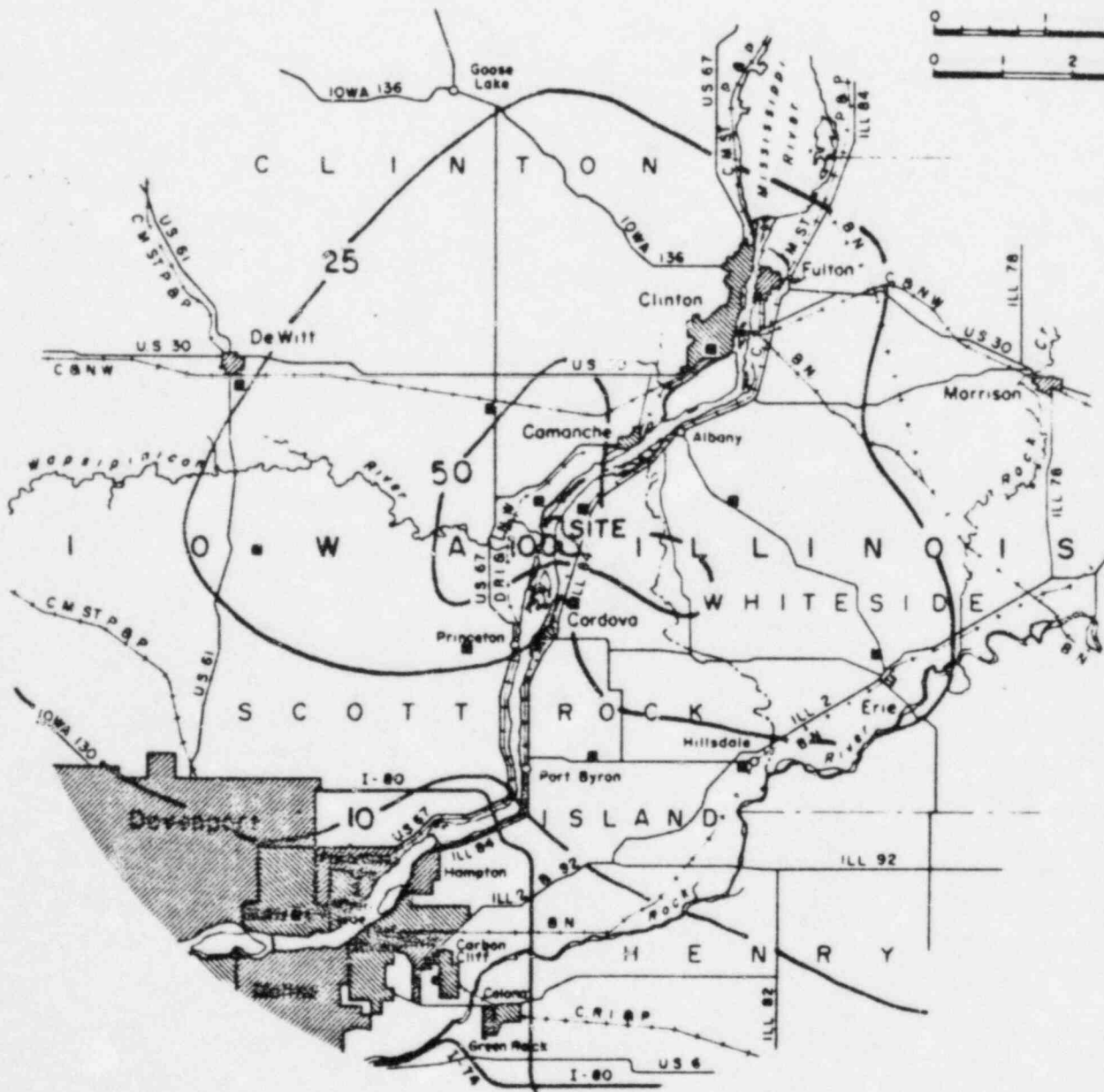
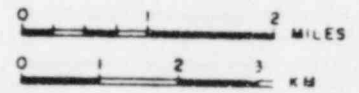
Isopleth Labels

Small figure - multiply by 10^{-3}

Large figure - multiply by 10^{-4}



SCALE



SCALE

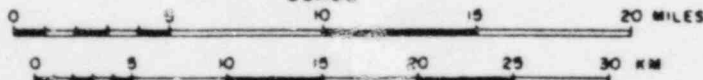


Figure 3.1-4

Estimated Total Concentration (pCi/m^3) of
Particulate Matter from the Quad Cities
Station for the period January-December 1982.

Isopleth Labels

Small figure - multiply by 10^{-4}

Large figure - multiply by 10^{-5}

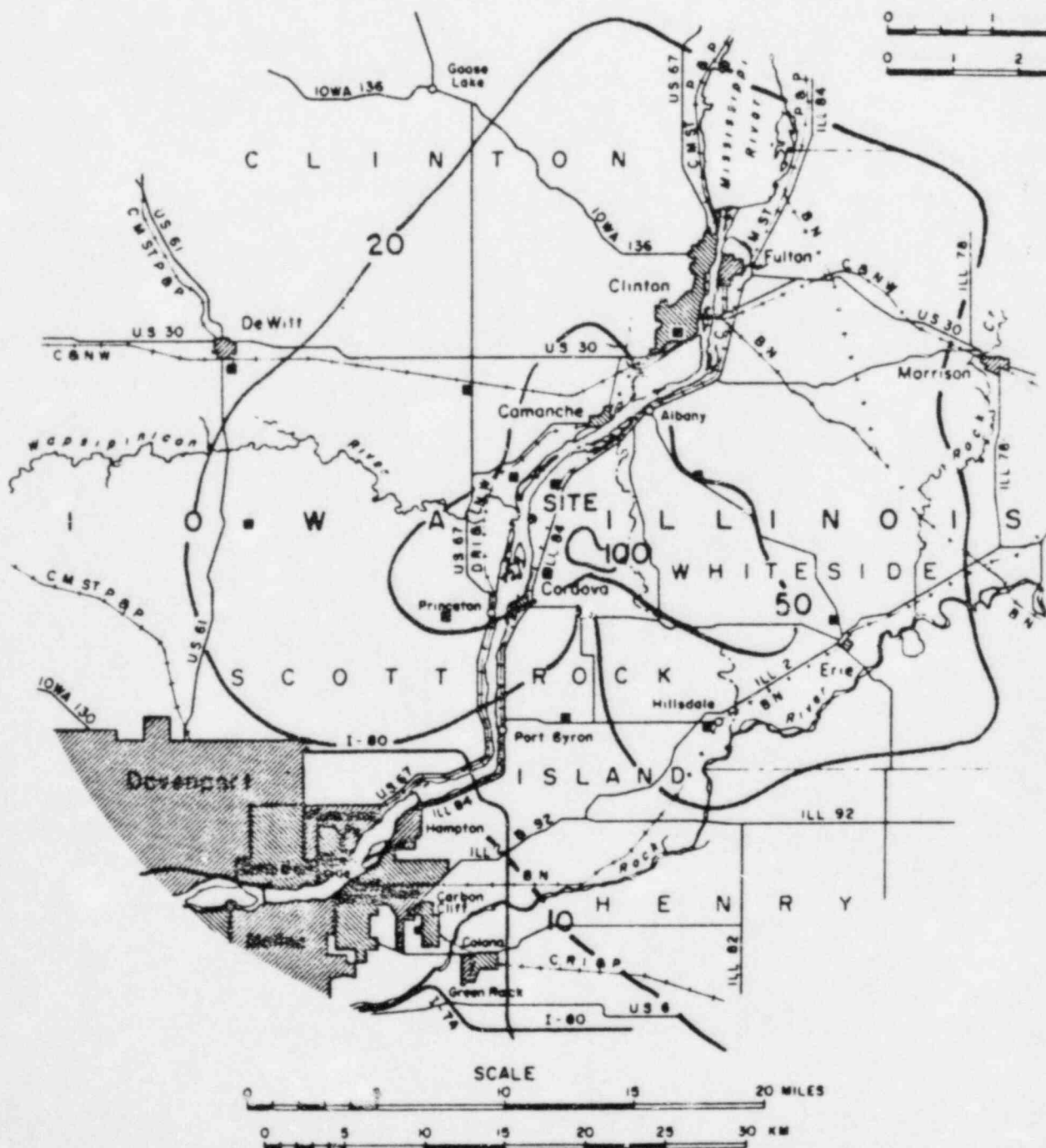
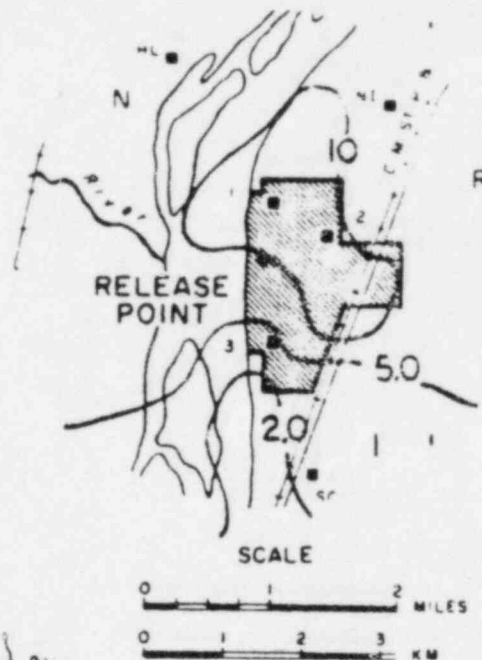


