

April 22, 2010

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Zion Nuclear Power Station, Unit 1 and 2
Facility Operating License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

Subject: Radioactive Effluent Release Report for 2009 and
Offsite Dose Calculation Manual for 2009

In accordance with 10 CFR 50.36a, "Technical specifications on effluents from nuclear power plants," and pursuant to Technical Specification 5.7.3, "Radioactive Effluent Release Report," for Zion Nuclear Station, Units 1 and 2, this is the submittal of a Radioactive Effluent Release Report for the year 2009. The report is required to be submitted by April 30, 2010 and is provided as 1st Attachment to this letter. A listing of commitments contained in this submittal is provided as 2nd Attachment.

Pursuant to 10 CFR 50.4, there were no changes made to the Exelon Nuclear Offsite Dose Calculation Manual (ODCM) during the period of January through December 2009.

Technical Specification 5.6.1 for the Zion Nuclear power station requires a copy of the entire ODCM be submitted to the NRC as part of, or concurrent with, the Radioactive Effluent Release Report. This must be submitted prior to May 1. A copy of the entire Exelon ODCM, current as of December 31, 2009 is provided as an Attachment.

If you have any questions about this submittal please contact Mr. Ken Greenlee at 847-379-2700.

Respectfully,



Ronald J. Schuster
Plant Manager
Zion Nuclear Station

Attachments

1. Radioactive Effluent Release Report
2. List of Regulatory Commitments
3. Summary of Changes to the ODCM
4. Exelon ODCM

Copy to: Regional Administrator- NRC Region III

Exelon Generation, LLC
Zion Station
101 Shiloh Blvd
Zion, Il. 60099

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ZION NUCLEAR POWER STATION
2009 RADIOACTIVE EFFLUENT RELEASE REPORT
UNIT 1 & 2 (DOCKET Numbers 50-295 & 50-304)

EXECUTIVE SUMMARY

A review of 2009 effluent data indicates that the activity released from the station was far below any regulatory limit. There was no noble gas released in 2009. This trend can be attributed to the shutdown of both units since late September 1997.

Airborne

	Dose to Maximally Exposed Receptor from Unit 1	Dose to Maximally Exposed Receptor from Unit 2
Gamma Air	0 mrad	0 mrad
Beta Air	0 mrad	0 mrad
Total Body	1.31E-05 mrem (Child)	1.31E-5 mrem (Child)
Skin	0 mrem	0 mrem
Organ	1.49E-05 mrem (Adult GI)	1.49E-05 mrem (Adult GI)

There was NO Aquatic release of radioactivity from Zion Station for 2009.

Aquatic

	Dose to Maximally Exposed Receptor (Any) from Unit 1	Dose to Maximally Exposed Receptor (Any) from Unit 2
Total Body	0 mrem	0 mrem
Organ	0 mrem	0 mrem

Attachment 2:

To the Zion Nuclear Power Station, Units 1 and 2, 2009 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
2009
Unit 1
10CFR20 Compliance Assessment

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

Total Effective Dose Equivalent	<u>2.80E-05 mrem/year</u>
10 CFR 20.1301 (a) (1) limit	<u>100 mrem/year</u>
% of the limit	<u>0.00000028</u>

2. Compliance Summary 10CFR20

	1 st Qtr.	2 nd Qtr.	3 rd Qtr.	4 th Qtr	% of Limit
TEDE	0	2.80E-05	0	0	0.00000028

**ZION STATION
2009
Unit 2
10CFR20 Compliance Assessment**

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

Total Effective Dose Equivalent	<u>2.80E-05 mrem/year</u>
10 CFR 20.1301 (a) (1) limit	<u>100 mrem/year</u>
% of the limit	<u>0.00000028</u>

2. Compliance Summary 10CFR20

	1 st Qtr.	2 nd Qtr.	3 rd Qtr.	4 th Qtr.	% of Limit
TEDE	0	2.80E-05	0	0	0.00000028

REPORT 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Report for: 2009

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
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Qtr 1 - Admin. Any Organ			0.00E+00	0.00E+00	0.00E+00
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Qtr 1 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
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Qtr 1 - 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 1 - 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: 2009

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
--------	------	-------	---------	--------	------	--------	------	----

=== SITE DOSE LIMIT ANALYSIS === QUARTER 2 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
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Qtr 2 - Admin. Any Organ			0.00E+00	5.00E+00	0.00E+00
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Qtr 2 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
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Qtr 2 - 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 2 - 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: 2009

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
--------	------	-------	---------	--------	------	--------	------	----

=== SITE 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	5.00E+00	0.00E+00
Qtr 3 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
Qtr 3 - T.Spc. Any Organ			0.00E+00	3.75E+00	0.00E+00

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: 2009

Unit Range - From: 1 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 4 ===

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
--------	------	-------	---------	--------	------	--------	------	----

=== SITE 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	5.00E+00	0.00E+00
Qtr 4 - Admin. Total Body	ADULT	TBODY	0.00E+00	1.13E+00	0.00E+00
Qtr 4 - T.Spc. Any Organ			0.00E+00	3.75E+00	0.00E+00

Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide	Percentage
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Qtr 4 - 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: 2009

Unit Range - From: 1 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === ANNUAL 2009 ===

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
--------	------	-------	---------	--------	------	--------	------	----

=== SITE DOSE LIMIT ANALYSIS === ANNUAL 2009 ===

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2009 - Admin. Any Organ			0.00E+00	5.00E+00	0.00E+00
2009 - Admin. Total Body	ADULT	TBODY	0.00E+00	2.25E+00	0.00E+00

2009 - T.Spc. Any Organ			0.00E+00	7.50E+00	0.00E+00
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Critical Pathway:

Major Contributors (0% or greater to total)

Nuclide	Percentage
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2009 - T.Spc. Total Body	ADULT	TBODY	0.00E+00	3.00E+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

GASEOUS DOSE SUMMARY

Report for: 2009

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: 2009

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)

Compass Point:

Nuclide Percentage

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

Distance: (meters)

Compass Point:

Nuclide Percentage

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2009

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	2.97E-05	5.63E+00	5.28E-04
Qtr 2 - Admin. Total Body	CHILD	TBODY	2.62E-05	5.25E+00	4.99E-04

