

ZION NUCLEAR POWER STATION
2004 RADIOACTIVE EFFLUENT RELEASE REPORT

EXECUTIVE SUMMARY

Zion Station has not been an operational station for over 6 years. A review of 2004 effluent data indicates that there were 2 occurrences in which stack effluent samples exceeded the Lower Limit of Detection. This activity released is a very small fraction of a percent of the annual limits. The release of noble gas and particulates continued to trend downward. This trend can be attributed to the duration the units have been shutdown.

Airborne

	Receptor	Critical Organ	Yearly Dose Limit	Dose to Maximally Exposed Receptor	% of Yearly Limit
Gamma Air	NA	NA	10 mrad	0	0
Beta Air	NA	NA	20 mrad	0	0
Total Body	Child	NA	5 mrem	4.17E-5	8.34E-4
Skin	NA	NA	15 mrem	0	0
Organ	Adult	GILLI	15 mrem	4.73E-5	3.15E-4

Aquatic doses continue the downward trend. There were only 6 batch releases for the entire year

Aquatic

	Receptor	Critical Organ	Yearly Dose Limit	Dose to Maximally Exposed Receptor	% of Yearly Limit
Total Body	Adult	NA	3 mrem	1.89E-2	0.631
Critical Organ	Teen	Liver	10 mrem	3.0e-2	0.3

The doses to the public, from all Zion Station effluent paths during 2004, were extremely low and far below all regulatory limits.

Attachment 2:

To the Zion Nuclear Power Station, 2004 Radioactive Effluent Release Report.

The following identifies those actions committed to by Exelon Nuclear in this document. Any other actions discussed in this submittal represent intended or planned actions by Exelon Nuclear. They are described to the NRC for the NRC's information, and are not Regulatory Commitments.

Commitment:

None

ZION STATION
10CFR20 Compliance Assessment

1. 10CFR 20.1301 (a) (1) Compliance

Total Effective Dose Equivalent,	<u>mrem/year</u>	<u>4.89E-2</u>
10 CFR 20.1301 (a) (1) limit	<u>mrem/yr</u>	<u>100</u>
% of the limit		<u>0.0489</u>

2. Compliance Summary 10CFR20

	1 st Qtr.	2 nd Qtr.	3 rd Qtr.	4 th Qtr	% of Limit
TEDE In mRem	1.02e-2	8.9E-5	0.0	3.88e-2	0.0489%

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 1 ===

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.43E-03	6.02E-03	3.91E-08	2.04E-03	6.79E-04	1.59E-04	0.00E+00	3.96E-03
TEEN	4.73E-03	6.27E-03	2.87E-08	2.13E-03	8.28E-04	1.19E-04	0.00E+00	2.19E-03
CHILD	5.95E-03	5.68E-03	3.94E-08	1.85E-03	6.65E-04	4.61E-05	0.00E+00	8.47E-04
INFANT	8.32E-06	7.47E-06	2.69E-08	2.00E-06	8.25E-07	2.94E-07	0.00E+00	8.16E-07

=== SITE DOSE LIMIT ANALYSIS === QUARTER 1 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	TEEN	LIVER	6.27E-03	3.75E+00	1.67E-01
Qtr 1 - Admin. Total Body	ADULT	TBODY	3.96E-03	1.13E+00	3.52E-01

Qtr 1 - T.Spc. Any Organ TEEN LIVER 6.27E-03 5.00E+00 1.25E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	4.59E-04
CO-60	3.52E-02
CS-134	8.84E-01
CS-137	9.91E+01

Qtr 1 - T.Spc. Total Body ADULT TBODY 3.96E-03 1.50E+00 2.64E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.88E-04
CO-60	1.23E-01
SR-90	2.28E-02
CS-134	1.13E+00
CS-137	9.87E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 2 ===

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
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=== SITE DOSE LIMIT ANALYSIS === QUARTER 2 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ			0.00E+00	5.00E+00	0.00E+00
Qtr 2 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
Qtr 2 - T.Spc. Any Organ			0.00E+00	3.75E+00	0.00E+00
Critical Pathway:					
Major Contributors (0% or greater to total)					
Nuclide	Percentage				

Qtr 2 - T.Spc. Total Body	ADULT	TBODY	0.00E+00	1.50E+00	0.00E+00
Critical Pathway: Potable Water (PWtr)					
Major Contributors (0% or greater to total)					
Nuclide	Percentage				

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 3 ===

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
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=== SITE DOSE LIMIT ANALYSIS === QUARTER 3 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
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Qtr 3 - Admin. Any Organ			0.00E+00	5.00E+00	0.00E+00
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Qtr 3 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
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Qtr 3 - T.Spc. Any Organ			0.00E+00	3.75E+00	0.00E+00
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Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide	Percentage
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Qtr 3 - T.Spc. Total Body	ADULT	TBODY	0.00E+00	1.50E+00	0.00E+00
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Critical Pathway: Potable Water (PWtr)

Major Contributors (0% or greater to total)

Nuclide	Percentage
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40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

Liquid Receptor

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=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 4 ===
Agegrp Bone Liver Thyroid Kidney Lung GI-LLI Skin TB
-----
ADULT 1.69E-02 2.28E-02 1.79E-07 7.74E-03 2.57E-03 6.10E-04 0.00E+00 1.50E-02
TEEN 1.80E-02 2.38E-02 1.31E-07 8.08E-03 3.14E-03 4.55E-04 0.00E+00 8.30E-03
CHILD 2.27E-02 2.15E-02 1.80E-07 7.02E-03 2.52E-03 1.77E-04 0.00E+00 3.20E-03
INFANT 3.24E-05 2.84E-05 1.23E-07 7.60E-06 3.15E-06 1.18E-06 0.00E+00 3.16E-06

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=== SITE DOSE LIMIT ANALYSIS === QUARTER 4 ===
Quartr - Limit Age Group Organ Dose (mrem) Limit (mrem) Max % of Limit
-----
Qtr 4 - Admin. Any Organ TEEN LIVER 2.38E-02 3.75E+00 6.34E-01
Qtr 4 - Admin. Total Body ADULT TBODY 1.50E-02 1.13E+00 1.33E+00

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Qtr 4 - T.Spc. Any Organ TEEN LIVER 2.38E-02 5.00E+00 4.75E-01

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Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

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Nuclide Percentage
-----
H-3 5.53E-04
CO-60 3.67E-02
CS-134 1.65E-01
CS-137 9.98E+01

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Qtr 4 - T.Spc. Total Body ADULT TBODY 1.50E-02 1.50E+00 9.98E-01

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Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

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Nuclide Percentage
-----
H-3 1.19E-03
CO-60 1.28E-01
SR-90 2.52E-02
CS-134 2.11E-01
CS-137 9.96E+01

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40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

Liquid Receptor

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=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===== ANNUAL 2004 =====
Agegrp Bone Liver Thyroid Kidney Lung GI-LLI Skin TB
-----
ADULT 2.13E-02 2.88E-02 2.18E-07 9.78E-03 3.25E-03 7.69E-04 0.00E+00 1.89E-02
TEEN 2.27E-02 3.00E-02 1.60E-07 1.02E-02 3.97E-03 5.74E-04 0.00E+00 1.05E-02
CHILD 2.86E-02 2.72E-02 2.19E-07 8.86E-03 3.19E-03 2.23E-04 0.00E+00 4.05E-03
INFANT 4.07E-05 3.58E-05 1.50E-07 9.60E-06 3.98E-06 1.47E-06 0.00E+00 3.98E-06

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=== SITE DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====
Annual - Limit Age Group Organ Dose (mrem) Limit (mrem) Max % of Limit
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2004 - Admin. Any Organ TEEN LIVER 3.00E-02 7.50E+00 4.00E-01
2004 - Admin. Total Body ADULT TBODY 1.89E-02 2.25E+00 8.41E-01

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2004 - T.Spc. Any Organ TEEN LIVER 3.00E-02 1.00E+01 3.00E-01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors ( 0% or greater to total)
Nuclide Percentage
-----
H-3 5.33E-04
CO-60 3.64E-02
CS-134 3.15E-01
CS-137 9.96E+01

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2004 - T.Spc. Total Body ADULT TBODY 1.89E-02 3.00E+00 6.31E-01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors ( 0% or greater to total)
Nuclide Percentage
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H-3 1.15E-03
CO-60 1.27E-01
SR-90 2.47E-02
CS-134 4.03E-01
CS-137 9.94E+01

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40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS === QUARTER 1 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ			0.00E+00	1.00E+01	0.00E+00
Qtr 1 - Admin. Total Body			0.00E+00	1.00E+01	0.00E+00