Table 3.1-1

QUAD CITIES UNIT ONE
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE = 1/ 1/82 TO 12/31/82 CALCULATED 02/28/84

TYPE	1ST QUARTER 1/82- 3/82	2ND QUARTER 4/82- 6/82	3RD QUARTER 7/82- 9/82	4TH QUARTER 10/82-12/82	ANNUAL
GAMMA AIR (MRAD)	5.94E-02 (WNW)	8.71E-02 (WNW)	7.06E-02 (W)	3.60E-02 (WNW)	2.52E-01 (WNW)
BETA AIR (MRAD)	3.40E-02 (NW)	4.97E-02 (NW)	3.09E-02 (NW)	6.37E-02 (WNW)	1.77E-01 (WNW)
TOT. BODY (MREM)	3.18E-02 (W)	4.62E-02 (WNW)	3.60E-02 (W)	1.96E-02 (WNW)	1.33E-01 (WNW)
SKIN (MREM)	7.02E-02 (WNW)	1.09E-01 (WNW)	7.05E-02 (WNW)	8.29E-02 (WNW)	3.41E-01 (WNW)
ORGAN (MREM)	1.91E-02 (NW)	5.15E-01 (S)	2.60E-01 (S)	1.32E-02 (S)	7.92E-01 (S)
	THYROID	THYROID	THYROID	THYROID	THYROID

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR 1/82- 3/82	2ND QTR 4/82- 6/82	3RD QTR 7/82- 9/82	4TH QTR 10/82- 12/82	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	1.19	1.74	1.41	0.72	10.0	2.52
BETA AIR (MRAD)	10.0	0.34	0.50	0.31	0.64	20.0	0.89
TOT. BODY (MREM)	2.5	1.27	1.85	1.44	0.79	5.0	2.66
SKIN (MREM)	7.5	0.94	1.45	1.05	1.11	15.0	2.27
ORGAN (MREM)	7.5	0.25	6.86	3.47	0.18	15.0	5.28
		THYROID	THYROID	THYROID	THYROID		THYROID

Table 3.1-1 (continued)

QUAD CITIES UNIT TWO
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 1/ 1/82 TO 12/31/82 CALCULATED 02/28/83

TYPE	1ST QUARTER 1/82- 3/82	2ND QUARTER 4/82- 6/82	3RD QUARTER 7/82- 9/82	4TH QUARTER 10/82-12/82	ANNUAL
GAMMA AIR (MRAD)	1.35E-01 (WNW)	9.02E-02 (WNW)	1.42E-01 (WNW)	3.15E-02 (WNW)	3.99E-01 (WNW)
BETA AIR (MRAD)	2.02E-01 (WNW)	5.82E-02 (WNW)	8.66E-02 (NW)	3.77E-02 (WNW)	3.84E-01 (WNW)
TOT. BODY (MREM)	6.45E-02 (WNW)	4.75E-02 (WNW)	7.83E-02 (W)	1.51E-02 (WNW)	2.05E-01 (WNW)
SKIN (MREM)	2.44E-01 (WNW)	1.17E-01 (WNW)	1.72E-01 (WNW)	5.50E-02 (WNW)	5.88E-01 (WNW)
ORGAN (MREM)	2.76E-02 (NW)	4.90E-01 (S)	3.24E-01 (S)	5.10E-02 (S)	8.70E-01 (S)
	THYROID	THYROID	THYROID	THYROID	THYROID

COMPLIANCE STATUS - 10 CFR 50 APP. I

	----- % OF APP I. -----						
	QTRLY OBJ	1ST QTR 1/82- 3/82	2ND QTR 4/82- 6/82	3RD QTR 7/82- 9/82	4TH QTR 10/82- 12/82	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	2.71	1.80	2.83	0.63	10.0	3.99
BETA AIR (MRAD)	10.0	2.02	0.58	0.87	0.38	20.0	1.92
TOT. BODY (MREM)	2.5	2.58	1.90	3.13	0.60	5.0	4.09
SKIN (MREM)	7.5	3.25	1.56	2.29	0.73	15.0	3.92
ORGAN (MREM)	7.5	0.37	6.54	4.32	0.68	15.0	5.80
		THYROID	THYROID	THYROID	THYROID		THYROID

Table 3.2-1

QUAD CITIES UNIT ONE
 MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
 PERIOD OF RELEASE - 1/ 1/82 TO 12/31/82 CALCULATED 03/02/83 *

DOSE TYPE	1ST QUARTER 1/82-3/82	2ND QUARTER 4/82-6/82	3RD QUARTER 7/82-9/82	4TH QUARTER 10/82-12/82	ANNUAL
TOTAL	2.25E-02	1.79E-03	2.57E-03	3.16E-03	3.00E-02
BODY					
INTERNAL	3.12E-02	2.76E-03	3.69E-03	1.19E-01	1.22E-01
ORGAN	LIVER	LIVER	LIVER	GI-LLI	GI-LLI

* THIS IS A REPORT FOR THE CALENDAR YEAR 1982

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY	1ST QTR 1/82-3/82	2ND QTR 4/82-6/82	3RD QTR 7/82-9/82	4TH QTR 10/82-12/82	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	1.50	0.12	0.17	0.21	3.0	1.00
CRIT. ORGAN (MREM)	5.0	0.62	0.06	0.07	2.38	10.0	1.22
		LIVER	LIVER	LIVER	GI-LLI		GI-LLI

Table 3.2-1 (continued)

QUAD CITIES UNIT TWO
 MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
 PERIOD OF RELEASE - 1/ 1/82 TO 12/31/82 CALCULATED 03/02/83 *

DOSE TYPE	1ST QUARTER 1/82- 3/82	2ND QUARTER 4/82- 6/82	3RD QUARTER 7/82- 9/82	4TH QUARTER 10/82-12/82	ANNUAL
TOTAL	2.25E-02	1.79E-03	2.57E-03	3.16E-03	3.00E-02
BODY INTERNAL ORGAN	3.12E-02	2.76E-03	3.69E-03	1.19E-01	1.22E-01
	LIVER	LIVER	LIVER	GI-LLI	GI-LLI