Qtr 2 - T.Spc. Any Organ	ADULT	GILLI	2.97E-05	7.50E+00	3.96E-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	2.62E-05	7.50E+00	3.49E-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: 2009

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: 2009

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
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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
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40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Report for: 2009

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
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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: 2009

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
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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 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: 2009

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
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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
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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: 2009
Unit Range - From: 1 To: 2

=== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2009 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2009 - Admin. Any Organ	ADULT	GILLI	2.97E-05	1.13E+01	2.64E-04
2009 - Admin. Total Body	CHILD	TBODY	2.62E-05	1.05E+01	2.49E-04

2009 - T.Spc. Any Organ ADULT GILLI 2.97E-05 1.50E+01 1.98E-04
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

2009 - T.Spc. Total Body CHILD TBODY 2.62E-05 1.50E+01 1.74E-04
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: 2009

Unit Range - From: 1 To: 2

=== NG DOSE LIMIT ANALYSIS === ANNUAL 2009 ===

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2009 - Admin. Gamma	0.00E+00	1.50E+01	0.00E+00
2009 - Admin. Beta	0.00E+00	1.50E+01	0.00E+00
2009 - T.Spc. Gamma	0.00E+00	1.50E+01	0.00E+00

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

2009 - 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: 2009

Unit Range - From: 1 To: 2

=== MAXIMUM DOSE ANALYSIS ===== ANNUAL 2009 =====

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	ADULT	GILLI	2.97E-05

Liquid Receptor: NA

Gaseous Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 0.00E+00 % of Total: 0.00E+00

Critical Pathway: Potable Water (PWtr)

Major Contributors (0% or greater to total)

Nuclide Percentage

Gaseous Dose: 2.97E-05 % of Total: 1.00E+02

Critical Pathway: Ground Plane Deposition (GPD)

Major Contributors (0% or greater to total)

Nuclide Percentage

CO-60 1.00E+02

=== MAXIMUM DOSE ANALYSIS ===== ANNUAL 2009 =====

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	CHILD	TBODY	2.62E-05

Liquid Receptor: NA

Gaseous Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 0.00E+00 % of Total: 0.00E+00

Critical Pathway: Potable Water (PWtr)

Major Contributors (0% or greater to total)

Nuclide Percentage

Gaseous Dose: 2.62E-05 % of Total: 9.99E+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 2009
Unit 1 (Docket Number 50-295)

Infant Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

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

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
	NA	

3.0 mrem	0.00E+00	0.00E+00
10.0 mrem	0.00E+00	0.00E+00
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 1 (Docket Number 50-295)

Child Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	1.31E-05	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

Yearly Limit 10CFR 50 Appendix I	Total dose (mrad, mrem)	% of Yearly Limit
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10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	1.31E-05	8.70E-05
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
	NA	

3.0 mrem	0.00E+00	0.00
10.0 mrem	0.00E+00	0.00
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 1 (Docket Number 50-295)

Teen Receptor

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

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
	NA	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

3.0 mrem	0.00E+00	0.00
10.0 mrem	0.00E+00	0.00
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 1 (Docket Number 50-295)

Adult Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	1.49E-05	0.00E+00	0.00E+00
Critical Organ		NA	GI	NA	NA

Yearly Limit
10CFR 50
Appendix I

Total
dose
(mrad,
mrem)

% of
Yearly
Limit

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	1.49E-05	9.93E-05
	GI	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

3.0 mrem	0.00E+00	0
10.0 mrem	0.00E+00	0
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 2 (Docket Number 50-304)

Infant Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

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

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
NA		

3.0 mrem	0.00E+00	0.00E+00
10.0 mrem	0.00E+00	0.00E+00
NA		

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 2 (Docket Number 50-304)

Child Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	1.31E-05	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

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

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	1.31E-05	8.70E-05
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
	NA	

3.0 mrem	0.00E+00	0.00
10.0 mrem	0.00E+00	0.00
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 2 (Docket Number 50-304)

Teen Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

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

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
	NA	

3.0 mrem	0.00E+00	0
10.0 mrem	0.00E+00	0
	NA	

Zion Nuclear Power Station
Annual Radioactive Release Report for 2009
Unit 2 (Docket Number 50-304)

Adult Receptor

Maximum Qtr. Dose (mrad, mrem)

A. Airborne

	QTR Obj.	1st Qtr.	2nd Qtr.	3 Qtr.	4 Qtr.
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organ	7.5 mrem	0.00E+00	1.49E-05	0.00E+00	0.00E+00
Critical Organ		NA	GI	NA	NA

Yearly Limit
10CFR 50
Appendix I

Total
dose
(mrad,
mrem)

% of
Yearly
Limit

10.0 mrad	0.00E+00	0
20.0 mrad	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	0.00E+00	0
15.0 mrem	1.49E-05	9.93E-05
	GI	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Critical Organ		NA	NA	NA	NA

3.0 mrem	0.00E+00	0
10.0 mrem	0.00E+00	0
	NA	

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 2009
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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.

A summary of changes made to the ODCM during 2009 and an entire copy of the ODCM, current as of December 31, 2009.

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.

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 2009. The Gas Decay Tanks have been abandoned in place.

No liquid holdup tanks exceeded the limits of Permanently Defueled Technical Specifications 5.6.3 during 2009.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2009

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%
<u>Sample Volume Error</u>	<u>10%</u>
Total Error	23%

b. Liquid Effluents

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

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2009
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	7.25E+01	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	7.25E+01	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 2009
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

5th Quarter:

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2009
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

4th Quarter:

Radioactive Waste Shipments for 2009

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:	1						0.00E+00	0.000	0.00

Number of Shipments
Activity (Ci)
Volume (m³)

Class A	Class B	Class C
0	0	0
0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT REPORT FOR 2009
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

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

3. Solid Waste Disposition

Number of Shipments
0

Mode of transportation
none

Destination
none

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments were performed during 2009.

C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.

No irradiated material shipments were performed during 2009.