Qtr 1 - T.Spc. Any Organ			0.00E+00	1.00E+01	0.00E+00
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Receptor: 0

Distance: (meters) Compass Point:

Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide Percentage

Qtr 1 - T.Spc. Total Body			0.00E+00	1.00E+01	0.00E+00
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Receptor: 0

Distance: (meters) Compass Point:

Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === QUARTER 1 ===

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 1 - Admin. Gamma	0.00E+00	1.00E+01	0.00E+00
Qtr 1 - Admin. Beta	0.00E+00	1.00E+01	0.00E+00

Qtr 1 - T.Spc. Gamma	0.00E+00	1.00E+01	0.00E+00
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Receptor: 0

Distance: (meters)
Nuclide Percentage

Compass Point:

Qtr 1 - T.Spc. Beta	0.00E+00	1.00E+01	0.00E+00
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Receptor: 0

Distance: (meters)
Nuclide Percentage

Compass Point:

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS === QUARTER 2 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	ADULT	GILLI	4.73E-05	5.63E+00	8.41E-04
Qtr 2 - Admin. Total Body	CHILD	TBODY	4.17E-05	5.25E+00	7.95E-04

Qtr 2 - T.Spc. Any Organ	ADULT	GILLI	4.73E-05	7.50E+00	6.31E-04
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Ground Plane Deposition (GPD)

Major Contributors (0% or greater to total)

Nuclide Percentage

CO-60 1.00E+02

Qtr 2 - T.Spc. Total Body	CHILD	TBODY	4.17E-05	7.50E+00	5.56E-04
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Ground Plane Deposition (GPD)

Major Contributors (0% or greater to total)

Nuclide Percentage

CO-60 1.00E+02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === QUARTER 2 ===

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 2 - Admin. Gamma	0.00E+00	7.50E+00	0.00E+00
Qtr 2 - Admin. Beta	0.00E+00	7.50E+00	0.00E+00
Qtr 2 - T.Spc. Gamma	0.00E+00	7.50E+00	0.00E+00

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Nuclide Percentage

Qtr 2 - T.Spc. Beta	0.00E+00	7.50E+00	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS === QUARTER 3 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ			0.00E+00	7.50E+00	0.00E+00
Qtr 3 - Admin. Total Body			0.00E+00	7.50E+00	0.00E+00

Qtr 3 - T.Spc. Any Organ			0.00E+00	7.50E+00	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide Percentage

Qtr 3 - T.Spc. Total Body			0.00E+00	7.50E+00	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === QUARTER 3 ===

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 3 - Admin. Gamma	0.00E+00	7.50E+00	0.00E+00
Qtr 3 - Admin. Beta	0.00E+00	7.50E+00	0.00E+00
Qtr 3 - T.Spc. Gamma	0.00E+00	7.50E+00	0.00E+00
Receptor: 5 Composite Crit. Receptor - IP			
Distance: 0.00 (meters) Compass Point: NA			
Nuclide Percentage			

Qtr 3 - T.Spc. Beta	0.00E+00	7.50E+00	0.00E+00
Receptor: 5 Composite Crit. Receptor - IP			
Distance: 0.00 (meters) Compass Point: NA			
Nuclide Percentage			

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS === QUARTER 4 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ			0.00E+00	7.50E+00	0.00E+00
Qtr 4 - Admin. Total Body			0.00E+00	7.50E+00	0.00E+00
Qtr 4 - T.Spc. Any Organ			0.00E+00	7.50E+00	0.00E+00

Receptor: 5 Composite Crit. Receptor - IP
 Distance: 0.00 (meters) Compass Point: NA
 Critical Pathway:
 Major Contributors (0% or greater to total)
 Nuclide Percentage

Qtr 4 - T.Spc. Total Body			0.00E+00	7.50E+00	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP
 Distance: 0.00 (meters) Compass Point: NA
 Critical Pathway:
 Major Contributors (0% or greater to total)
 Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === QUARTER 4 ===

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 4 - Admin. Gamma	0.00E+00	7.50E+00	0.00E+00
Qtr 4 - Admin. Beta	0.00E+00	7.50E+00	0.00E+00
Qtr 4 - T.Spc. Gamma	0.00E+00	7.50E+00	0.00E+00
Receptor: 5 Composite Crit. Receptor - IP			
Distance: 0.00 (meters)		Compass Point: NA	
Nuclide	Percentage		

Qtr 4 - T.Spc. Beta	0.00E+00	7.50E+00	0.00E+00
Receptor: 5 Composite Crit. Receptor - IP			
Distance: 0.00 (meters)		Compass Point: NA	
Nuclide	Percentage		

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	ADULT	GILLI	4.73E-05	1.13E+01	4.21E-04
2004 - Admin. Total Body	CHILD	TBODY	4.17E-05	1.05E+01	3.97E-04

2004 - T.Spc. Any Organ	ADULT	GILLI	4.73E-05	1.50E+01	3.16E-04
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Ground Plane Deposition (GPD)

Major Contributors (0% or greater to total)

Nuclide Percentage

CO-60 1.00E+02

2004 - T.Spc. Total Body	CHILD	TBODY	4.17E-05	1.50E+01	2.78E-04
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Ground Plane Deposition (GPD)

Major Contributors (0% or greater to total)

Nuclide Percentage

CO-60 1.00E+02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2004

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === ANNUAL 2004 ===

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
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2004 - Admin. Gamma	0.00E+00	1.50E+01	0.00E+00
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2004 - Admin. Beta	0.00E+00	1.50E+01	0.00E+00
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2004 - T.Spc. Gamma	0.00E+00	1.50E+01	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

2004 - T.Spc. Beta	0.00E+00	1.50E+01	0.00E+00
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Report for: 2004

Unit Range - From: 1 To: 2

=== MAXIMUM DOSE ANALYSIS === ANNUAL 2004 ===

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	TEEN	LIVER	3.01E-02

Liquid Receptor: 0 Liquid Receptor
 Gaseous Receptor: 5 Composite Crit. Receptor - IP
 Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 3.00E-02 % of Total: 9.98E+01
 Critical Pathway: Fresh Water Fish - Sport (FFSP)
 Major Contributors (0% or greater to total)
 Nuclide Percentage

 H-3 5.33E-04
 CO-60 3.64E-02
 SR-90 0.00E+00
 CS-134 3.15E-01
 CS-137 9.96E+01

Gaseous Dose: 3.99E-05 % of Total: 1.33E-01
 Critical Pathway: Ground Plane Deposition (GPD)
 Major Contributors (0% or greater to total)
 Nuclide Percentage

 CO-60 1.00E+02

=== MAXIMUM DOSE ANALYSIS === ANNUAL 2004 ===

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	ADULT	TBODY	1.90E-02

Liquid Receptor: 0 Liquid Receptor
 Gaseous Receptor: 5 Composite Crit. Receptor - IP
 Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 1.89E-02 % of Total: 9.96E+01
 Critical Pathway: Fresh Water Fish - Sport (FFSP)
 Major Contributors (0% or greater to total)
 Nuclide Percentage

 H-3 1.15E-03
 CO-60 1.27E-01
 SR-90 2.47E-02
 CS-134 4.03E-01
 CS-137 9.94E+01

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Gaseous Dose:	4.03E-05	% of Total: 2.12E-01
Critical Pathway:	Ground Plane Deposition (GPD)	
Major Contributors	(0% or greater to total)	
Nuclide	Percentage	
-----	-----	
CO-60	1.00E+02	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2004

Infant Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0	0	0	0
Beta Air	10.0 mrad	0	0	0	0
Total Body	2.5mrem	0	3.97E-05	0	0
Skin	7.5 mrem	0	0	0	0
Organ	7.5mrem	0	3.97E-05	0	0
Critical Organ		NA	GILLI	NA	NA

B. Aquatic

Total Body	1.5 mrem	8.16E-07	0.00E+00	0	3.16E-06
Internal Organ	5.0 rem	8.32E-06	0.00E+00	0	3.24E-05
Critical Organ		Bone	NA	NA	Bone

Yearly Limit
10CFR 50
Appendix I

Maximum
dose (mrad,
mrem)

% of
Yearly
Limit

10.0 mrad	0	0
20.0 mrad	0	0
5.0mrem	3.97E-05	7.94E-04
15.0 mrem	0	0
15.0 mrem	3.97E-05	2.64E-04
	GILLI	

3.0 mrem	3.98E-06	1.33E-04
10.0 mrem	4.07E-05	4.07E-04
	Bone	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2004

Child Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0	0	0	0
Beta Air	10.0 mrad	0	0	0	0
Total Body	2.5mrem	0	4.17E-05	0	0
Skin	7.5 mrem	0	0	0	0
Organ	7.5mrem	0	4.38E-05	0	0
Critical Organ		NA	GILLI	NA	NA