* THIS IS A REPORT FOR THE CALENDAR YEAR 1982

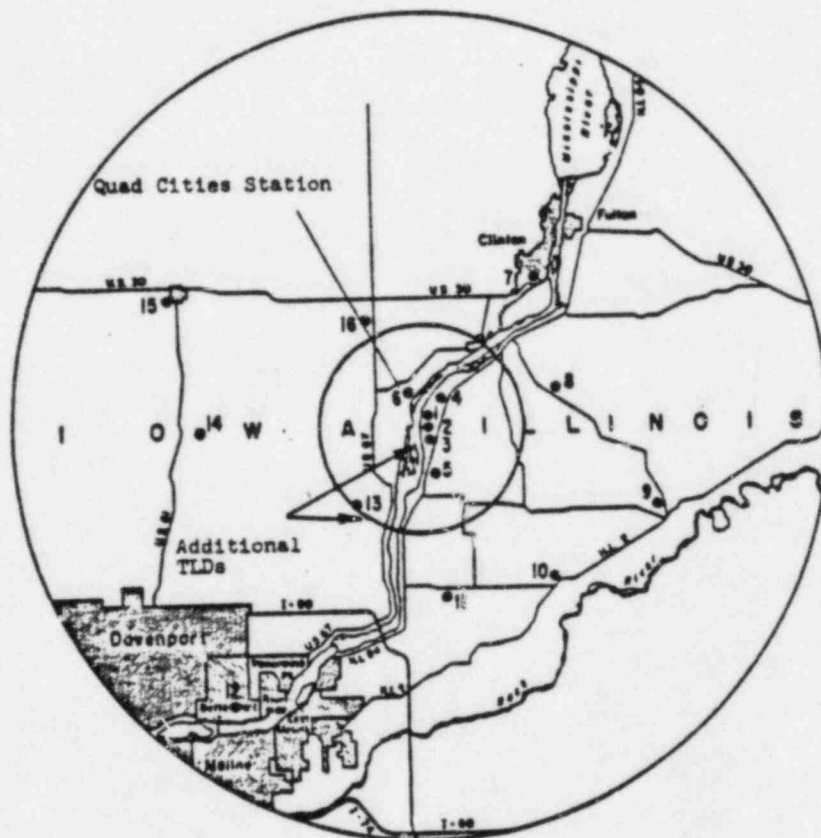
COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR 1/82- 3/82	2ND QTR 4/82- 6/82	3RD QTR 7/82- 9/82	4TH QTR 10/82- 12/82	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	1.50	0.12	0.17	0.21	3.0	1.00
CRIT. ORGAN(MREM)	5.0	0.62	0.06	0.07	2.38	10.0	1.22
		LIVER	LIVER	LIVER	GI-LLI		GI-LLI

Figure 5.0-1
**LOCATIONS OF FIXED ENVIRONMENTAL
RADIOLOGICAL MONITORING STATIONS**

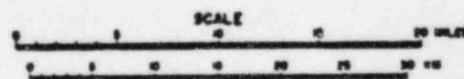
Air Samplers

- 1 - Onsite Station 1
- 2 - Onsite Station 2
- 3 - Onsite Station 3
- 4 - NITRIN
- 5 - Saddle Club
- 6 - Hanson's Boat Landing
- 7 - Clinton
- 8 - Sikkema Farm
- 9 - Erie
- 10 - Hillsdale
- 11 - Port Byron
- 12 - Bettendorf
- 13 - Princeton
- 14 - Utica Ridge Road
- 15 - De Witt
- 16 - Low Moor



TLD

Same as air samplers plus a sufficient number of additional dosimeters placed near the site and near 5 miles to assure, to the extent practical, that one dosimeter is located at each range in each of the 16 meteorological sectors,



QUAD CITIES NUCLEAR POWER STATION

Standard Radiological Sampling Program

Old Code	New Code	Loc. Type ^a	Location Description
Q-14	Q-01		On-site No. 1
-15	-02		On-site No. 2
-16	-03		On-site No. 3
-01	-04		Nitrin
-06	-05		Saddle Club
-12	-06		Hanson's Boat Landing
-02	-07	C	Clinton
-03	-08	C	Sikkema Farm
-04	-09	C	Erie
-05	-10	C	Hillsdale
-07	-11	C	Port Byron
-08	-12	C	Bettendorf
-09	-13	C	Princeton
-10	-14	C	Utica Ridge Road
-11	-15	C	DeWitt
-13	-16	C	Low Moor
-17	-17		Hanson Dairy Farm
-34	-18		Musal Dairy Farm
-20	-19		East Moline Water Works
-21	-20		Davenport Water Works
-18	-21	C	Inlet Canal
-19	-22		Discharge Canal
-27	-23		Lock & Dam No. 14 (Mississippi River)
-27	-24		Davenport Fish Market (Pool No. 14, Mississippi River)

Media						
Air Samples	TLDS	Milk	Public Water	Cooling Water	Sediment	Fish
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
X	X					
		X				
		X				
			X			
			X			
				X		
				X		
					X	
						X
						X

^a Control (background) locations are indicated by a "C" in this column. All other locations are indicators.

TABLE 5.0-1

QUAD CITIES STANDARD RADIOLOGICAL MONITORING PROGRAM

<u>Sample Media</u>	<u>Collection Site^a</u>	<u>Type of Analysis</u>	<u>Frequency</u>	<u>Non-Routine Reporting Levels^b</u>
1. Air Monitoring	(a) Onsite and near Field	1. Filter - gross beta ^c	1. Weekly	Cs-134 10, Cs-137 20 pCi/m ³
	(1) Onsite Station #1	2. Charcoal - I-131	2. Bi-weekly ^d	0.9 pCi/m ³
	(2) Onsite Station #2	3. Sampling Train - Test and Maintenance	3. Weekly	
	(3) Onsite Station #3			
	(4) Nitrin			
	(5) Saddle Club Dairy Farm			
	(6) Hanson's Boat Landing			
	(b) Far Field	1. Filter Exchange	1. Weekly	Same as 1 (a)
	(1) Clinton	2. Charcoal Exchange	2. Bi-weekly	When analyses
	(2) Sikkema Farm	3. Sampling Train - Test and Maintenance	3. Weekly	are made
	(3) Erie			
	(4) Hilldale			
	(5) Port Byron			
	(6) Bettendorf			
	(7) Princeton			
	(8) Utica Ridge Road			
	(9) DeWitt			
	(10) Low Moor			
2. TLD	Same as 1	Gamma Radiation	Quarterly	
3. Fish	Pool 14 of Mississippi	Gamma isotopic	Semi-annually	Mn-54 3x10 ⁴ , Fe-59 1x10 ⁴ Co-58 3x10 ⁴ , Co-60 1x10 ⁴ Zn-65 2x10 ⁴ , Cs-134 1x10 ³ Cs-137 2x10 ³ pCi/Kg wet weight
4. Milk	(a) Hansen Dairy	I-131	1. Weekly - Grazing Season - May to Oct	I-131 3 pCi/l Cs-134 60 pCi/l Cs-137 70 pCi/l
	(b) Musal Dairy		2. Monthly - Nov to Apr	Ba-La-140 300 pCi/l

TABLE 5.0-1 (continued)

QUAD CITIES STANDARD RADIOLOGICAL MONITORING PROGRAM

<u>Sample Media</u>	<u>Collection Site</u>	<u>Type of Analysis</u>	<u>Frequency</u>	<u>Non-Routine Reporting Levels^b</u>
5. Public Water	(a) East Moline Water Works (b) Davenport Water Works	1. Gamma Isotopic	1. Monthly Analysis of Weekly Composites	(See footnote e)
6. Cooling Water ^f	(a) Inlet (b) Discharge	1. Gross Beta	1. Weekly	
7. Sediment	(a) Lock and Dam No. 14	Gamma Isotopic	Annually	
8. Dairy Census	(a) Site Boundary to 2 miles (b) 2 miles to 5 miles (c) At dairies listed in item 4.	(a) Enumeration by a door-to-door or equivalent counting technique (b) Enumeration by using referenced information from county agricultural agents or other reliable sources. (c) Inquire as to feeding practices. (1) pasture only (2) Feed and chop only (3) Pasture and feed; if both, ask farmer to estimate fraction of food from pasture <25% 25-50% 50-75% >75%	Annually, during grazing season	
9. Nearest Resident Census			Annually	

^a Additional information giving the distance and direction of individual sampling locations may be found in Appendix III of the 1978 Annual Report.