Zion Nuclear Station

Period of Record: January - March 2009
 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	2	0	0	0	2
NE	0	0	2	0	0	0	2
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	0	0	0	0
SSW	0	0	0	0	0	0	0
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	0	0	4	0	0	0	4

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 2009
 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	0	0	0	0	0
ENE	0	0	2	0	0	0	2
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	0	0	0	0
SSW	0	0	0	0	0	0	0
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	0	0	2	0	0	0	2

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 2009
 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	0	1	1	0	0	2
NE	0	0	2	0	0	0	2
ENE	0	3	1	0	0	0	4
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	2	3	0	0	0	5
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	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	1	6	0	0	7
WNW	0	0	0	2	0	0	2
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	6	9	9	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: 4

Zion Nuclear Station

Period of Record: January - March 2009
 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	2	4	12	0	0	18
NNE	2	5	25	4	0	0	36
NE	1	6	11	16	0	0	34
ENE	1	9	3	5	0	0	18
E	0	8	3	7	0	0	18
ESE	2	9	9	3	0	0	23
SE	2	7	17	2	0	0	28
SSE	0	2	22	7	0	0	31
S	0	2	9	7	0	0	18
SSW	0	5	13	6	2	0	26
SW	0	7	20	16	9	0	52
WSW	0	12	20	11	0	0	43
W	0	13	57	16	2	0	88
WNW	0	12	50	10	1	0	73
NW	0	15	48	13	0	0	76
NNW	0	10	14	14	0	0	38
Variable	0	0	0	0	0	0	0
Total	8	124	325	149	14	0	620

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 34

Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2009
 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	0	12	9	9	7	0	37
NNE	2	10	11	3	4	0	30
NE	5	4	20	3	0	0	32
ENE	2	6	2	2	0	0	12
E	4	2	5	8	0	0	19
ESE	2	9	7	2	0	0	20
SE	4	18	28	12	0	0	62
SSE	2	15	35	14	2	0	68
S	5	48	25	2	0	0	80
SSW	7	40	32	15	0	0	94
SW	5	24	32	17	2	0	80
WSW	5	30	31	2	1	0	69
W	13	67	86	15	4	0	185
WNW	12	58	62	5	0	0	137
NW	10	82	67	17	0	0	176
NNW	2	22	15	8	0	0	47
Variable	0	0	0	0	0	0	0
Total	80	447	467	134	20	0	1148

Hours of calm in this stability class: 3
 Hours of missing wind measurements in this stability class: 23
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2009
 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	5	5	0	0	0	11
NNE	3	5	1	0	0	0	9
NE	0	2	1	0	0	0	3
ENE	1	1	0	0	0	0	2
E	1	2	2	0	0	0	5
ESE	2	2	2	0	0	0	6
SE	1	4	3	1	0	0	9
SSE	1	8	13	1	1	0	24
S	3	19	5	2	0	0	29
SSW	13	10	1	1	0	0	25
SW	9	4	0	0	0	0	13
WSW	7	6	0	0	0	0	13
W	3	26	0	0	0	0	29
WNW	6	16	0	0	0	0	22
NW	4	7	0	0	0	0	11
NNW	0	1	1	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	55	118	34	5	1	0	213

Hours of calm in this stability class: 1
 Hours of missing wind measurements in this stability class: 8
 Hours of missing stability measurements in all stability classes: 4

Zion Nuclear Station

Period of Record: January - March 2009
 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	3	0	0	0	0	5
NNE	1	0	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	3	0	0	0	0	0	3
E	1	0	0	0	0	0	1
ESE	1	0	0	0	0	0	1
SE	0	1	0	0	0	0	1
SSE	0	2	3	2	0	0	7
S	1	27	1	0	0	0	29
SSW	4	3	1	0	0	0	8
SW	6	1	0	0	0	0	7
WSW	2	2	0	0	0	0	4
W	4	0	0	0	0	0	4
WNW	0	1	0	0	0	0	1
NW	1	0	0	0	0	0	1
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	27	40	5	2	0	0	74

Hours of calm in this stability class: 2
 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 2009
 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	1	1	0	0	2
NE	0	0	0	2	0	0	2
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	0	0	0	0
SSW	0	0	0	0	0	0	0
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	0	0	1	3	0	0	4

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 2009
 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	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
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	0	0	0	0
SSW	0	0	0	0	0	0	0
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	0	0	2	0	0	0	2

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 2009
 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	0	2	1	0	3
NE	0	0	0	1	0	0	1
ENE	0	1	3	0	0	0	4
E	0	0	0	0	0	0	0
ESE	0	0	1	0	0	0	1
SE	0	0	5	1	0	0	6
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	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	7	0	7
WNW	0	0	0	0	2	0	2
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	1	9	4	10	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: 4

Zion Nuclear Station

Period of Record: January - March 2009
 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	3	2	13	5	24
NNE	0	1	14	17	9	3	44
NE	0	7	5	15	14	2	43
ENE	0	3	5	3	3	0	14
E	0	5	4	3	4	0	16
ESE	0	4	3	7	4	2	20
SE	0	4	14	10	10	2	40
SSE	1	0	12	6	5	0	24
S	0	0	4	9	8	0	21
SSW	0	1	8	9	4	3	25
SW	0	4	6	11	13	14	48
WSW	0	6	11	16	7	5	45
W	0	5	24	36	21	7	93
WNW	0	2	19	31	20	1	73
NW	0	5	19	31	22	1	78
NNW	0	6	10	10	10	4	40
Variable	0	0	0	0	0	0	0
Total	1	54	161	216	167	49	648

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 2009
 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	2	8	11	7	14	42
NNE	0	2	6	10	1	4	23
NE	0	0	10	14	6	0	30
ENE	0	1	6	5	1	2	15
E	2	3	1	3	2	5	16
ESE	2	4	4	12	6	7	35
SE	2	3	14	9	19	21	68
SSE	0	16	17	19	16	5	73
S	0	3	24	31	9	0	67
SSW	0	3	21	48	9	12	93
SW	1	3	17	28	16	12	77
WSW	0	7	18	26	14	2	67
W	0	6	22	71	59	9	167
WNW	2	6	28	56	44	4	140
NW	0	10	31	90	38	9	178
NNW	0	4	35	24	12	1	76
Variable	1	0	0	0	0	0	1
Total	10	73	262	457	259	107	1168