B. Aquatic

Total Body	1.5 mrem	8.47E-04	0	0	3.20E-03
Internal Organ	5.0 rem	5.95E-03	0	0	2.27E-02
Critical Organ		Bone	NA	NA	Bone

Yearly Limit
10CFR 50
Appendix I

Maximum
dose
(mrad,
mrem)

% of
Yearly
Limit

10.0 mrad	0	0
20.0 mrad	0	0
5.0mrem	4.17E-05	8.34E-04
15.0 mrem	0	0
15.0 mrem	4.38E-05	2.92E-04
	GILLI	

3.0 mrem	4.05E-03	0.13
10.0 mrem	2.86E-02	0.28
	Bone	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2004

Teen Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0	0	0	0
Beta Air	10.0 mrad	0	0	0	0
Total Body	2.5mrem	0	4.06E-05	0	0
Skin	7.5 mrem	0	0	0	0
Organ	7.5mrem	0	4.65E-05	0	0
Critical Organ		NA	GILLI	NA	NA

B. Aquatic

Total Body	1.5 mrem	2.19E-03	0	0	8.30E-03
Internal Organ	5.0 rem	6.27E-03	0	0	2.38E-02
Critical Organ		Liver	NA	NA	Liver

Maximum
Yearly Limit dose % of
10CFR 50 (mrad, Yearly
Appendix I mrem) Limit

10.0 mrad	0	0
20.0 mrad	0	0
5.0mrem	4.06E-05	8.12E-04
15.0 mrem	0	0
15.0 mrem	4.65E-05	3.10E-04
	GILLI	

3.0 mrem	1.05E-02	0.35
10.0 mrem	3.00E-02	0.3
	Liver	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2004

Adult Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0	0	0	0
Beta Air	10.0 mrad	0	0	0	0
Total Body	2.5mrem	0	4.03E-05	0	0
Skin	7.5 mrem	0	0	0	0
Organ	7.5mrem	0	4.73E-05	0	0
Critical Organ		NA	GILLI	NA	NA

B. Aquatic

Total Body	1.5 mrem	3.96E-03	0	0	1.50E-02
Internal Organ	5.0 rem	6.02E-03	0	0	2.28E-02
Critical Organ		Liver	NA	NA	Liver

Maximum
Yearly Limit dose % of
10CFR 50 (mrad, Yearly
Appendix I mrem) Limit

10.0 mrad	0	0
20.0 mrad	0	0
5.0mrem	4.03E-05	8.06E-04
15.0 mrem	0	0
15.0 mrem	4.73E-05	3.16E-04
	GILLI	

3.0 mrem	1.89E-02	0.631
10.0 mrem	2.88E-02	2.88E-01
	Liver	

**Zion Station
2004
Stack Effluent Totals**

Total Micro Curies

[illegible]

**Zion Station Annual Effluent Gaseous release at Ground Level
UNit 1 (Docket 50-295)**

Total Micro Curies

Table A-100.01: Other																	
	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd	Jul	Aug	Sep	3rd	Oct	Nov	Dec	4th	Total
Alpha	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Beta	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
H-3	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Partic																	
Mn-54	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	<LLD	<LLD	<LLD	<LLD	4.11E-01	3.30E-02	<LLD	4.43E-01	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.43E-01
Zn-65	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Noble Gas																	
Kr-85	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133m	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

**Zion Station Annual Effluent Report for 2004
Gaseous at Ground Level
Unit 2 (Docket Number 50-304)**

Total Micro Curies

[illegible]

**Zion Station
2004
Stack Effluents**

Conc. $\mu\text{Ci/cc}$ [illegible]

Zion Nuclear Power Station
Annual Radioactive Effluent Release Report for 2004

GASEOUS EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

1. Regulatory Limits

The calculated annual quantity of all radioactive material above the Lower Limit of Detection (LLD) released to unrestricted areas is limited by off-site dose restrictions stated in the station technical specifications, Off-site Dose Calculation Manual (ODCM) and 10 CFR50 Appendix I.

	Quarterly (mRem)	Yearly (mRem)
Gamma Air	5.0	10.0
Beta Air	10.0	20.0
Total Body	2.5	5.0
Skin	7.5	15.0
Organ	7.5	15.0

2. Maximum Permissible Concentrations

Zion Station gaseous effluent release-rate limits were not calculated using maximum permissible concentrations of activity. Gaseous effluent activity release rates are limited by offsite dose-rate restrictions stated in the station technical specifications and the ODCM. The release-rate limits were determined by using the ODCM computer code to calculate a release rate which would produce a specific instantaneous dose rate at the site boundary. The off-site dose-rates limits are:

<u>Noble Gases</u>	<u>500</u>	<u>mRem/year</u>	<u>Total Body</u>
<u>Noble Gases</u>	<u>3000</u>	<u>mRem/year</u>	<u>Skin</u>
<u>H3 and particulates</u>	<u>1500</u>	<u>mRem/year</u>	<u>Organ</u>
<u>> 8 days ½ life</u>			

3. Measurements of Total Radioactivity

a. Fission & Activation Products

Gamma Spectroscopy

b. Tritium

Liquid Scintillation

c. Noble Gases

Gamma Spectroscopy

d. Gross Alpha

Gas Flow Proportional Counter

Composite samples analysis for Fe-55, Sr-89, and Sr-90 performed by offsite vendor.

4. Average Energy

There was no gas release above the Lower Limit Detection during 2004. Due to the permanent cessation of operations and radioactive decay, the only gas available for release is Kr-85 present in the fuel rods.

Isotope	Percent of Effluent
Kr-85	100%

Average Beta Energy per Decay of the mixture

251 keV

Zion Nuclear Power Station Annual Effluent Release Report

Gaseous Effluent Lower Limit of Detection

Isotope	uCi/cc
Alpha	1.00E-11
H-3	1.00E-06
Kr-85	1.00E-06
Mn-54	1.00E-11
Co-58	1.00E-11
Co-60	1.00E-11
ZN-65	1.00E-11
Sr-89	1.00E-11
Sr-90	1.00E-11
Mo-99	1.00E-11
Cs-134	1.00E-11
Cs-137	1.00E-11
Ce-141	1.00E-11
Ce-144	1.00E-11

Liquid Effluents Lower Limit of Detection

Entrained Gases

Isotope	LLD uCi/ml
Kr-85m	1.00E-05
Kr-85m	1.00E-05
Kr-87	1.00E-05
Kr-88	1.00E-05
Ar-41	1.00E-05
Xe-131m	1.00E-05
Xe-133m	1.00E-05
Xe-133	1.00E-05
Xe-135m	1.00E-05
Xe-135m	1.00E-05

Principle Gamma Emitters

Isotope	LLD uCi/ml
Alpha	1.00E-07
H-3	1.00E-05
Sr-89	5.00E-08
Sr-90	5.00E-08
Fe-55	1.00E-06
Mn-54	5.00E-07
Co-58	5.00E-07
Co-60	5.00E-07
Zn-65	5.00E-07
Mo-99	5.00E-07
Cs-134	5.00E-07
Cs-137	5.00E-07
Ce-141	5.00E-07
Ce-144	5.00E-07

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2004

ADDENDUM

1. Offsite Dose Calculation Manual (ODCM)

Changes to the ODCM are required by Zion Station Permanently Defueled Technical Specification 5.6.1. and ODCM Section 12.6.3 to be submitted as part of, or concurrent with, the Annual Radioactive Effluent Release Report.

There were no changes made to the ODCM during 2004.

2. Gaseous and Liquid Waste Treatment Systems and Process Control Program

Zion Station ODCM Section 12.6.4 requires major changes to the Gaseous and Liquid Waste Treatment Systems to be reported in the Annual Radioactive Effluent Release Report.

The Waste Gas Hold-up System was permanently vented. In Zion's defueled configuration this system is no longer applicable.

In Zion's defueled configuration, the charcoal iodine removal system is no longer applicable.

Due to radioactive decay and no means of production, radioactive iodine is not a concern at Zion.

3. Limiting Conditions of Operation (LCOs)

Zion Station ODCM Section 12.7.2 requires explanation as to why the inoperability of liquid or gaseous monitoring instrumentation was not corrected within the time specified in the ODCM to be submitted with the Annual Radioactive Effluent Release Report.

None

4. Liquid Holdup Tanks and Gas Storage Tanks

Zion Station ODCM Section 12.7.2 requires a description of events leading to liquid holdup tanks or gas storage tanks exceeding technical specification limits to be included in the Annual Radioactive Effluent Release Report.

There was no activity present in any gas decay tanks during 2004.