^b Average concentration over calendar quarter.

^c A gamma isotopic analysis shall be performed whenever the gross beta concentration in a sample exceeds by five times (5x) the average concentration of the preceding calendar quarter for the sample location.

^d Bi-weekly shall mean that the frequency is once every other week.

^e H-3 2×10^4 , Mn-54 1×10^3 , Fe-59 2×10^4 , Co-58 6×10^2 , Co-60 2×10^2 , Zn-65 2×10^2 , Zr-Nb-95

^f 4×10^2 , I-131 2, Cs-134 30, Cs-137 50, Ba-La-140 1×10^2 pCi/l.

Provided by station personnel.

Table 5.0-2

Environmental Radiological Monitoring Program Quarterly Summary

Name of facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of facility Rock Island, Illinois Reporting Period 1st Quarter 1982
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Annual Mean		Control Locations Mean ^a Range	Number of non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.036 (74/78) (0.010-0.068)	Q-02, Onsite #2 0.5 mi @ 70°	0.039 (13/13) (0.015-0.066)	None	0
				Q-06, Hansons Boat Dock 1.8 mi @ 340°	3.9 (12/13) (0.017-0.056)	None	0
Airborne Iodine (pCi/m ³)	I-131 42	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 15	3.0	11.0 (5/5) (10.5-11.5)	Q-11, Port Byron 8.0 mi @ 170°	13.3 (1/1) -	11.1 (10/10) (7.8-13.3)	0
Milk (pCi/l)	I-131 6	5.0	<LLD	-	-	None	0
Cooling Water (pCi/l)	Gross Beta 36	1.0	4.4 (22/22) (2.9-10.3)	Q-22B, Spray Canal Blowdown at Station	5.1 (12/12) (2.9-10.3)	3.5 (12/12) (1.6-4.8)	0
	Tritium 1	200	<LLD	-	-	None	0
Public Water (pCi/l)	Gamma Spec. 6	10.0	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-3

Environmental Radiological Monitoring Program Quarterly Summary

Name of facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of facility Rock Island, Illinois Reporting Period 2nd Quarter 1982
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Annual Mean		Control Locations Mean ^a Range	Number of non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.023 (74/78) (0.012-0.046)	Q-01, Onsite #1 0.5 mi @ 0°	0.025 (12/13) (0.013-0.048)	None	0
				Q-02, Onsite #2 0.5 mi @ 70°	0.025 (13/13) (0.013-0.037)	None	0
				Q-04, Nitrin 1.5 mi @ 40°	0.025 (13/13) (0.015-0.038)	None	0
Airborne Iodine (pCi/m ³)	I-131 36	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 16	3.0	11.8 (6/6) (10.9-12.3)	Q-11, Port Byron 8.0 mi @ 170°	13.7 (1/1) -	12.4 (10/10) (10.9-13.7)	0
Milk (pCi/l)	I-131 10	5/0.5*	<LLD	-	-	None	0
Cooling Water (pCi/l)	Gross Beta 39	1.0	4.8 (26/26) (3.2-15.0)	Q-22B, Spray Canal Blowdown at Station	5.5 (13/13) (3.2-15.0)	4.4 (13/13) (3.1-6.3)	0
	Tritium 1	200	350 (1/1) -	Q-22A, Blowdown Diffuser Pipe	350 (1/1) -	None	0
Public Water (pCi/l)	Gamma Spec. 6	10.0	<LLD	-	-	None	0
Fish (pCi/g wet)	Gamma Spec. 17						
	Cs-134	0.1	<LLD	-	-	None	0
	Cs-137	0.1	<LLD	-	-	None	0
	Other Gammas	0.2	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

* November - April LLD = 5.0; May - October LLD = 0.5.

Table 5.0-4

Environmental Radiological Monitoring Program Quarterly Summary

Name of facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of facility Rock Island, Illinois Reporting Period 3rd Quarter 1982
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Annual Mean		Control Locations Mean ^a Range	Number of non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.025 (73/78) (0.011-0.053)	Q-02, Onsite #2 0.5 mi @ 70°	0.029 (12/13) (0.016-0.044)	None	0
Airborne Iodine (pCi/m ³)	I-131 42	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 16	3.0	11.6 (6/6) (10.6-12.4)	Q-11, Port Byron 8.0 mi @ 170°	13.1 (1/1) -	11.5 (10/10) (10.3-13.1)	0
Milk (pCi/l)	I-131 26	0.5	<LLD	-	-	None	0
Cooling Water (pCi/l)	Gross Beta 39	1.0	3.5 (26/26) (1.7-5.8)	Q-22B, Spray Canal Blowdown at Station	3.9 (13/13) (2.0-5.8)	3.4 (13/13) (2.5-4.9)	0
	Tritium 1	200	<LLD	-	-	<LLD	0
Public Water (pCi/l)	Gamma Spec. 6						
	Cs-134	10.0	<LLD	-	-	None	0
	Cs-137	10.0	<LLD	-	-	None	0
	Other Gammas	20.0	<LLD	-	-	None	0
Bottom Sediments	Gamma Spec. 1						
	Cs-134	0.1	<LLD	-	-	<LLD	0
	Cs-137	0.1	0.16 (1/1)	Q-23, Lock & Dam #14 Mississippi River 15.0 mi @ 220°	0.16 (1/1)	None	0
	Other Gammas	0.2	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-5

Environmental Radiological Monitoring Program Quarterly Summary

Name of facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of facility Rock Island, Illinois Reporting Period 4th Quarter 1982
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Annual Mean		Control Locations Mean ^a Range	Number of non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.027 (74/78) (0.010-0.048)	Q-02, Onsite #2 0.5 mi @ 70°	0.032 (13/13) (0.022-0.048)	None	0
Airborne Iodine (pCi/m ³)	I-131 42	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 16	3.0	13.4 (6/6) (12.5-14.4)	Q-11, Port Byron 8.0 mi @ 170°	16.0 (1/1) -	13.3 (10/10) (11.7-16.0)	0
Milk (pCi/l)	I-131 14	5/0.5*	<LLD	-	-	None	0
Cooling Water (pCi/l)	Gross Beta 42	2.0	4.9 (28/28) (2.5-7.4)	Q-22P, Spray Canal blowdown at Station	4.8 (14/14) (3.3-8.0)	3.9 (14/14) (2.5-6.0)	0
	Tritium 1	200	<LLD	-	-	None	0
Public Water (pCi/l)	Gamma Spec. 6						
	Cs-134	10.0	<LLD	-	-	None	0
	Cs-137	10.0	<LLD	-	-	None	0
	Other Gammas	20.0	<LLD	-	-	None	0
Fish (pCi/g wet)	Gamma Spec. 9						
	Cs-134	10.0	<LLD	-	-	None	0
	Cs-137	10.0	<LLD	-	-	None	0
	Other gammas	20.0	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

* November - April LLD = 5.0; May - October LLD = 0.5.

QUAD CITIES NUCLEAR POWER STATION

Table 5.1-1.