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 2009

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	5	4	3	0	0	12
NNE	0	1	3	4	1	0	9
NE	1	3	2	3	3	0	12
ENE	0	0	2	0	1	0	3
E	0	2	2	0	0	1	5
ESE	0	2	1	0	0	4	7
SE	2	3	7	2	1	3	18
SSE	0	4	7	8	7	5	31
S	0	3	6	11	4	0	24
SSW	2	0	4	11	1	0	18
SW	5	0	3	4	0	0	12
WSW	0	0	4	10	0	0	14
W	0	1	1	19	1	0	22
WNW	1	1	3	8	0	0	13
NW	0	1	3	11	0	0	15
NNW	0	0	2	4	1	0	7
Variable	0	0	0	0	0	0	0
Total	11	26	54	98	20	13	222

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 2009
 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	0	0	0	0	0	0
NNE	0	0	2	0	0	0	2
NE	0	2	0	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	1	1	0	0	0	2
ESE	0	0	1	0	0	0	1
SE	0	0	4	0	0	2	6
SSE	0	3	4	6	2	1	16
S	0	1	6	8	1	0	16
SSW	0	2	3	13	2	0	20
SW	0	0	2	3	1	0	6
WSW	0	0	1	0	0	0	1
W	0	0	1	1	0	0	2
WNW	0	0	1	0	0	0	1
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	9	26	32	6	3	76

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 2009

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	2	1	0	0	3
NNE	0	7	13	0	0	0	20
NE	0	4	0	0	0	0	4
ENE	0	1	0	0	0	0	1
E	0	4	0	0	0	0	4
ESE	0	2	0	0	0	0	2
SE	0	3	0	0	0	0	3
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	2	1	0	0	3
WSW	0	0	3	3	0	0	6
W	0	0	9	9	0	0	18
WNW	0	0	12	5	0	0	17
NW	1	2	2	0	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	1	23	44	19	0	0	87

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	0	2	0	0	3
NNE	0	2	6	8	0	0	16
NE	0	2	3	0	0	0	5
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	3	0	0	0	3
S	0	0	0	0	0	0	0
SSW	0	0	1	4	0	0	5
SW	0	0	2	2	0	0	4
WSW	0	0	5	0	0	0	5
W	0	0	7	2	0	0	9
WNW	0	3	1	2	0	0	6
NW	0	2	0	1	0	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	13	28	21	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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	7	8	3	0	19
NNE	0	14	15	2	0	0	31
NE	1	1	4	1	0	0	7
ENE	1	1	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	5	0	0	0	0	5
SE	0	2	1	0	0	0	3
SSE	0	3	4	0	0	0	7
S	0	0	0	0	0	0	0
SSW	0	0	2	1	0	0	3
SW	0	0	6	2	0	0	8
WSW	0	0	8	2	0	0	10
W	0	0	12	0	0	0	12
WNW	0	3	6	3	0	0	12
NW	0	4	0	2	0	0	6
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	2	36	65	21	3	0	127

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: 7

Zion Nuclear Station

Period of Record: April - June 2009
 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	4	13	46	24	7	0	94
NNE	2	30	48	14	1	0	95
NE	4	21	5	5	0	0	35
ENE	1	5	5	3	0	0	14
E	4	6	0	0	0	0	10
ESE	2	7	1	0	0	0	10
SE	4	15	1	0	0	0	20
SSE	2	7	13	0	0	0	22
S	1	3	4	2	0	0	10
SSW	0	5	11	5	0	0	21
SW	0	6	10	9	0	0	25
WSW	0	10	15	8	2	0	35
W	0	18	22	0	1	0	41
WNW	1	22	28	11	0	0	62
NW	0	16	13	13	0	0	42
NNW	1	7	4	2	0	0	14
Variable	0	0	0	0	0	0	0
Total	26	191	226	96	11	0	550

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: 07

Zion Nuclear Station

Period of Record: April - June 2009

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	13	35	80	34	6	2	170
NNE	14	50	41	4	3	0	112
NE	10	30	11	5	1	0	57
ENE	8	16	19	3	1	0	47
E	7	15	4	2	0	0	28
ESE	3	11	1	0	0	0	15
SE	7	24	3	1	0	0	35
SSE	7	22	22	6	1	0	58
S	1	14	17	1	0	0	33
SSW	5	19	16	10	5	0	55
SW	2	8	17	13	1	0	41
WSW	4	21	6	1	0	0	32
W	5	22	26	0	0	0	53
WNW	4	14	12	0	0	0	30
NW	5	21	10	0	0	0	36
NNW	8	16	3	4	0	0	31
Variable	0	0	0	0	0	0	0
Total	103	338	288	84	18	2	833

Hours of calm in this stability class: 1

Hours of missing wind measurements in this stability class: 1

Hours of missing stability measurements in all stability classes: 7

Zion Nuclear Station

Period of Record: April - June 2009
 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	13	7	1	0	0	0	21
NNE	3	8	1	0	0	0	12
NE	6	11	0	0	0	0	17
ENE	5	3	5	2	0	0	15
E	5	2	4	0	0	0	11
ESE	5	4	3	0	0	0	12
SE	10	6	1	1	0	0	18
SSE	2	17	16	0	0	0	35
S	8	14	6	1	0	0	29
SSW	9	13	0	0	0	0	22
SW	17	6	2	0	0	0	25
WSW	14	13	1	0	0	0	28
W	5	19	0	0	0	0	24
WNW	4	10	0	0	0	0	14
NW	17	12	0	0	0	0	29
NNW	7	4	0	0	0	0	11
Variable	0	0	0	0	0	0	0
Total	130	149	40	4	0	0	323

Hours of calm in this stability class: 2
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	0	0	0	0	0	2
NNE	3	8	0	0	0	0	11
NE	1	0	0	0	0	0	1
ENE	2	0	0	0	0	0	2
E	2	2	1	0	0	0	5
ESE	1	5	0	0	0	0	6
SE	1	5	4	0	0	0	10
SSE	3	5	4	2	0	0	14
S	9	9	9	1	0	0	28
SSW	19	3	0	0	0	0	22
SW	21	5	0	0	0	0	26
WSW	11	15	0	0	0	0	26
W	13	7	0	0	0	0	20
WNW	9	0	0	0	0	0	9
NW	4	1	0	0	0	0	5
NNW	3	0	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	104	65	18	3	0	0	190