No liquid holdup tanks exceeded the limits of Permanently Defueled Technical Specifications 5.6.3 during 2004.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2004

ADDENDUM

5. Estimates of Total Error

The following is an estimate of the total error associated with certain total values in the Annual Radioactive Effluent Release Report. The Total error is determined by calculating the square root of the sum of the squares of the individual errors.

a. Gaseous Effluents

Sampling Error	5%
Calibration Error	10%
Counting Statistics Error	17%
Sample Volume Error	10%
<hr/>	
Total Error	23%

b. Liquid Effluents

Sampling Error	5%
Calibration Error	10%
Counting Statistics Error	16%
Sample Volume Error	2%
<hr/>	
Total Error	20%

2004 AER Water Worksheet

uCi/mL

[illegible]

2004 AER Water Worksheet

Total microCuries

[illegible]

Zion Nuclear Power Station
Annual Radioactive Effluent Release Report for 2004

LIQUID EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

1. Regulatory Limits

The calculated annual quantity of all radioactive material above the Lower Limit of Detection (LLD) released to unrestricted areas is limited by off-site dose restrictions stated in the station technical specifications , Off-site Dose Calculation Manual (ODCM) and 10 CFR50 Appendix I.

	Quarterly (mRem)	Yearly (mRem)
Total Body	1.5	3.0
Organ	5.0	10.0

2. Maximum Permissible Concentrations

Zion Station Technical Specifications limit concentrations of radioactive material released in liquid effluents to unrestricted areas to 10 times the concentration values listed in Appendix B. Table 2, Column 2 of 10CFR20.

3. Measurements of Total Radioactivity

a. Fission & Activation Products	Gamma Spectroscopy
b. Tritium	Liquid Scintillation
c. Noble Gases	Gamma Spectroscopy
d. Gross Alpha	Gas Flow Proportional Counter

Composite samples analysis for Fe-55, Sr-89, and Sr-90 performed by offsite vendor.

4. Batch Release:	1stQtr	2 nd QTR	3 rd Qtr	4 th QTR	2004
	1	0	0	5	6

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2004
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Radioactive Waste Shipments for 2004

Shipment Date	Shipment Number	Media	Receiver	Waste Class	Container Type	Solidification Agent	Activity (Ci)	Volume (m ³)	Volume (ft ³)
1st Quarter:									
Sub totals:	0						0.0000000	0.000	0.00
2nd Quarter:									
Sub totals:	0						0.0000000	0.000	0.00
3rd Quarter:									
Sub totals:	0						0.0000000	0.000	0.00
4th Quarter:									
Sub totals:	0						0.0000000	0.000	0.00
Totals:	<u>0</u>						<u>0.0000000</u>	<u>0.000</u>	<u>0.00</u>

	Class A	Class B	Class C
Number of Shipments	0	0	0
Activity (Ci)	0.00E+00	0.00E+00	0.00E+00
Volume (m ³)	0.00E+00	0.00E+00	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2004
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste and 2. Estimate of major nuclide composition

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

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
A	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
B	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
C	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
All	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2004
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste and 2. Estimate of major nuclide composition
- b. Dry compressible waste, contaminated equipment, etc.

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
A	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
B	0.00E+00	0.00E+00	0.00E+00%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
C	0.00E+00	0.00E+00	0.00E+00%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

Waste Class	Volume (m ³)	Activity (Ci)	Estim. Error in Activity
All	0.00E+00	0.00E+00	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	0.00E+00%	0.00E+00
C-14	0.00E+00%	0.00E+00
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	0.00E+00%	0.00E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	0.00E+00%	0.00E+00
Co-58	0.00E+00%	0.00E+00
Co-60	0.00E+00%	0.00E+00
Ni-59	0.00E+00%	0.00E+00
Ni-63	0.00E+00%	0.00E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	0.00E+00%	0.00E+00
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	0.00E+00%	0.00E+00
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	0.00E+00%	0.00E+00
I-129	0.00E+00%	0.00E+00
Cs-134	0.00E+00%	0.00E+00
Cs-137	0.00E+00%	0.00E+00
Ce-144	0.00E+00%	0.00E+00
Pu-238	0.00E+00%	0.00E+00
Pu-239	0.00E+00%	0.00E+00
Pu-241	0.00E+00%	0.00E+00
Pu-242	0.00E+00%	0.00E+00
Am-241	0.00E+00%	0.00E+00
Cm-242	0.00E+00%	0.00E+00
Cm-243	0.00E+00%	0.00E+00
Zn-95	0.00E+00%	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT REPORT FOR 2004
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of waste and 2. Estimate of major nuclide composition

3. Solid Waste Disposition

No solid waste shipments were performed during 2004.

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments were performed during 2004.

C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.

No irradiated material shipments were performed during 2004.

Requirement from the ODCM 12.7.2 states that the station shall develop a plan to return to service any rad monitor that is out of service for greater than 30 days. This is in addition to the compensatory measures required for sampling and analysis. There were no rad monitors listed with this requirement in the ODCM for the 2004 year.

In compliance with requirements of Zion Station Annual Effluent Report (AER) the following is a synopsis of the review completed by Ron Schuster for the changes that were made to the Offsite Dose Calculation Manual in the year 2004.

There were none.

Description	Revision Number	Date in Effect
Table of contents	3	January 2001
Chapter 1	3	January 2001
Chapter 2	3	January 2001
Chapter 3	3	January 2001
Chapter 4	3	January 2001
Chapter 5	3	January 2001
Chapter 6	3	January 2001
Chapter 7	3	January 2001
Chapter 10	6	June 2003
Chapter 11	3	January 2001
Chapter 12	12	October 2003
Appendix A	3	January 2001
Appendix B	3	January 2001
Appendix C	3	January 2001
Appendix F	3	January 2001
Appendix O	3	January 2001

Review was completed on January 14, 2005

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	7	2	2	0	11
NNE	0	0	5	7	0	0	12
NE	0	5	3	0	0	0	8
ENE	0	1	0	0	0	0	1
E	0	2	0	0	0	0	2
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	1	0	1	0	0	2
SSW	0	0	1	3	0	0	4
SW	0	0	3	1	0	0	4
WSW	0	1	5	0	0	0	6
W	0	2	5	5	0	0	12
WNW	0	1	5	2	1	0	9
NW	0	0	3	1	0	0	4
NNW	0	0	4	2	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	13	41	24	3	0	81

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction -----	Wind Speed (in mph)						Total -----
	1-3 -----	4-7 -----	8-12 -----	13-18 -----	19-24 -----	> 24 -----	
N	0	1	1	3	0	0	5
NNE	0	0	3	1	0	0	4
NE	0	3	2	0	0	0	5
ENE	0	2	3	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	1	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	1	3	0	0	0	4
WSW	0	1	1	3	0	0	5
W	0	1	5	2	2	0	10
WNW	0	4	5	3	0	0	12
NW	0	0	4	1	0	0	5
NNW	0	0	1	1	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	14	29	16	2	0	61

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	6	1	0	9
NNE	0	1	1	2	0	0	4
NE	0	3	3	0	0	0	6
ENE	0	3	2	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	3	3	1	0	7
S	0	1	0	1	0	0	2
SSW	0	0	5	2	0	0	7
SW	0	0	2	6	0	0	8
WSW	0	1	5	5	0	0	11
W	0	3	9	4	5	0	21
WNW	0	1	4	3	0	0	8
NW	0	3	7	0	0	0	10
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	17	44	32	7	0	101

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	14	36	16	13	0	79
NNE	2	14	17	6	0	0	39
NE	2	6	14	15	2	0	39
ENE	2	11	14	19	14	2	62
E	1	9	7	25	11	0	53
ESE	0	6	11	7	1	0	25
SE	2	10	21	9	0	0	42
SSE	0	14	42	25	2	0	83
S	1	11	8	5	0	0	25
SSW	2	4	36	17	0	0	59
SW	3	16	31	24	1	0	75
WSW	1	13	35	14	6	1	70
W	1	30	43	19	8	0	101
WNW	1	28	61	22	4	0	116
NW	0	20	66	11	1	0	98
NNW	1	17	26	15	0	0	59
Variable	0	0	0	0	0	0	0
Total	19	223	468	249	63	3	1025

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	6	4	0	0	0	16
NNE	3	10	2	0	0	0	15
NE	3	5	6	4	0	0	18
ENE	1	13	2	0	0	0	16
E	2	13	2	0	0	0	17
ESE	2	6	0	0	0	0	8
SE	0	6	5	1	0	0	12
SSE	1	9	21	11	3	0	45
S	3	17	19	4	0	0	43
SSW	4	23	16	4	1	0	48
SW	11	24	18	10	0	0	63
WSW	4	29	50	8	0	0	91
W	10	47	50	6	0	0	113
WNW	9	32	25	1	0	0	67
NW	4	37	10	0	0	0	51
NNW	8	13	6	0	0	0	27
Variable	0	0	0	0	0	0	0
Total	71	290	236	49	4	0	650