Gamma radiation as measured by Thermoluminescent Dosimeters (TLDs)

Standard Radiological Monitoring Program

		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:		1/01/82,* 1/02/82	4/05/82* 4/04/82	7/07/82	10/03/82* 10/02/82
Date Removed:		4/04/82,* 4/05/82	7/02/82	10/02/82 10/03/82*	12/31/82
Days in the Field:		93	88,89*	92,93*	89*,90
<u>Location</u>		<u>Average mR/Qtr</u>			
On-Site Indicator Locations					
Q-01	On-Site No. 1	10.5±0.9	11.8±1.1	11.2±0.7	13.9±1.0
Q-02	On-Site No. 2	11.5±0.6	12.1±2.0	12.2±0.6	14.3±1.1
Q-03	On-Site No. 3	<u>10.7±0.9</u>	<u>11.8±1.0</u>	<u>11.7±0.7</u>	<u>12.5±1.9</u>
Mean ± s.d.		10.9±0.5	11.9±0.2	11.7±0.5	13.6±0.9
Off-Site Indicator Locations					
Q-04	Nitrin	10.9±0.8	10.9±1.0	10.6±0.6	12.7±0.9
Q-05	Saddle Club Dairy	ND	12.3±1.1	12.4±0.9	12.7±1.2
Q-06	Hanson's Dock	<u>11.3±0.6*</u>	<u>12.0±1.0*</u>	<u>11.7±0.5*</u>	<u>14.4±1.5*</u>
Mean ± s.d.		11.1±0.3	11.7±0.7	11.5±1.0	13.3±1.0
Background Locations					
Q-07	Clinton	12.1±0.5*	12.2±1.1*	10.3±0.6*	11.8±0.7*
Q-08	Sikkema Farm	11.9±0.6	12.8±1.1	12.5±0.7	14.4±1.2
Q-09	Erie	11.5±1.1	10.9±1.7	12.3±0.7	13.0±2.8
Q-10	Hillsdale	10.6±0.9	12.6±2.1	11.7±0.6	13.6±1.2
Q-11	Port Byron	13.3±0.6	13.7±2.2 ^a	13.1±0.8	16.0±1.7
Q-12	Bettendorf	12.0±1.0*	13.4±1.6*	11.9±0.8*	13.7±0.8*
Q-13	Princeton	7.8±0.3*	13.2±1.2*	10.9±0.7*	13.8±1.4*
Q-14	Utica Ridge Road	11.3±0.6*	11.8±0.9	10.8±0.5*	12.3±0.5*
Q-15	DeWitt	10.3±0.4*	11.7±1.1	10.9±0.6*	11.7±2.2*
Q-16	Low Moor	<u>10.3±0.5*</u>	<u>12.0±1.1</u>	<u>10.5±0.9*</u>	<u>12.9±0.8*</u>
Mean ± s.d.		11.1±1.5	12.4±0.9	11.5±1.0	13.3±1.3

ND = No Data. TLDs lost in the field.

^a Q-11 was missing; Q-11C was read in its place.

QUAD CITIES NUCLEAR POWER STATION

Table 5.1-1 (continued).

Gamma radiation as measured by TLDs

Special Program

Inner Ring, Near Site Boundary, Indicator Locations

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Date Placed:	1/01/82,* 1/02/82	4/04/82* 4/05/82	7/07/82	10/03/82* 10/02/82
Date Removed:	4/04/82,* 4/05/82	7/02/82	10/02/82 10/03/82*	12/31/82
Days in the Field:	93	88,89*	92/93*	89*,90
Location	Average mR/Qtr			
Q-101-1	9.9±0.8	12.0±1.5	10.9±0.6	10.9±2.4
Q-101-2	9.3±0.8	10.5±1.0	10.0±0.6	12.0±0.8
Q-102-1	10.5±0.8	12.3±0.8	12.0±0.9	14.5±1.1
Q-102-2	9.7±0.5	11.4±0.9	10.7±0.6	12.3±1.1
Q-103-1	9.9±0.7	10.8±1.3	9.7±0.6	12.4±1.1
Q-103-2	9.4±0.9	10.9±0.8	9.7±0.6	12.1±1.3
Q-104-1	9.6±1.1	10.7±1.3	9.8±0.8	12.8±1.0
Q-104-2	9.9±0.5	10.4±0.8	10.0±0.6	12.4±1.0
Q-105-1	9.9±0.8	10.8±1.4	10.1±0.8	11.7±0.9
Q-105-2	9.8±1.0	11.2±0.8	10.3±0.6	11.6±1.1
Q-106-1	10.3±0.6	12.5±1.8	10.0±1.2	12.8±0.9
Q-106-2	9.9±0.6	11.0±1.2	10.3±0.6	13.1±1.1
Q-107-1	10.4±0.8	11.2±0.9	11.0±0.6	12.8±0.9
Q-107-2	ND	9.9±0.7	10.8±0.8	12.3±1.0
Q-108-1	9.0±0.8	11.0±1.0	9.8±0.7	11.9±1.2
Q-108-2	9.9±0.5	10.7±0.6	9.8±0.7	12.9±0.9
Q-109-1	9.5±0.7	10.2±0.5	9.9±0.6	10.8±2.4
Q-109-2	8.7±0.5	10.9±0.5	10.8±0.8	11.5±0.9
Q-111-1	11.3±0.8*	11.7±1.2*	11.8±1.0*	13.3±1.1*
Q-111-2	10.6±0.7*	11.1±1.3*	9.9±0.5*	11.3±2.4*
Q-112-1	10.6±0.6*	11.8±1.3*	10.2±0.9*	11.0±0.4*
Q-112-2	ND	11.9±1.1*	11.2±0.7*	13.2±1.0*
Q-113-1	10.4±0.4*	ND	Not Placed	11.8±2.1*
Q-113-2	10.1±0.6	ND	Not Placed	Not Placed ^a
Q-114-1	8.6±0.4*	9.5±1.4*	ND	Not Placed ^a
Q-114-2	9.0±0.4*	9.4±1.1*	ND	12.1±1.0*
Q-115-1	10.5±0.9*	11.7±1.0*	10.4±0.5*	11.2±2.0*
Q-115-2	10.5±0.6*	12.2±1.8*	10.9±0.6*	12.6±0.7*
Q-116-1	11.2±1.1*	11.5±1.2*	11.5±0.6*	12.8±0.8*
Q-116-2	9.8±0.5	10.6±1.3*	9.4±0.6*	12.0±0.7*
Mean ± s.d.	9.9±0.7	11.1±0.8	10.4±0.7	12.2±0.8

ND = No Data. TLDs lost in the field.

^a Not placed due to construction.

QUAD CITIES NUCLEAR POWER STATION

Table 5.1-1 (continued).

Gamma radiation as measured by (TLDs)