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	1	1	1	0	3
NNE	0	2	11	7	0	0	20
NE	0	1	3	0	0	0	4
ENE	0	2	0	0	0	0	2
E	0	1	2	0	0	0	3
ESE	0	2	1	1	0	0	4
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	1	0	0	1
SW	0	0	0	1	1	0	2
WSW	0	0	0	3	2	0	5
W	0	0	0	5	11	3	19
WNW	0	0	1	6	11	2	20
NW	0	2	1	0	0	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	11	20	25	26	5	87

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	1	2	0	4
NNE	0	0	2	6	6	1	15
NE	0	0	4	1	0	0	5
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	2	0	0	0	2
SE	0	0	1	0	0	0	1
SSE	0	0	1	1	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	0	1	3	0	4
SW	0	0	0	3	1	0	4
WSW	0	0	3	2	1	0	6
W	0	0	0	7	1	1	9
WNW	0	0	3	1	3	0	7
NW	0	0	0	1	1	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	1	17	24	18	2	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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	1	0	5	9	7	4	26
NNE	0	4	11	8	2	0	25
NE	0	1	3	2	1	0	7
ENE	0	0	0	0	0	0	0
E	0	2	1	0	0	0	3
ESE	0	1	3	1	0	0	5
SE	0	0	5	0	0	0	5
SSE	0	0	1	3	0	0	4
S	0	0	2	0	0	0	2
SSW	0	0	0	2	1	0	3
SW	0	0	0	6	1	0	7
WSW	0	0	3	6	2	0	11
W	0	0	0	8	4	0	12
WNW	0	0	4	6	2	0	12
NW	0	0	2	1	3	0	6
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	1	8	40	52	23	4	128

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	4	22	31	43	15	116
NNE	1	17	19	30	9	4	80
NE	0	6	6	4	4	1	21
ENE	0	9	2	3	3	1	18
E	1	4	4	1	1	0	11
ESE	1	3	2	1	0	0	7
SE	1	8	10	3	0	0	22
SSE	1	7	7	9	0	0	24
S	0	1	2	2	2	2	9
SSW	0	1	5	6	6	1	19
SW	0	1	9	8	6	4	28
WSW	0	1	6	10	5	9	31
W	0	2	15	26	1	1	45
WNW	0	2	19	24	20	0	65
NW	0	0	9	16	14	1	40
NNW	0	1	6	4	3	0	14
Variable	0	0	0	0	0	0	0
Total	6	67	143	178	117	39	550

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	6	29	53	44	29	161
NNE	1	18	29	46	10	2	106
NE	3	11	11	16	7	4	52
ENE	4	12	9	10	12	2	49
E	2	12	8	5	9	6	42
ESE	2	10	8	6	0	2	28
SE	0	10	16	10	2	1	39
SSE	1	13	17	12	12	3	58
S	0	4	2	16	4	0	26
SSW	0	4	7	27	6	13	57
SW	0	0	7	18	20	4	49
WSW	0	2	5	15	4	0	26
W	0	6	6	33	13	0	58
WNW	1	0	3	19	1	0	24
NW	0	1	12	23	1	0	37
NNW	1	1	9	7	4	1	23
Variable	0	0	0	0	0	0	0
Total	15	110	178	316	149	67	835

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: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	4	16	2	0	0	22
NNE	0	6	9	2	0	0	17
NE	1	10	3	0	0	1	15
ENE	2	9	5	1	1	1	19
E	1	6	2	1	2	7	19
ESE	2	9	3	1	3	2	20
SE	0	7	5	5	0	1	18
SSE	3	10	12	23	7	2	57
S	0	4	10	9	3	0	26
SSW	0	2	1	9	0	0	12
SW	1	3	4	5	2	0	15
WSW	1	1	3	4	0	0	9
W	0	4	7	18	3	0	32
WNW	0	4	3	9	0	0	16
NW	2	0	5	13	1	0	21
NNW	0	2	2	2	0	0	6
Variable	0	0	0	0	0	0	0
Total	13	81	90	104	22	14	324

Hours of calm in this stability class: 1

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 7

Zion Nuclear Station

Period of Record: April - June 2009

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	1	2	0	0	0	3
NNE	2	3	2	0	0	0	7
NE	2	2	3	1	0	0	8
ENE	2	1	0	0	0	0	3
E	1	0	3	0	0	1	5
ESE	0	2	0	1	1	1	5
SE	3	4	0	2	0	4	13
SSE	2	4	1	10	4	1	22
S	1	5	11	14	4	2	37
SSW	3	4	7	11	0	0	25
SW	2	3	4	6	0	0	15
WSW	0	1	1	8	6	0	16
W	2	0	1	3	0	0	6
WNW	0	2	4	5	0	0	11
NW	0	1	3	1	0	0	5
NNW	1	3	3	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	21	36	45	63	15	9	189

Hours of calm in this stability class: 1

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 7

Zion Nuclear Station

Period of Record: July - September 2009

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	4	4	0	0	0	8
NNE	0	26	36	0	0	0	62
NE	1	40	6	0	0	0	47
ENE	0	35	7	0	0	0	42
E	0	33	2	0	0	0	35
ESE	1	39	4	0	0	0	44
SE	0	14	6	0	0	0	20
SSE	0	5	4	0	0	0	9
S	0	2	0	0	0	0	2
SSW	0	0	3	0	0	0	3
SW	0	3	12	8	0	0	23
WSW	0	9	19	1	0	0	29
W	0	11	17	3	0	0	31
WNW	0	20	15	0	0	0	35
NW	1	8	15	0	0	0	24
NNW	0	3	2	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	3	252	152	12	0	0	419

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 2009

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	3	1	0	0	0	4
NNE	0	11	3	0	0	0	14
NE	3	3	2	0	0	0	8
ENE	3	2	0	0	0	0	5
E	1	4	0	0	0	0	5
ESE	0	3	0	0	0	0	3
SE	0	6	1	0	0	0	7
SSE	0	4	3	0	0	0	7
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	0	4	0	0	0	4
WSW	0	4	3	0	0	0	7
W	0	3	6	1	0	0	10
WNW	0	1	1	0	0	0	2
NW	0	2	6	0	0	0	8
NNW	0	3	1	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	7	49	32	2	0	0	90