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	0	0	0	0	2
NNE	3	2	0	0	0	0	5
NE	1	1	0	0	0	0	2
ENE	0	2	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	2	0	0	0	0	0	2
SE	3	4	1	0	0	0	8
SSE	2	10	11	0	0	0	23
S	7	10	8	0	0	0	25
SSW	8	8	0	0	0	0	16
SW	11	4	2	0	0	0	17
WSW	7	4	0	0	0	0	11
W	6	9	0	0	0	0	15
WNW	4	7	0	0	0	0	11
NW	3	4	0	0	0	0	7
NNW	0	2	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	58	70	22	0	0	0	150

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

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
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	1	0	1	0	0	0	2
SSE	2	5	4	0	0	0	11
S	6	19	1	0	0	0	26
SSW	2	1	1	0	0	0	4
SW	1	4	0	0	0	0	5
WSW	0	6	0	0	0	0	6
W	0	3	0	0	0	0	3
WNW	1	6	0	0	0	0	7
NW	1	1	0	0	0	0	2
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	15	46	7	0	0	0	68

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

Zion Nuclear Station

Period of Record: January - March 2004

Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	9	1	3	16
NNE	0	0	0	8	2	0	10
NE	0	3	2	0	0	0	5
ENE	0	1	0	0	0	0	1
E	0	2	0	0	0	0	2
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	0	1	0	1
SSW	0	0	1	0	3	0	4
SW	0	0	0	3	0	1	4
WSW	0	0	2	6	0	0	8
W	0	0	2	4	5	1	12
WNW	0	0	1	5	2	1	9
NW	0	0	0	4	0	0	4
NNW	0	1	0	3	1	0	5
Variable	0	0	0	0	0	0	0
Total	0	7	11	42	15	5	81

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: 4

Zion Nuclear Station

Period of Record: January - March 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	4	1	0	5
NNE	0	0	2	1	0	0	3
NE	0	0	4	0	0	0	4
ENE	0	1	1	3	0	0	5
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	1	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	1	1	0	2
SW	0	1	0	3	3	0	7
WSW	0	1	0	2	0	0	3
W	0	1	1	3	3	2	10
WNW	0	2	1	5	3	0	11
NW	0	0	2	3	0	0	5
NNW	0	1	0	2	1	0	4
Variable	0	0	0	0	0	0	0
Total	0	8	11	27	13	2	61

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: 4

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	5	4	1	11
NNE	0	0	1	2	0	0	3
NE	0	2	2	0	0	0	4
ENE	0	3	0	2	0	0	5
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	0	0	1	1	0	2
SSE	0	0	0	2	2	1	5
S	0	0	1	0	1	0	2
SSW	0	0	3	3	2	0	8
SW	0	0	0	2	3	3	8
WSW	0	1	2	8	3	4	18
W	1	2	3	3	2	4	15
WNW	0	1	1	4	4	0	10
NW	0	1	3	3	0	0	7
NNW	0	0	0	1	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	11	18	36	22	13	101

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 1
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	17	25	21	15	81
NNE	0	1	13	11	14	3	42
NE	1	7	4	14	4	5	35
ENE	0	9	9	14	20	16	68
E	1	8	3	4	9	19	44
ESE	0	4	7	3	9	1	24
SE	0	1	18	37	24	0	80
SSE	1	4	15	20	7	0	47
S	0	6	6	4	8	1	25
SSW	0	3	6	35	18	4	66
SW	1	10	10	28	21	9	79
WSW	0	6	11	32	12	14	75
W	0	6	27	26	19	14	92
WNW	0	5	31	52	31	10	129
NW	0	2	19	55	16	0	92
NNW	0	1	16	15	10	0	42
Variable	0	0	0	0	0	0	0
Total	4	76	212	375	243	11	1030

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 11
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction -----	Wind Speed (in mph)						Total -----
	1-3 -----	4-7 -----	8-12 -----	13-18 -----	19-24 -----	> 24 -----	
N	0	4	5	6	1	0	16
NNE	3	2	3	1	0	0	9
NE	2	3	3	4	2	1	15
ENE	0	1	6	2	2	3	14
E	0	8	12	8	0	0	28
ESE	3	1	3	3	0	0	10
SE	0	4	4	6	14	3	31
SSE	1	0	10	9	13	11	44
S	0	2	10	20	7	0	39
SSW	1	3	14	19	7	3	47
SW	1	2	15	22	21	2	63
WSW	3	3	14	52	24	4	100
W	1	4	24	51	16	4	100
WNW	1	11	16	24	14	0	66
NW	0	7	14	25	3	0	49
NNW	0	5	9	14	0	0	28
Variable	0	0	0	0	0	0	0
Total	16	60	162	266	124	31	659

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: 4

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	1	0	0	5
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	1	2	0	0	0	3
E	0	3	5	1	0	0	9
ESE	0	1	2	0	1	0	4
SE	0	3	2	1	2	0	8
SSE	0	5	10	4	4	4	27
S	2	4	7	5	3	0	21
SSW	0	2	14	5	2	0	23
SW	1	5	7	4	0	0	17
WSW	1	2	2	2	0	0	7
W	1	1	4	4	0	0	10
WNW	1	3	7	2	0	0	13
NW	0	2	2	3	0	0	7
NNW	0	0	3	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	6	34	70	33	12	4	159

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 6
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	3	0	0	0	5
NNE	1	1	0	0	0	0	2
NE	2	2	0	0	0	0	4
ENE	0	0	1	0	0	0	1
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	3	3	5	0	11
S	0	2	9	11	2	1	25
SSW	0	1	6	1	0	1	9
SW	0	0	1	5	1	0	7
WSW	0	0	2	0	0	0	2
W	0	0	2	0	0	0	2
WNW	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	3	10	27	20	8	2	70

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: 4

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	6	7	0	0	13
NNE	0	8	43	42	0	0	93
NE	0	10	16	4	0	0	30
ENE	0	3	0	0	0	0	3
E	1	8	6	1	0	0	16
ESE	0	7	7	0	0	0	14
SE	0	3	10	0	0	0	13
SSE	0	3	4	0	0	0	7
S	0	0	0	0	0	0	0
SSW	0	0	0	6	6	0	12
SW	0	0	12	9	1	0	22
WSW	1	2	22	6	1	0	32
W	0	3	10	5	1	0	19
WNW	0	2	5	1	0	0	8
NW	0	1	4	3	0	0	8
NNW	0	0	3	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	2	50	148	85	9	0	294

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

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	4	1	0	0	5
NNE	0	1	3	1	0	0	5
NE	1	7	2	0	0	0	10
ENE	0	3	1	0	0	0	4
E	0	1	0	0	0	0	1
ESE	0	3	1	0	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	1	1	1	0	0	3
SW	0	1	2	2	0	0	5
WSW	0	0	3	1	0	0	4
W	0	3	2	2	0	0	7
WNW	0	2	2	1	0	0	5
NW	0	0	2	0	0	0	2
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	23	25	9	0	0	58

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

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	6	6	0	0	13
NNE	0	13	8	6	0	0	27
NE	0	6	2	0	0	0	8
ENE	1	5	1	0	0	0	7
E	1	2	0	0	0	0	3
ESE	1	7	3	1	0	0	12
SE	0	2	1	0	0	0	3
SSE	0	5	5	1	0	0	11
S	0	0	0	0	0	0	0
SSW	0	0	3	1	2	0	6
SW	0	0	0	8	0	0	8
WSW	0	1	7	3	0	0	11
W	0	1	4	1	1	0	7
WNW	0	0	4	0	0	0	4
NW	1	1	0	1	1	0	4
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	4	44	46	28	4	0	126

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

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	23	51	58	2	0	134
NNE	5	45	31	15	0	0	96
NE	4	23	4	5	0	0	36
ENE	3	14	2	1	0	0	20
E	5	14	1	1	0	0	21
ESE	2	8	6	0	0	0	16
SE	0	14	4	0	0	0	18
SSE	1	10	30	2	0	0	43
S	0	5	5	2	0	0	12
SSW	2	6	9	5	6	1	29
SW	1	1	19	11	7	0	39
WSW	1	9	14	5	1	0	30
W	0	14	11	2	0	0	27
WNW	2	7	13	3	0	0	25
NW	0	8	12	1	1	0	22
NNW	0	8	10	3	4	0	25
Variable	0	0	0	0	0	0	0
Total	26	209	222	114	21	1	593