Special Program

Outer Ring, Near 5 Mile Radius, Indicator Locations

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:	1/01/82,* 1/02/82	4/04/82* 4/05/82	7/07/82	10/03/82* 10/02/82
Date Removed:	4/04/82,* 4/05/82	7/02/82	10/02/82 10/03/82	12/31/83
Days in the Field:	93	88,89*	92,93*	89*,90
<u>Location</u>	<u>Average mR/Qtr</u>			
Q-201-1	10.7±0.5*	12.8±1.4*	11.5±0.6*	11.2±0.6*
Q-201-2	12.1±0.4*	13.1±1.4*	11.7±1.2*	13.3±1.8*
Q-202-1	10.5±0.5*	10.0±1.1*	10.1±0.6*	14.1±0.8*
Q-202-2	9.9±0.5*	11.7±1.3*	10.0±0.6	11.7±1.6*
Q-203-1	11.2±0.5*	12.1±1.3*	11.0±0.9*	10.9±2.0*
Q-203-2	12.5±0.5*	12.7±1.3	12.2±0.9	14.6±1.2
Q-204-1	11.7±0.9	13.4±0.8	12.0±0.7	14.6±1.3
Q-204-2	12.3±0.7	13.5±1.6	13.3±0.9	16.6±1.0
Q-205-1	11.9±0.7	14.5±1.5	12.0±0.7	15.6±1.4
Q-205-2	11.6±0.8	11.7±0.8	12.6±1.5	14.3±1.3
Q-206-1	10.7±0.7	12.9±1.3	11.3±0.9	13.0±1.0
Q-206-2	10.2±0.6	11.8±0.9	12.0±0.6	15.3±1.4
Q-207-1	11.7±0.6	11.9±1.4	12.8±0.7	15.0±1.3
Q-207-2	9.9±0.6	11.0±0.9	11.0±0.5	12.8±0.9
Q-208-1	10.6±0.8	11.9±0.8	10.8±0.6	12.6±1.1
Q-208-2	10.0±0.6	12.7±1.4	11.7±1.2	14.6±1.3
Q-209-1	13.4±0.8	12.8±0.7	13.1±2.7	13.9±0.9
Q-209-2	10.3±0.5	ND	13.0±0.8	12.6±1.2
Q-210-1	9.7±0.8	11.5±1.3*	10.8±0.6*	11.9±0.5*
Q-210-2	11.0±0.6	13.4±1.3*	12.5±1.2*	14.6±0.5*
Q-211-1	10.0±0.4*	14.2±1.5*	12.9±0.9*	13.7±2.9*
Q-212-1	12.5±0.6*	14.3±1.1*	12.8±0.6*	13.5±1.3*
Q-212-2	11.8±0.6*	10.9±1.1*	10.1±0.5*	12.4±1.3*
Q-213-1	9.6±0.5*	12.5±1.1*	11.1±0.8*	11.3±1.0*
Q-213-2	10.7±0.6*	10.9±1.8*	9.5±0.5*	10.9±0.8*
Q-214-1	11.6±0.6*	12.3±1.1*	11.6±1.2*	13.2±0.8*
Q-214-2	11.0±0.5*	13.7±1.2*	12.0±0.7	14.9±1.0*
Q-215-1	12.7±0.9*	13.0±1.2*	12.2±0.6*	14.2±1.5*
Q-215-2	11.0±0.4*	13.4±1.7*	12.6±0.5	13.5±0.4*
Q-216-1	11.9±0.7*	12.2±1.1*	11.6±0.9*	12.7±1.2*
Q-216-2	11.8±0.5*	12.9±1.4*	12.5±0.7*	13.3±0.8*
Mean ± s.d.	11.2±1.0	12.5±1.1	11.8±1.0	13.4±1.4

ND = No Data. TLD's lost in the field.

APPENDIX II

METEOROLOGICAL DATA

QUAD-CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JANUARY - MARCH 1982
STABILITY CLASS - EXTREMELY UNSTABLE (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	1	16	4	0	21
NNE	0	0	0	5	7	1	13
NE	0	3	1	10	4	0	18
ENE	0	1	3	2	0	9	15
E	0	2	2	5	4	7	20
ESE	0	2	0	0	7	4	13
SE	0	5	8	2	0	1	16
SSE	0	1	3	7	3	0	14
S	1	0	1	11	0	0	13
SSW	0	0	4	3	1	0	8
SW	0	1	2	0	0	1	4
WSW	0	4	12	7	3	15	41
W	1	4	12	24	19	26	86
WNW	0	1	4	18	14	32	69
NW	0	1	2	9	11	5	28
NNW	0	0	3	17	11	0	31
VARIABLE	0	0	0	0	0	0	0
TOTAL	2	25	58	136	88	101	410

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 8
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY - MARCH 1982
 STABILITY CLASS - MODERATELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	0	2	3	0	0	5
NNE	0	3	7	5	1	0	16
NE	0	6	3	6	1	0	16
ENE	0	3	1	7	2	0	13
E	1	0	0	0	1	3	5
ESE	1	2	0	0	2	0	5
SE	1	0	2	4	0	1	8
SSE	0	4	1	4	8	0	17
S	2	4	3	7	0	0	16
SSW	0	0	6	3	3	1	13
SW	0	1	4	2	0	1	8
WSW	1	0	5	9	2	4	21
W	0	1	8	11	3	5	28
WNW	0	1	0	22	7	2	32
NW	0	0	1	9	2	0	12
NNW	0	1	3	9	0	0	13
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	26	46	101	32	17	228

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY - MARCH 1982
 STABILITY CLASS - SLIGHTLY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	2	2	2	0	0	6
NNE	0	3	7	0	0	0	10
NE	1	4	6	9	1	3	24
ENE	2	2	1	2	7	1	15
E	2	2	0	0	1	0	5
ESE	0	1	5	3	0	1	10
SE	0	3	0	5	0	0	8
SSE	0	3	4	2	3	0	12
S	0	1	1	7	0	0	9
SSW	0	3	3	0	2	0	8
Sw	1	1	4	3	0	0	9
WSW	0	0	10	5	0	1	16
W	0	1	7	8	1	2	19
WNW	0	2	5	12	6	5	30
NW	0	0	4	11	2	0	17
NNW	0	3	11	5	0	0	19
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	31	70	74	23	13	217

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JANUARY - MARCH 1982
STABILITY CLASS - NEUTRAL (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	2	6	12	9	5	0	34
NNE	0	6	13	17	4	0	40
NE	1	11	10	26	25	0	73
ENE	3	3	9	12	25	12	64
E	3	6	4	19	12	3	47
ESE	1	7	12	10	15	7	52
SE	0	8	9	15	4	1	37
SSE	3	6	1	9	6	12	37
S	0	2	2	19	9	5	37
SSW	1	7	12	22	2	3	47
SW	4	7	9	19	2	5	46
WSW	0	10	7	18	12	11	58
W	3	4	17	40	17	18	99
WW	0	1	21	57	23	12	114
NW	1	2	16	46	3	0	68
NNW	1	8	19	9	2	0	39
VARIABLE	0	0	0	0	0	0	0
TOTAL	23	94	173	347	166	89	892

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JANUARY - MARCH 1982
STABILITY CLASS - SLIGHTLY STABLE (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	1	1	4	2	0	0	8
NNE	1	2	5	2	0	0	10
NE	1	3	0	3	0	0	7
ENE	0	2	4	0	0	0	6
E	0	3	5	15	8	0	31
ESE	1	0	8	9	2	0	20
SE	0	2	13	13	4	1	33
SSE	0	0	6	14	4	6	30
S	0	3	2	14	8	8	35
SSW	2	4	7	12	7	1	33
SW	0	5	5	11	4	0	25
WSW	0	4	6	6	5	0	21
W	2	2	5	8	6	0	23
WNW	2	1	11	21	1	0	36
WW	0	5	8	3	0	0	16
NNW	0	2	4	0	0	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	10	39	93	133	49	16	340

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY - MARCH 1982
 STABILITY CLASS - MODERATELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	1	0	1	1	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	1	1	0	0	0	2
ESE	0	0	0	1	0	0	1
SE	0	1	1	0	0	0	2
SSE	0	0	1	2	0	0	3
S	2	2	3	4	0	0	11
SSW	0	1	1	1	0	0	3
SW	1	2	1	1	0	0	5
WSW	0	1	4	0	0	0	5
W	0	1	2	4	1	0	8
WNW	0	5	2	1	0	0	8
Ww	2	1	0	0	0	0	3
NNW	0	0	1	0	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	16	18	15	1	0	56

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY - MARCH 1982
 STABILITY CLASS - EXTREMELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	1	0	0	0	0	1
NE	0	0	0	1	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	1	0	0	0	1
S	0	0	0	0	0	0	0
SSW	1	1	0	0	0	0	2
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	2	2	1	0	0	6