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 2009
 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	8	4	0	0	0	12
NNE	0	9	1	0	0	0	10
NE	3	3	1	0	0	0	7
ENE	4	2	1	0	0	0	7
E	0	7	1	0	0	0	8
ESE	3	5	1	0	0	0	9
SE	1	13	0	0	0	0	14
SSE	0	6	6	0	0	0	12
S	0	1	0	0	0	0	1
SSW	0	2	3	0	0	0	5
SW	0	4	11	3	0	0	18
WSW	0	5	3	0	0	0	8
W	0	7	1	3	0	0	11
WNW	1	9	8	0	0	0	18
NW	1	7	2	0	0	0	10
NNW	1	1	1	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	14	89	44	6	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 2009
 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	5	30	17	0	0	0	52
NNE	7	26	11	0	0	0	44
NE	10	11	4	0	0	0	25
ENE	4	9	4	2	0	0	19
E	2	17	5	0	0	0	24
ESE	5	27	6	0	0	0	38
SE	1	16	4	0	0	0	21
SSE	2	26	21	3	0	0	52
S	3	20	5	0	0	0	28
SSW	3	12	17	1	0	0	33
SW	2	14	43	7	1	0	67
WSW	5	14	6	0	0	0	25
W	8	31	8	12	0	0	59
WNW	5	40	6	3	0	0	54
NW	7	18	13	6	0	0	44
NNW	4	15	7	0	0	0	26
Variable	0	0	0	0	0	0	0
Total	73	326	177	34	1	0	611

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 2009
 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	16	35	2	0	0	0	53
NNE	6	14	3	0	0	0	23
NE	6	10	1	0	0	0	17
ENE	4	9	0	0	0	0	13
E	7	2	0	0	0	0	9
ESE	3	4	0	0	0	0	7
SE	6	8	2	0	0	0	16
SSE	3	17	14	2	0	0	36
S	10	31	3	0	0	0	44
SSW	17	17	7	0	0	0	41
SW	11	17	5	0	0	0	33
WSW	10	18	1	0	0	0	29
W	9	33	4	0	0	0	46
WNW	19	13	3	0	0	0	35
NW	12	19	1	0	0	0	32
NNW	9	10	0	0	0	0	19
Variable	0	0	0	0	0	0	0
Total	148	257	46	2	0	0	453

Hours of calm in this stability class: 8
 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 2009
 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	4	5	0	0	0	0	9
NNE	1	0	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	1	0	0	0	0	0	1
ESE	1	3	0	0	0	0	4
SE	3	6	0	0	0	0	9
SSE	2	1	2	0	0	0	5
S	10	14	0	0	0	0	24
SSW	21	4	0	0	0	0	25
SW	25	5	0	0	0	0	30
WSW	34	6	0	0	0	0	40
W	13	25	0	0	0	0	38
WNW	17	10	0	0	0	0	27
NW	20	7	0	0	0	0	27
NNW	22	13	0	0	0	0	35
Variable	0	0	0	0	0	0	0
Total	174	100	2	0	0	0	276

Hours of calm in this stability class: 2
 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 2009
 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	1	0	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	0	0	0	0	0	0	0
SE	0	1	1	0	0	0	2
SSE	1	3	0	0	0	0	4
S	2	0	0	0	0	0	2
SSW	7	0	0	0	0	0	7
SW	17	0	0	0	0	0	17
WSW	23	7	0	0	0	0	30
W	37	17	0	0	0	0	54
WNW	36	26	0	0	0	0	62
NW	5	8	0	0	0	0	13
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	132	62	1	0	0	0	195

Hours of calm in this stability class: 1
 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 2009

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	2	3	6	0	0	11
NNE	0	14	33	18	0	0	65
NE	0	18	17	5	0	0	40
ENE	0	23	12	7	0	0	42
E	0	18	8	2	0	0	28
ESE	0	21	26	2	0	0	49
SE	0	3	13	8	1	0	25
SSE	0	1	5	1	0	0	7
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	1	1	11	7	0	20
WSW	0	1	12	10	7	0	30
W	0	2	15	12	6	2	37
WNW	0	5	15	15	1	0	36
NW	1	0	13	8	0	0	22
NNW	0	3	2	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	1	112	175	107	22	2	419

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 2009.

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	3	4	1	0	0	8
NNE	0	1	7	1	0	0	9
NE	2	1	3	2	0	0	8
ENE	0	3	1	1	0	0	5
E	0	3	3	0	0	0	6
ESE	0	2	2	2	0	0	6
SE	0	2	1	1	0	0	4
SSE	0	1	4	2	0	0	7
S	0	0	0	0	0	0	0
SSW	0	0	0	1	1	0	2
SW	0	0	1	1	2	0	4
WSW	0	1	2	2	1	0	6
W	0	1	2	4	4	0	11
WNW	0	0	1	1	1	0	3
NW	0	2	1	5	0	0	8
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	2	21	34	24	9	0	90

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 2009
 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	1	6	3	0	0	10
NNE	0	5	4	1	0	0	10
NE	0	1	3	0	1	0	5
ENE	0	6	2	1	0	0	9
E	1	5	3	0	0	0	9
ESE	0	7	2	2	1	0	12
SE	0	8	2	4	0	0	14
SSE	0	0	7	1	0	0	8
S	0	0	0	1	0	0	1
SSW	0	1	0	1	0	0	2
SW	0	2	5	8	5	0	20
WSW	0	2	3	4	1	0	10
W	1	0	5	2	0	3	11
WNW	0	0	7	9	3	0	19
NW	0	3	5	0	1	0	9
NNW	1	1	1	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	3	42	55	38	12	3	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 2009
 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	2	10	18	22	3	0	55
NNE	0	8	19	16	0	0	43
NE	1	2	14	5	0	0	22
ENE	0	6	6	2	4	0	18
E	0	7	20	5	1	0	33
ESE	0	9	15	12	2	0	38
SE	0	6	13	9	1	0	29
SSE	0	14	17	13	4	0	48
S	0	4	16	2	2	0	24
SSW	0	2	5	12	1	1	21
SW	1	3	3	41	22	4	74
WSW	0	2	13	5	5	0	25
W	1	4	26	10	8	9	58
WNW	0	3	36	19	1	2	61
NW	0	3	11	17	9	2	42
NNW	0	1	13	6	0	0	20
Variable	0	0	0	0	0	0	0
Total	5	84	245	196	63	18	611