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

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	35	30	4	0	0	76
NNE	8	32	21	2	0	0	63
NE	11	30	3	0	0	0	44
ENE	4	6	3	1	0	0	14
E	7	9	10	0	0	0	26
ESE	14	13	12	1	0	0	40
SE	4	12	6	0	0	0	22
SSE	4	15	29	2	1	0	51
S	4	44	18	1	0	0	67
SSW	5	23	11	3	4	0	46
SW	8	26	22	5	7	0	68
WSW	8	16	12	1	0	0	37
W	4	20	6	0	0	0	30
WNW	7	20	5	0	0	0	32
NW	7	14	1	0	0	0	22
NNW	10	10	6	0	0	0	26
Variable	0	0	0	0	0	0	0
Total	112	325	195	20	12	0	664

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

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	8	4	0	0	0	13
NNE	1	8	3	0	0	0	12
NE	3	2	0	0	0	0	5
ENE	4	3	3	0	0	0	10
E	2	0	0	0	0	0	2
ESE	1	1	1	1	0	0	4
SE	4	4	2	0	0	0	10
SSE	6	13	13	0	0	0	32
S	7	34	6	1	0	0	48
SSW	5	10	2	0	0	0	17
SW	9	11	0	0	0	0	20
WSW	12	14	0	0	0	0	26
W	11	9	0	0	0	0	20
WNW	4	8	0	0	0	0	12
NW	6	5	0	0	0	0	11
NNW	2	8	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	78	138	34	2	0	0	252

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

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	0	0	0	0	2
NNE	1	0	1	0	0	0	2
NE	1	3	0	0	0	0	4
ENE	0	1	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	1	2	0	0	0	0	3
SE	1	0	0	0	0	0	1
SSE	3	8	23	0	0	0	34
S	8	21	9	0	0	0	38
SSW	9	4	0	0	0	0	13
SW	6	6	0	0	0	0	12
WSW	15	10	0	0	0	0	25
W	14	10	0	0	0	0	24
WNW	4	12	0	0	0	0	16
NW	3	0	0	0	0	0	3
NNW	3	0	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	69	80	33	0	0	0	182

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

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	7	17	23	1	48
NNE	0	3	28	29	11	2	73
NE	0	2	13	0	2	0	17
ENE	0	2	1	0	0	0	3
E	0	5	4	4	0	0	13
ESE	0	5	4	2	0	0	11
SE	0	3	13	5	0	0	21
SSE	0	0	1	1	1	0	3
S	0	0	0	0	0	1	1
SSW	0	0	0	1	5	7	13
SW	0	0	2	11	3	6	22
WSW	0	1	3	22	3	2	31
W	0	0	4	6	1	5	16
WNW	0	1	0	6	1	0	8
NW	0	1	0	3	3	0	7
NNW	0	0	1	1	1	0	3
Variable	0	0	0	0	0	0	0
Total	0	23	81	108	54	14	290

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: 4

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	4	1	0	6
NNE	0	4	1	2	0	0	7
NE	0	4	1	1	0	0	6
ENE	1	2	1	0	1	0	5
E	0	1	0	0	0	0	1
ESE	0	2	1	0	0	0	3
SE	0	0	2	0	0	0	2
SSE	0	0	1	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	1	0	1	2	0	4
SW	0	0	1	2	1	0	4
WSW	0	0	1	1	1	1	4
W	0	0	2	2	0	2	6
WNW	0	1	1	2	1	0	5
NW	0	0	1	1	0	0	2
NNW	0	0	0	1	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	15	14	17	7	3	57

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 1

Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	4	10	9	3	28
NNE	0	4	9	3	0	0	16
NE	0	2	4	1	0	0	7
ENE	0	4	0	0	0	0	4
E	1	2	2	0	0	0	5
ESE	0	3	2	1	1	0	7
SE	0	2	4	2	0	0	8
SSE	0	1	5	3	0	0	9
S	0	0	0	0	0	0	0
SSW	0	0	0	3	2	3	8
SW	0	0	0	0	2	6	8
WSW	0	0	2	6	3	0	11
W	0	0	1	2	0	2	5
WNW	0	1	2	2	0	0	5
NW	0	0	1	0	0	2	3
NNW	0	0	0	2	0	0	2
Variable	0	0	0	0	0	0	0
Total	1	21	36	35	17	16	126

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: 4

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	11	31	40	63	30	176
NNE	0	13	15	20	5	0	53
NE	3	12	12	4	3	0	34
ENE	1	5	4	2	0	0	12
E	1	8	14	2	2	0	27
ESE	1	5	9	0	3	1	19
SE	0	3	16	4	0	0	23
SSE	3	5	14	16	4	0	42
S	0	2	5	0	3	0	10
SSW	0	2	5	7	7	8	29
SW	0	1	3	19	9	9	41
WSW	0	2	8	10	2	3	25
W	0	2	8	7	7	0	24
WNW	0	1	8	16	5	1	31
NW	0	0	9	7	0	1	19
NNW	0	3	5	7	3	0	18
Variable	0	0	0	0	0	0	0
Total	10	75	166	161	116	41	569

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: 4

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	6	21	35	14	1	78
NNE	1	11	22	27	2	2	65
NE	1	11	22	1	0	0	35
ENE	0	9	2	3	1	1	16
E	1	12	3	6	6	4	32
ESE	1	11	11	7	11	6	47
SE	1	9	9	6	6	2	33
SSE	1	3	7	34	16	1	62
S	1	0	16	17	6	0	40
SSW	1	1	13	18	8	10	51
SW	0	2	12	28	5	6	53
WSW	0	3	9	18	7	0	37
W	0	6	15	12	1	0	34
WNW	0	4	14	13	3	0	34
NW	0	2	10	4	0	0	16
NNW	0	7	9	7	1	0	24
Variable	0	0	0	0	0	0	0
Total	9	97	195	236	87	33	657

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 12
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: April - June 2004

Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	6	9	1	0	19
NNE	3	7	8	7	0	0	25
NE	1	0	7	1	0	0	9
ENE	2	4	3	0	0	0	9
E	0	2	1	1	1	0	5
ESE	1	1	2	1	0	2	7
SE	0	2	7	5	2	0	16
SSE	0	7	9	10	6	0	32
S	1	0	17	18	6	1	43
SSW	1	0	8	11	1	0	21
SW	0	1	6	7	1	0	15
WSW	0	1	2	18	0	0	21
W	1	1	4	6	0	0	12
WNW	0	0	1	6	1	0	8
NW	0	2	2	3	0	0	7
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	10	32	85	104	19	3	253

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 1

Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	3	0	0	0	0	6
NNE	1	4	0	0	0	0	5
NE	0	0	2	0	0	0	2
ENE	0	3	1	0	0	0	4
E	2	0	1	0	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	2	4	0	2	0	8
SSE	1	2	1	5	4	1	14
S	0	1	6	23	15	0	45
SSW	1	2	7	6	2	0	18
SW	1	2	6	10	0	0	19
WSW	0	3	4	4	2	0	13
W	0	1	4	8	1	0	14
WNW	0	1	6	5	0	0	12
NW	0	2	2	6	0	0	10
NNW	1	3	5	2	0	0	11
Variable	0	0	0	0	0	0	0
Total	10	29	49	69	26	1	184

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 1
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: July - September 2004

Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	6	3	0	0	11
NNE	0	6	29	0	0	0	35
NE	0	14	8	0	0	0	22
ENE	0	6	0	0	0	0	6
E	0	3	0	0	0	0	3
ESE	0	6	1	0	0	0	7
SE	0	5	6	0	0	0	11
SSE	0	0	1	0	0	0	1
S	0	0	1	0	0	0	1
SSW	0	1	1	0	0	0	2
SW	0	0	11	0	0	0	11
WSW	0	3	2	3	0	0	8
W	0	6	14	1	0	0	21
WNW	0	3	3	0	0	0	6
NW	0	4	2	0	0	0	6
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	59	87	7	0	0	153

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

Zion Nuclear Station

Period of Record: July - September 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	4	1	0	0	5
NNE	0	0	5	0	0	0	5
NE	0	5	6	0	0	0	11
ENE	0	3	1	0	0	0	4
E	0	2	0	0	0	0	2
ESE	0	1	0	0	0	0	1
SE	0	2	3	0	0	0	5
SSE	0	0	2	0	0	0	2
S	0	0	1	0	0	0	1
SSW	0	0	3	1	0	0	4
SW	0	2	6	2	0	0	10
WSW	0	1	4	0	0	0	5
W	0	3	2	0	0	0	5
WNW	0	0	0	0	0	0	0
NW	0	1	0	0	0	0	1
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	20	38	4	0	0	62