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 3

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL - JUNE 1982
 STABILITY CLASS - EXTREMELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	3	0	0	3
S	0	0	0	0	0	0	0
SSW	0	0	0	12	1	0	13
SW	0	0	1	4	0	0	5
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	1	19	1	0	21

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL - JUNE 1982
 STABILITY CLASS - MODERATELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	2	0	0	2
SSE	0	0	0	2	0	0	2
S	0	0	1	3	1	0	5
SSW	0	0	0	16	5	0	21
SW	0	0	3	3	0	0	6
WSW	0	0	0	2	0	0	2
W	0	0	1	4	0	0	5
WNW	0	0	0	5	0	0	5
NW	0	0	0	0	3	1	4
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	5	38	9	1	53

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - APRIL - JUNE 1982
STABILITY CLASS - SLIGHTLY UNSTABLE (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	0	0	0	1	0	1
NNE	0	0	0	0	3	0	3
NE	0	0	0	4	0	0	4
ENE	0	0	0	1	0	0	1
E	0	0	0	3	3	0	6
ESE	0	0	0	5	0	0	5
SE	0	0	0	3	1	0	4
SSE	0	0	1	3	3	0	7
S	0	2	2	6	4	0	14
SSW	0	0	7	12	8	0	27
SW	0	0	2	17	0	0	19
WSW	0	1	2	6	0	0	9
W	0	2	3	6	0	0	11
WNW	0	0	3	14	4	5	26
NW	0	0	0	5	5	1	11
NNW	0	0	1	0	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	5	21	85	32	6	149

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 4
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - APRIL - JUNE 1982
STABILITY CLASS - NEUTRAL (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	1	9	24	2	3	39
NNE	0	2	11	29	4	1	47
NE	0	11	20	20	3	3	57
NNE	0	4	30	69	12	11	126
E	0	1	29	58	9	2	99
ESE	1	1	19	24	3	1	49
SE	1	1	8	22	12	1	45
SSE	1	1	7	25	9	7	50
S	0	2	15	26	25	10	78
SSW	0	5	19	48	23	4	99
SW	1	8	31	31	1	0	72
WSW	0	10	27	21	6	2	66
W	0	5	18	33	11	5	72
WNW	0	8	19	43	21	19	110
NW	1	7	19	31	20	4	82
NNW	1	11	29	26	2	2	71
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	78	310	530	163	75	1162

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 53
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL - JUNE 1982
 STABILITY CLASS - SLIGHTLY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
-----	0-3	4-7	8-12	13-18	19-24	-----	-----
N	0	4	11	5	0	0	20
NNE	0	1	2	2	1	0	6
NE	0	1	11	8	0	0	20
ENE	0	0	6	17	1	0	24
E	0	4	10	22	3	0	39
ESE	0	2	13	20	4	3	42
SE	0	1	1	23	9	0	34
SSE	0	1	5	18	23	1	48
S	0	0	13	34	32	5	84
SSW	1	0	25	31	6	1	64
SW	0	4	25	29	1	0	59
WSW	0	3	9	20	3	0	35
W	0	0	9	17	6	1	33
WNW	0	4	9	8	1	0	22
W	0	3	10	11	0	0	24
NNW	0	3	11	4	0	0	18
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	31	170	269	90	11	572

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 10
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL - JUNE 1982
 STABILITY CLASS - MODERATELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	4	1	0	0	0	5
NNE	0	3	1	0	0	0	4
NE	0	0	0	2	0	0	2
ENE	0	1	0	1	0	0	2
E	0	1	0	2	0	0	3
ESE	1	2	4	6	0	0	13
SE	0	1	5	6	0	0	12
SSE	0	0	6	5	2	0	13
S	0	0	6	7	3	0	16
SSW	0	0	11	15	0	0	26
SW	0	1	9	6	0	0	16
WSW	0	0	1	2	0	0	3
W	0	1	1	0	0	0	2
WNW	0	3	1	3	0	0	7
NW	0	4	3	0	0	0	7
NNW	0	1	4	1	0	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	22	53	56	5	0	137

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD-CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL - JUNE 1982
 STABILITY CLASS - EXTREMELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	1	0	0	0	0	1
NNE	1	0	0	0	0	0	1
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	2	1	0	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	1	3	0	0	0	4
SSE	0	0	2	0	0	0	2
S	0	0	2	1	0	0	3
SSW	0	0	4	0	0	0	4
SW	0	1	2	0	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	7	14	1	0	0	23

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 0

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY - SEPTEMBER 1982
 STABILITY CLASS - EXTREMELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	0-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	1	0	0	1
SSW	0	0	2	2	0	0	4
SW	0	0	1	2	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	1	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	3	6	0	0	9

HOURS OF CALM IN THIS STABILITY CLASS - 0

HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0

HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY - SEPTEMBER 1982
 STABILITY CLASS - MODERATELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.8-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	1	0	0	0	1
S	0	1	0	3	0	0	4
SSW	0	3	1	7	0	0	11
SW	0	1	1	0	0	0	2
WSW	0	0	1	1	0	0	2
W	0	0	0	1	0	0	1
WNW	0	0	1	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	4	0	0	4
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	5	6	16	0	0	27

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JULY - SEPTEMBER 1982
STABILITY CLASS - SLIGHTLY UNSTABLE (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	.8-3	4- 7	8-12	13-18	19-24		
N	0	0	0	3	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	1	2	0	0	3
SE	0	0	1	0	0	0	1
SSE	0	0	8	0	0	0	8
S	0	1	7	11	1	0	20
SSW	0	2	4	7	2	0	15
SW	0	0	4	0	0	0	4
WSW	0	2	0	0	0	0	2
W	0	1	0	2	2	0	5
WNW	0	0	2	0	0	0	2
NW	0	0	5	4	3	0	12
NNW	0	3	1	13	0	0	17
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	9	33	42	8	0	92

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY - SEPTEMBER 1982
 STABILITY CLASS - NEUTRAL (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						
	0-3	4-7	8-12	13-18	19-24	GT 24	TOTAL
N	1	6	20	23	1	0	51
NNE	2	7	20	4	4	0	37
NE	5	24	35	9	4	0	77
ENE	0	15	28	5	0	0	48
E	1	10	24	6	0	0	41
ESE	4	8	12	4	1	0	29
SE	2	11	20	15	3	1	52
SSE	3	10	28	22	13	8	84
S	3	13	22	39	21	0	98
SSW	4	29	42	37	12	1	125
SW	9	23	28	5	1	0	66
WSW	3	15	21	11	1	0	51
W	3	23	12	28	2	1	69
WNW	1	9	15	34	17	0	76
NW	1	7	28	31	6	2	75
NNW	1	7	22	32	1	0	63
VARIABLE	0	0	0	0	0	0	0
TOTAL	43	217	377	305	87	13	1042

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 48

HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JULY - SEPTEMBER 1982
STABILITY CLASS - SLIGHTLY STABLE (DELTA T 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.8-3	4- 7	8-12	13-18	19-24	GT 24	
N	2	6	8	3	0	0	19
NNE	1	2	4	1	0	0	8
NE	0	2	12	0	1	0	15
ENE	0	7	8	0	0	0	15
E	1	7	14	3	0	0	25
ESE	1	2	14	14	0	0	31
SE	2	6	16	17	1	0	42
SSE	2	5	11	28	9	0	55
S	2	9	21	48	7	1	88
SSW	1	6	33	54	2	0	96
SW	2	12	23	2	1	1	41
WSW	0	5	11	9	1	0	26
W	1	4	15	10	1	0	31
WNW	4	1	8	31	5	0	49
NW	1	7	24	10	3	0	45
NNW	1	5	15	6	0	0	27
VARIABLE	0	0	0	0	0	0	0
TOTAL	21	86	237	236	31	2	613