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 2009
 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	3	14	15	0	0	32
NNE	1	11	21	7	0	0	40
NE	0	5	14	5	2	0	26
ENE	0	3	6	4	0	0	13
E	1	10	11	2	0	0	24
ESE	0	6	7	5	2	0	20
SE	2	8	4	2	4	0	20
SSE	0	7	15	9	6	0	37
S	0	6	19	14	2	0	41
SSW	0	4	6	17	3	0	30
SW	0	1	9	21	1	0	32
WSW	0	4	16	9	1	0	30
W	0	1	9	23	3	0	36
WNW	0	1	20	14	2	0	37
NW	0	2	9	9	0	0	20
NNW	0	0	10	13	0	0	23
Variable	0	0	0	0	0	0	0
Total	4	72	190	169	26	0	461

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 2009

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	10	8	0	0	21
NNE	0	12	12	3	0	0	27
NE	0	8	7	0	0	0	15
ENE	1	4	5	0	0	0	10
E	1	8	1	1	0	0	11
ESE	1	2	1	0	3	0	7
SE	0	8	2	0	1	1	12
SSE	0	3	3	0	0	0	6
S	1	5	13	11	0	0	30
SSW	1	9	13	13	0	0	36
SW	1	4	10	8	0	0	23
WSW	0	1	5	7	1	0	14
W	0	2	6	16	4	0	28
WNW	0	0	7	11	2	0	20
NW	0	1	2	8	0	0	11
NNW	0	0	7	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	6	70	104	86	11	1	278

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 2009
 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	4	8	14	0	0	0	26
NNE	4	13	4	0	0	0	21
NE	5	2	1	0	0	0	8
ENE	0	2	0	0	0	0	2
E	2	0	0	0	0	0	2
ESE	1	2	0	0	0	0	3
SE	0	2	0	0	0	2	4
SSE	1	3	1	0	0	0	5
S	0	2	1	2	0	0	5
SSW	0	4	9	9	0	0	22
SW	2	2	8	7	0	0	19
WSW	2	3	6	2	0	0	13
W	1	1	5	7	0	0	14
WNW	1	2	5	7	1	0	16
NW	0	1	4	12	0	0	17
NNW	2	3	9	2	0	0	16
Variable	0	0	0	0	0	0	0
Total	25	50	67	48	1	2	193

Hours of calm in this stability class: 3
 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 2009

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	2	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	0	2	0	0	0	0	2
E	0	1	0	0	0	0	1
ESE	0	3	1	0	0	0	4
SE	0	3	1	0	0	0	4
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	0	6	1	0	0	7
WSW	0	0	9	3	0	0	12
W	0	0	10	1	0	0	11
WNW	0	1	4	0	0	0	5
NW	0	1	0	0	0	0	1
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	13	34	6	0	0	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: 5

Zion Nuclear Station

Period of Record: October - December 2009

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	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	2	1	0	0	0	3
SE	0	1	1	0	0	0	2
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	4	0	0	0	4
WSW	0	1	5	0	0	0	6
W	0	0	8	1	0	0	9
WNW	0	2	0	0	0	0	2
NW	0	2	0	0	0	0	2
NNW	0	1	3	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	10	22	1	0	0	33

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: 5

Zion Nuclear Station

Period of Record: October - December 2009

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	0	0	0	0	1
NE	0	2	0	0	0	0	2
ENE	0	3	0	0	0	0	3
E	0	1	0	3	0	0	4
ESE	0	4	0	0	0	0	4
SE	0	5	4	1	0	0	10
SSE	0	1	3	0	0	0	4
S	0	0	0	0	0	0	0
SSW	0	1	3	0	0	0	4
SW	0	2	6	1	0	0	9
WSW	0	1	4	4	0	0	9
W	0	4	12	2	0	0	18
WNW	0	5	5	1	0	0	11
NW	0	2	2	0	0	0	4
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	32	42	12	0	0	86

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: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	3	6	14	4	0	0	27
NNE	1	14	9	2	0	0	26
NE	1	5	22	14	0	0	42
ENE	0	1	13	12	4	0	30
E	2	10	10	29	15	5	71
ESE	3	27	24	5	6	0	65
SE	5	33	25	14	0	0	77
SSE	4	17	37	20	8	0	86
S	5	29	11	0	0	0	45
SSW	8	34	19	3	0	0	64
SW	4	27	37	20	0	0	88
WSW	6	43	49	17	1	0	116
W	2	56	57	19	2	0	136
WNW	11	32	30	7	0	0	80
NW	8	21	25	9	0	0	63
NNW	8	26	15	3	0	0	52
Variable	0	0	0	0	0	0	0
Total	71	381	397	178	36	5	1068

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 85
 Hours of missing stability measurements in all stability classes: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	8	11	9	1	0	0	29
NNE	3	8	7	0	0	0	18
NE	1	1	3	1	0	0	6
ENE	0	2	1	1	0	0	4
E	0	0	5	9	18	2	34
ESE	1	3	3	15	8	0	30
SE	0	15	22	7	0	0	44
SSE	2	4	10	7	4	1	28
S	7	23	15	5	0	0	50
SSW	16	55	25	2	0	0	98
SW	17	37	30	0	0	0	84
WSW	4	36	13	2	0	0	55
W	14	31	13	0	0	0	58
WNW	15	35	13	0	0	0	63
NW	4	32	6	0	0	0	42
NNW	9	21	10	2	0	0	42
Variable	0	0	0	0	0	0	0
Total	101	314	185	52	30	3	685

Hours of calm in this stability class: 1
 Hours of missing wind measurements in this stability class: 8
 Hours of missing stability measurements in all stability classes: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	11	0	0	0	0	11
NNE	1	1	0	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	2	0	0	0	0	0	2
SE	1	3	1	0	0	0	5
SSE	0	0	3	0	0	0	3
S	1	2	0	0	0	0	3
SSW	4	15	1	0	0	0	20
SW	2	1	0	0	0	0	3
WSW	10	5	0	0	0	0	15
W	11	20	0	0	0	0	31
WNW	2	4	0	0	0	0	6
NW	3	4	0	0	0	0	7
NNW	4	2	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	41	69	5	0	0	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: 5