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

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	1	3	0	5
NNE	0	8	7	0	0	0	15
NE	0	12	3	0	0	0	15
ENE	0	8	1	0	0	0	9
E	0	7	0	0	0	0	7
ESE	0	6	3	0	0	0	9
SE	0	5	9	0	0	0	14
SSE	0	4	5	0	0	0	9
S	0	1	0	0	0	0	1
SSW	0	5	2	1	0	0	8
SW	0	4	10	2	0	0	16
WSW	0	3	9	3	0	0	15
W	1	1	2	0	0	0	4
WNW	0	5	1	0	0	0	6
NW	0	1	1	0	0	0	2
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	71	54	7	3	0	136

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

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	13	54	27	3	0	99
NNE	1	39	42	6	0	0	88
NE	3	39	9	10	0	0	61
ENE	0	10	2	1	0	0	13
E	4	11	0	0	0	0	15
ESE	0	26	4	0	0	0	30
SE	1	27	16	0	0	0	44
SSE	0	37	58	5	0	0	100
S	1	26	13	2	0	0	42
SSW	4	19	9	2	0	0	34
SW	0	13	9	5	0	0	27
WSW	1	14	17	3	0	0	35
W	1	26	30	0	0	0	57
WNW	0	12	13	0	0	0	25
NW	5	6	7	0	0	0	18
NNW	0	10	10	0	0	0	20
Variable	0	0	0	0	0	0	0
Total	23	328	293	61	3	0	708

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

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	5	30	12	1	0	0	48
NNE	8	21	15	5	0	0	49
NE	4	4	2	0	0	0	10
ENE	7	2	3	1	0	0	13
E	2	5	0	0	0	0	7
ESE	6	16	1	0	0	0	23
SE	4	27	12	1	0	0	44
SSE	5	26	29	6	0	0	66
S	21	76	14	0	0	0	111
SSW	15	57	3	0	0	0	75
SW	5	17	2	0	0	0	24
WSW	10	25	5	0	0	0	40
W	3	35	7	0	0	0	45
WNW	6	18	1	0	0	0	25
NW	5	26	2	0	0	0	33
NNW	3	18	2	0	0	0	23
Variable	0	0	0	0	0	0	0
Total	109	403	110	14	0	0	636

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

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	4	0	0	0	0	6
NNE	3	0	0	0	0	0	3
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	1	2	0	0	0	0	3
SSE	2	1	1	0	0	0	4
S	15	39	0	0	0	0	54
SSW	31	24	0	0	0	0	55
SW	23	7	0	0	0	0	30
WSW	21	6	0	0	0	0	27
W	16	12	0	0	0	0	28
WNW	7	13	0	0	0	0	20
NW	4	16	0	0	0	0	20
NNW	8	6	0	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	134	131	1	0	0	0	266

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

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 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	1	1	0	0	0	0	2
S	4	6	0	0	0	0	10
SSW	12	7	0	0	0	0	19
SW	23	6	0	0	0	0	29
WSW	22	16	0	0	0	0	38
W	27	44	0	0	0	0	71
WNW	16	14	0	0	0	0	30
NW	4	5	0	0	0	0	9
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	109	99	0	0	0	0	208

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

Zion Nuclear Station

Period of Record: July - September 2004

Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	5	9	0	0	14
NNE	0	2	26	6	2	0	36
NE	0	4	9	6	0	0	19
ENE	0	3	0	0	0	0	3
E	0	4	2	0	0	0	6
ESE	0	1	5	0	0	0	6
SE	0	1	7	4	0	0	12
SSE	0	0	0	0	0	0	0
S	0	0	0	1	0	0	1
SSW	0	0	1	2	0	0	3
SW	0	0	2	6	3	0	11
WSW	0	2	1	2	4	0	9
W	0	4	7	10	0	0	21
WNW	0	1	4	1	0	0	6
NW	0	0	4	2	0	0	6
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	22	73	49	9	0	153

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: 12

Zion Nuclear Station

Period of Record: July - September 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	3	1	0	5
NNE	0	1	3	1	3	0	8
NE	0	1	6	1	0	0	8
ENE	0	2	2	1	0	0	5
E	0	0	1	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	1	3	2	0	0	6
SSE	0	1	0	1	0	0	2
S	0	0	0	1	1	0	2
SSW	0	0	1	2	0	0	3
SW	0	0	3	5	2	0	10
WSW	0	1	1	3	1	0	6
W	0	0	2	1	1	0	4
WNW	0	0	0	0	0	0	0
NW	0	0	1	1	0	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total.	0	7	24	22	9	0	62

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: 12

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	1	4	5
NNE	0	1	18	0	1	0	20
NE	0	1	10	0	1	0	12
ENE	1	3	3	0	0	0	7
E	0	5	1	0	0	0	6
ESE	0	3	2	3	0	0	8
SE	0	4	9	9	0	0	22
SSE	0	0	0	3	0	0	3
S	0	0	1	0	1	0	2
SSW	0	0	6	1	0	0	7
SW	0	0	6	4	7	0	17
WSW	0	0	5	5	5	0	15
W	0	1	0	2	0	0	3
WNW	0	3	3	1	0	0	7
NW	0	0	1	0	0	0	1
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	21	66	28	16	4	136

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: 12

Zion Nuclear Station

Period of Record: July - September 2004

Stability Class - Neutral - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	5	12	44	31	18	111
NNE	1	20	36	22	8	0	87
NE	1	10	19	2	12	3	47
ENE	0	4	4	1	1	1	11
E	3	5	4	0	0	0	12
ESE	1	12	13	3	0	0	29
SE	2	14	35	30	4	0	85
SSE	0	5	35	21	5	1	67
S	0	5	12	7	2	2	28
SSW	0	6	17	10	2	1	36
SW	0	4	14	10	5	0	33
WSW	0	4	7	23	6	1	41
W	1	3	21	27	5	0	57
WNW	0	4	8	13	0	0	25
NW	1	2	7	6	0	0	16
NNW	1	2	7	11	1	0	22
Variable	0	0	0	0	0	0	0
Total	12	105	251	230	82	27	707

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 1

Hours of missing stability measurements in all stability classes: 12

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	20	21	5	1	51
NNE	1	7	19	16	8	4	55
NE	3	6	2	0	2	0	13
ENE	1	6	1	3	2	0	13
E	2	3	4	3	0	0	12
ESE	2	10	9	8	2	0	31
SE	1	7	15	17	11	0	51
SSE	1	11	34	38	25	0	109
S	0	7	14	26	6	0	53
SSW	1	7	31	32	1	0	72
SW	1	2	23	9	0	0	35
WSW	2	5	14	16	0	0	37
W	0	1	14	32	0	0	47
WNW	0	3	4	15	1	0	23
NW	0	3	8	12	2	0	25
NNW	0	3	9	10	1	0	23
Variable	0	0	0	0	0	0	0
Total	16	84	221	258	66	5	650

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 12

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	7	0	0	0	12
NNE	0	5	10	0	0	0	15
NE	2	0	2	1	0	0	5
ENE	1	1	0	0	0	0	2
E	1	4	1	0	1	0	7
ESE	2	3	1	1	0	0	7
SE	1	4	9	6	0	0	20
SSE	0	8	11	21	2	0	42
S	0	4	21	17	1	0	43
SSW	0	4	9	20	0	0	33
SW	2	2	7	5	0	0	16
WSW	1	2	8	9	0	0	20
W	0	3	7	9	0	0	19
WNW	1	1	5	3	0	0	10
NW	0	0	3	3	0	0	6
NNW	0	1	7	8	0	0	16
Variable	0	0	0	0	0	0	0
Total	12	46	108	103	4	0	273

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 3
 Hours of missing stability measurements in all stability classes: 12

Zion Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction -----	Wind Speed (in mph)						Total -----
	1-3 -----	4-7 -----	8-12 -----	13-18 -----	19-24 -----	> 24 -----	
N	2	5	3	2	0	0	12
NNE	1	10	1	0	0	0	12
NE	2	5	1	0	0	0	8
ENE	1	2	0	1	0	0	4
E	1	2	0	0	0	0	3
ESE	0	4	0	0	0	0	4
SE	0	3	0	0	0	0	3
SSE	2	3	1	3	2	0	11
S	1	3	6	7	0	0	17
SSW	0	6	21	10	0	0	37
SW	0	8	6	8	0	0	22
WSW	0	5	15	7	3	0	30
W	0	2	4	12	7	0	25
WNW	0	4	2	5	0	0	11
NW	1	4	1	2	0	0	8
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	11	66	63	57	12	0	209