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 14
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY - SEPTEMBER 1982
 STABILITY CLASS - MODERATELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	.8-3	4- 7	8-12	13-18	19-24		
N	2	11	0	2	0	0	15
NNE	0	5	1	0	0	0	6
NE	1	1	4	0	0	0	6
ENE	0	2	5	2	0	0	9
E	2	0	4	0	0	0	6
ESE	0	2	15	8	0	0	25
SE	1	0	21	29	2	0	53
SSE	0	1	12	27	4	0	44
S	0	1	14	28	1	0	44
SSW	1	1	18	26	1	0	47
SW	0	12	9	2	0	0	23
WSW	0	0	3	0	0	0	3
W	0	3	0	3	0	0	6
WNW	1	2	2	7	0	0	12
NW	0	2	1	4	0	0	7
NNW	1	3	4	6	0	0	14
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	46	113	144	8	0	320

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
PERIOD OF RECORD - JULY - SEPTEMBER 1982
STABILITY CLASS - EXTREMELY STABLE (DELTA T 296-33 FT.)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	.8-3	4- 7	8-12	13-18	19-24		
N	0	0	0	0	0	0	0
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	1	0	0	0	0	0	1
E	1	0	0	0	0	0	1
ESE	1	0	0	0	0	0	1
SE	1	1	0	1	1	0	4
SSE	1	1	0	2	0	0	4
S	0	0	0	3	0	0	3
SSW	0	1	4	4	0	0	9
SW	0	1	1	0	0	0	2
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	5	5	10	1	0	26

HOURS OF CALM IN THIS STABILITY CLASS - 0
HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 17

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - EXTREMELY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	1	1	0	0	0	2
SSW	0	0	0	3	1	0	4
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	1	0	0	1
NNW	0	0	0	1	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	1	3	5	1	0	10

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - MODERATELY UNSTABLE (DELTA T 296-33 .FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
-----	.8-3	4- 7	8-12	13-18	19-24	-----	-----
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	2	1	0	0	3
S	0	1	1	6	0	0	8
SSW	0	0	3	4	1	0	8
SW	0	0	0	0	0	0	0
WSW	0	0	3	5	2	0	10
W	0	0	2	0	1	0	3
WNW	0	0	1	0	0	0	1
NW	0	0	0	3	1	0	4
NNW	0	0	0	0	1	1	2
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	1	13	19	6	1	40

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - SLIGHTLY UNSTABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	.8-3	4- 7	8-12	13-18	19-24		
N	0	0	0	3	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	6	1	0	0	7
SSE	0	1	11	2	0	0	14
S	0	1	4	11	4	0	20
SSW	0	1	7	6	4	0	18
SW	0	2	8	6	0	0	16
WSW	0	0	4	8	2	0	14
W	0	1	4	1	2	0	8
WNW	0	2	4	0	2	1	9
NW	0	0	1	6	3	0	10
NNW	0	0	1	12	0	0	13
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	9	50	56	17	1	133

HOURS OF CALM IN THIS STABILITY CLASS - 0

HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0

HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - NEUTRAL (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	0-3	4-7	8-12	13-18	19-24	GT 24	TOTAL
N	1	4	20	12	0	1	38
NNE	0	2	15	6	0	0	23
NE	2	5	15	19	0	0	41
ENE	1	5	18	12	2	0	38
E	1	7	12	9	3	1	33
ESE	4	7	12	11	7	0	41
SE	2	5	24	29	22	3	85
SSE	1	7	13	33	27	11	92
S	2	6	11	30	31	7	87
SSW	2	14	16	28	1	1	71
SW	1	13	50	26	4	2	96
WSW	3	10	26	50	16	3	108
W	2	14	29	50	27	32	154
WNW	0	6	51	57	26	3	143
NW	1	4	39	27	31	0	102
NNW	0	5	28	19	1	1	54
VARIABLE	0	0	0	0	0	0	0
TOTAL	23	114	379	418	207	65	1206

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - SLIGHTLY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	.8-3	4- 7	8-12	13-18	19-24		
N	3	5	2	0	0	0	10
NNE	0	5	2	1	0	0	8
NE	0	0	7	3	0	0	10
ENE	1	3	7	0	0	0	11
E	0	6	13	7	2	3	31
ESE	0	1	7	15	8	0	31
SE	2	1	9	28	8	1	49
SSE	0	2	13	38	14	7	74
S	0	1	17	45	43	13	119
SSW	1	6	17	12	11	6	53
SW	4	8	14	18	1	2	47
WSW	0	1	3	8	4	0	16
W	1	4	7	10	7	0	29
WNW	0	4	11	8	5	0	28
NW	1	3	13	10	4	0	31
NNW	0	2	6	0	0	0	8
VARIABLE	0	0	0	0	0	0	0
TOTAL	13	52	148	203	107	32	555

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - MODERATELY STABLE (DELTA T 296-33.FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)					GT 24	TOTAL
	0-3	4-7	8-12	13-18	19-24		
N	0	0	1	0	0	0	1
NNE	1	0	1	0	0	0	2
NE	0	0	0	2	0	0	2
ENE	1	0	1	3	0	0	5
E	0	0	1	4	0	0	5
ESE	3	2	2	4	0	0	11
SE	1	2	2	11	2	0	18
SSE	0	2	10	15	3	0	30
S	0	4	5	8	3	0	20
SSW	0	5	2	3	0	0	10
SW	0	1	6	0	0	0	7
WSW	0	0	0	1	0	0	1
W	0	1	0	0	0	0	1
WNW	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	1	0	0	0	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	18	31	51	9	0	115

HOURS OF CALM IN THIS STABILITY CLASS - 0
 HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0
 HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

QUAD CITIES NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER - DECEMBER 1982
 STABILITY CLASS - EXTREMELY STABLE (DELTA T 296-33 FT)
 WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						GT 24	TOTAL
	.8-3	4-7	8-12	13-18	19-24			
N	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0
ESE	0	1	2	0	0	0	0	3
SE	0	0	1	15	1	0	0	17
SSE	0	0	13	14	0	0	0	27
S	0	7	13	6	0	0	0	26
SSW	1	6	2	0	0	0	0	9
SW	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0	0
TOTAL	1	14	31	35	1	0	0	82

HOURS OF CALM IN THIS STABILITY CLASS - 0

HOURS OF MISSING WIND MEASUREMENTS IN THIS STABILITY CLASS - 0

HOURS OF MISSING STABILITY MEASUREMENTS IN ALL STABILITY CLASSES - 67

CFC's QUAIL-CITIES NUCLEAR PUMPER STATION JANUARY - JUNE 1962
196 FT WIND SPEED AND DIRECTION STABILITY BASED ON 19A-33 FT DELTA T

[illegible][illegible]

EU	0.12	0.02	0.41	0.34	0.23	0.16	0.65	0.47	0.18	0.35	0.18	0.88	0.93	6.44
EMU	0.05	0.09	0.18	0.09	0.07	0.06	0.12	0.16	0.18	0.32	0.14	0.32	0.42	2.97
U50	0.32	0.28	0.39	0.41	0.48	0.53	0.46	0.55	0.46	0.39	0.46	1.04	0.82	0.55
U50 - A	1.63	1.94	1.80	4.18	2.46	2.64	1.89	2.17	2.15	1.29	2.55	1.30	2.40	2.19
I - S	0.60	0.35	0.92	1.13	1.82	1.74	2.03	2.37	2.54	1.82	1.91	1.51	1.89	1.34
U45	0.16	0.14	0.41	0.48	0.54	0.54	0.44	1.38	1.04	0.32	0.30	0.40	0.46	2.62
U25	0.05	0.09	0.05	0.05	0.14	0.10	0.23	0.35	0.14	0.14	0.07	0.27	0.09	0.21
U25 - A	0.05	0.09	0.05	0.05	0.14	0.10	0.23	0.35	0.14	0.14	0.07	0.27	0.09	0.21

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[illegible]