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: 12

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 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	3	1	0	0	0	4
E	0	2	0	0	0	0	2
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	1
SW	0	0	4	1	0	0	5
WSW	0	0	2	0	0	0	2
W	0	0	3	0	0	0	3
WNW	0	0	1	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	0	5	13	1	0	0	19

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

Zion Nuclear Station

Period of Record: October - December 2004

Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	1	1	0	0	0	2
E	0	0	2	0	0	0	2
ESE	0	1	0	0	0	0	1
SE	0	1	0	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	1	2	0	0	3
WSW	0	0	3	2	0	0	5
W	0	0	5	0	0	0	5
WNW	0	0	0	0	0	0	0
NW	0	0	1	2	0	0	3
NNW	0	0	0	1	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	3	14	7	0	0	24

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

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	1	6	0	0	0	7
NE	0	0	3	2	0	0	5
ENE	0	0	0	1	0	0	1
E	0	1	4	3	0	0	8
ESE	0	2	1	0	0	0	3
SE	0	0	0	0	0	0	0
SSE	0	1	1	0	0	0	2
S	0	0	2	0	0	0	2
SSW	0	0	2	1	0	0	3
SW	0	1	2	2	0	0	5
WSW	0	0	2	1	0	0	3
W	0	1	9	2	0	0	12
WNW	0	0	9	1	0	0	10
NW	0	1	2	7	0	0	10
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	8	45	20	0	0	73

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

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	23	36	12	3	0	74
NNE	2	26	37	14	1	0	80
NE	1	25	27	10	6	0	69
ENE	1	8	24	22	5	0	60
E	1	8	26	22	0	0	57
ESE	2	15	21	16	8	0	62
SE	0	10	6	4	0	0	20
SSE	1	14	29	30	5	0	79
S	2	23	37	10	0	0	72
SSW	4	45	48	10	2	0	109
SW	2	42	45	37	1	1	128
WSW	4	29	32	26	2	0	93
W	4	26	58	22	1	0	111
WNW	7	34	56	24	3	0	124
NW	10	31	60	22	0	0	123
NNW	5	9	52	17	0	0	83
Variable	0	0	0	0	0	0	0
Total	46	368	594	298	37	1	1344

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

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	8	2	0	0	0	13
NNE	1	2	0	1	0	0	4
NE	1	4	2	1	1	0	9
ENE	2	3	9	0	0	0	14
E	1	4	5	0	0	0	10
ESE	2	3	3	0	0	0	8
SE	7	7	0	0	0	0	14
SSE	4	13	6	5	2	0	30
S	4	23	16	0	0	0	43
SSW	5	34	19	4	0	0	62
SW	5	24	44	11	0	0	84
WSW	8	15	37	0	0	0	60
W	12	29	14	1	0	0	56
WNW	14	23	10	0	0	0	47
NW	14	32	6	0	0	0	52
NNW	4	23	9	0	0	0	36
Variable	0	0	0	0	0	0	0
Total	87	247	182	23	3	0	542

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

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	1	0	0	0	3
NNE	0	1	0	0	0	0	1
NE	2	0	0	0	0	0	2
ENE	1	1	0	0	0	0	2
E	0	0	0	0	0	0	0
ESE	1	0	0	0	0	0	1
SE	0	1	0	0	0	0	1
SSE	1	1	1	0	1	0	4
S	1	9	1	0	0	0	11
SSW	7	11	0	0	0	0	18
SW	6	5	1	0	0	0	12
WSW	1	4	0	0	0	0	5
W	7	9	0	0	0	0	16
WNW	4	16	0	0	0	0	20
NW	7	5	0	0	0	0	12
NNW	2	6	0	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	40	71	4	0	1	0	116

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

Zion Nuclear Station

Period of Record: October - December 2004

Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)

Winds Measured at 35 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	1	0	0	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	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	2	1	0	0	0	3
SSW	4	4	0	0	0	0	8
SW	3	11	0	0	0	0	14
WSW	5	5	0	0	0	0	10
W	1	4	0	0	0	0	5
WNW	5	13	0	0	0	0	18
NW	2	3	0	0	0	0	5
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	27	43	1	0	0	0	71

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

Zion Nuclear Station

Period of Record: October - December 2004

Stability Class - Extremely Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 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	4	0	0	0	4
E	0	0	2	0	0	0	2
ESE	0	0	0	0	0	0	0
SE	0	0	0	1	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	2	0	1	0	3
SW	0	0	1	2	0	0	3
WSW	0	0	0	2	0	0	2
W	0	0	1	3	0	0	4
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	10	8	1	0	19

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: 18

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Unstable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	1	0	0	0	1
NE	0	1	0	0	0	0	1
ENE	0	0	1	0	0	0	1
E	0	1	1	1	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	1	0	1
SW	0	0	1	1	1	0	3
WSW	0	0	0	2	1	2	5
W	0	0	1	3	0	0	4
WNW	0	0	0	0	1	0	1
NW	0	0	0	1	2	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	2	6	8	6	2	24

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: 12

Zion Nuclear Station

Period of Record: October - December 2004

Stability Class - Slightly Unstable - 250Ft-33Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	4	5	0	0	9
NE	0	0	1	0	2	0	3
ENE	0	1	0	0	1	0	2
E	0	0	3	1	4	0	8
ESE	0	0	1	1	0	0	2
SE	0	0	1	0	0	0	1
SSE	0	0	1	0	0	0	1
S	0	0	0	2	0	0	2
SSW	0	0	0	2	1	0	3
SW	0	0	2	1	2	0	5
WSW	0	0	0	3	0	2	5
W	0	0	6	4	0	1	11
WNW	0	0	1	7	3	1	12
NW	0	0	2	2	5	0	9
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	1	22	28	18	4	73

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: 18

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Neutral - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	17	31	13	7	69
NNE	0	13	18	37	15	11	94
NE	0	2	19	24	3	7	55
ENE	1	1	11	21	18	12	64
E	0	0	16	20	14	9	59
ESE	0	5	15	11	8	9	48
SE	1	7	14	17	19	2	60
SSE	1	3	15	22	9	6	56
S	0	3	24	36	14	5	82
SSW	0	7	37	44	21	6	115
SW	0	9	35	36	31	7	118
WSW	2	9	22	22	24	11	90
W	2	11	18	37	38	13	119
WNW	2	10	30	54	15	19	130
NW	4	8	19	61	35	4	131
NNW	0	3	9	25	11	6	54
Variable	0	0	0	0	0	0	0
Total	13	92	319	498	288	114	1344

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: 18

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	5	11	0	0	17
NNE	0	2	2	4	1	2	11
NE	0	2	1	5	0	0	8
ENE	0	1	2	11	1	0	15
E	0	2	2	2	2	0	8
ESE	0	4	6	2	2	0	14
SE	0	4	7	1	0	1	13
SSE	1	5	10	12	5	6	39
S	1	4	15	16	8	1	45
SSW	0	1	17	22	18	1	59
SW	0	4	15	43	20	3	85
WSW	2	4	10	27	10	0	53
W	0	5	11	22	9	0	47
WNW	1	1	10	16	2	0	30
NW	1	6	21	22	4	0	54
NNW	0	7	27	9	2	0	45
Variable	0	0	0	0	0	0	0
Total	6	53	161	225	84	14	543

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: 18

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	3	3	0	0	12
NNE	0	2	1	2	0	0	5
NE	1	0	2	0	0	0	3
ENE	0	1	2	1	0	0	4
E	0	1	1	0	0	0	2
ESE	2	1	0	0	0	0	3
SE	1	2	3	0	0	0	6
SSE	0	1	2	1	0	2	6
S	0	0	5	6	2	0	13
SSW	0	1	1	9	0	0	11
SW	0	0	2	4	2	0	8
WSW	0	0	2	5	0	0	7
W	1	2	0	1	0	0	4
WNW	0	0	2	10	0	0	12
NW	0	0	2	5	0	0	7
NNW	0	4	7	2	0	0	13
Variable	0	0	0	0	0	0	0
Total	5	21	35	49	4	2	116

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: 18

Zion Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Stable - 250Ft-33Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	0	0	0	4
NNE	0	2	2	0	0	0	4
NE	0	2	1	1	0	0	4
ENE	1	5	1	0	0	0	7
E	0	2	1	0	0	0	3
ESE	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	1	5	1	0	1	8
SSW	0	0	4	7	1	0	12
SW	0	0	3	9	1	0	13
WSW	0	1	0	2	2	0	5
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	3	2	0	0	0	5
NNW	0	2	2	1	0	0	5
Variable	0	0	0	0	0	0	0
Total	1	21	23	21	4	1	71

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: 18