Zion Nuclear Station

Period of Record: October - December 2009

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	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	4	2	0	0	0	0	6
SE	1	1	0	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	2	2	0	0	0	4
SSW	1	1	0	0	0	0	2
SW	0	2	0	0	0	0	2
WSW	7	4	0	0	0	0	11
W	7	11	0	0	0	0	18
WNW	6	3	0	0	0	0	9
NW	4	1	0	0	0	0	5
NNW	2	1	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	33	30	2	0	0	0	65

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: 5

Zion Nuclear Station

Period of Record: October - December 2009

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	2	0	0	2
NE	0	2	0	0	0	0	2
ENE	0	0	1	0	0	0	1
E	0	1	0	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	0	0	6	1	0	0	7
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	2	5	0	0	7
WSW	0	0	4	4	3	0	11
W	0	0	2	7	2	1	12
WNW	0	0	1	4	1	0	6
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	0	3	19	24	6	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: 5

Zion Nuclear Station

Period of Record: October - December 2009

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	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	1	0	0	2
SE	0	0	2	1	0	0	3
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	0	3	0	0	3
WSW	0	0	2	5	1	0	8
W	0	0	0	7	2	0	9
WNW	0	1	1	0	0	0	2
NW	0	1	3	0	0	0	4
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	2	12	17	3	0	34

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: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	1	0	0	1
NNE	0	0	1	1	0	0	2
NE	0	1	1	0	0	0	2
ENE	0	3	0	0	0	1	4
E	0	1	0	0	3	0	4
ESE	0	3	0	0	0	0	3
SE	0	3	3	2	0	0	8
SSE	0	0	3	3	0	0	6
S	0	0	0	1	0	0	1
SSW	0	0	1	1	0	0	2
SW	0	0	3	5	1	0	9
WSW	0	0	3	4	2	1	10
W	0	1	5	9	3	1	19
WNW	0	2	3	4	1	0	10
NW	0	0	3	1	1	0	5
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	14	29	32	11	3	89

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: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	2	10	9	3	2	27
NNE	0	3	8	8	12	0	31
NE	0	2	7	17	14	16	56
ENE	0	3	2	11	19	22	57
E	1	5	6	13	19	25	69
ESE	1	8	15	16	11	16	67
SE	2	14	13	19	14	8	70
SSE	0	6	23	30	7	12	78
S	3	11	19	17	14	2	66
SSW	2	10	25	17	6	2	62
SW	1	12	25	29	16	7	90
WSW	0	7	30	41	18	12	108
W	1	7	47	53	20	15	143
WNW	0	11	35	17	18	0	81
NW	3	9	16	34	14	3	79
NNW	1	8	16	26	4	0	55
Variable	0	0	0	0	0	0	0
Total	16	118	297	357	209	142	1139

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: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	3	3	7	6	2	0	21
NNE	4	2	6	19	2	0	33
NE	1	1	0	7	1	1	11
ENE	3	1	2	2	2	0	10
E	1	1	1	0	6	14	23
ESE	0	2	2	1	2	21	28
SE	0	1	5	0	4	8	18
SSE	1	3	7	8	6	9	34
S	0	1	19	36	17	2	75
SSW	2	7	29	35	14	0	87
SW	0	6	26	38	15	0	85
WSW	0	4	22	22	3	1	52
W	2	3	21	27	3	1	57
WNW	0	1	9	19	10	0	39
NW	1	2	8	35	1	0	47
NNW	3	6	17	25	3	0	54
Variable	0	0	0	0	0	0	0
Total	21	44	181	280	91	57	674

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 20
 Hours of missing stability measurements in all stability classes: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	1	0	1	0	0	2
NNE	0	4	1	5	0	0	10
NE	1	0	5	1	0	0	7
ENE	0	0	1	0	0	0	1
E	0	0	0	1	0	0	1
ESE	0	0	0	1	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	1	3	3	0	0	7
S	1	3	6	7	0	0	17
SSW	1	0	3	6	1	0	11
SW	0	0	3	3	0	0	6
WSW	0	0	4	4	0	0	8
W	0	0	3	14	0	0	17
WNW	0	0	2	17	0	0	19
NW	0	1	3	2	0	0	6
NNW	0	2	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	3	12	34	65	1	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: 5

Zion Nuclear Station

Period of Record: October - December 2009
 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	1	1	0	0	0	2
NNE	1	2	5	1	0	0	9
NE	1	1	0	0	0	0	2
ENE	1	2	2	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	1	0	0	0	0	1
SSE	0	2	2	0	0	0	4
S	0	1	0	1	3	0	5
SSW	0	0	1	1	1	0	3
SW	0	0	2	2	0	0	4
WSW	0	2	2	0	0	0	4
W	0	2	3	3	0	0	8
WNW	0	1	4	4	0	0	9
NW	0	0	5	1	0	0	6
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	3	17	28	13	4	0	65

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: 5

AA2009-0060

Letter to File

Date: October 2, 2009

Subject: Zion Station 30-Day Return to Service Letter for ORT-PR25

On September 4, 2009 ORT-PR25 was declared out of service due to false high radiation alarms.

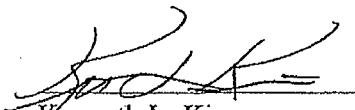
Zion Radiation Protection ODCM table 12.2-1 requires ORT-PR25 to be returned to service within 30 days. If the monitor is not returned to service within 30 days the station is to conduct a station review to determine the plan to return the monitor to an operable status.

Troubleshooting has been performed over the last 28 days to determine the cause of the high radiation alarms. The alarms occurred primarily within 20 minutes of sunset when perimeter lighting was activated. The frequency of the alarms has decreased since September 23, 2009. The plan is to continue monitoring until October 16, 2009. The Corporate Subject Matter Expert will perform an independent review of the data the week of October 5, 2009. The estimated date for resolution decision is October 16, 2009.



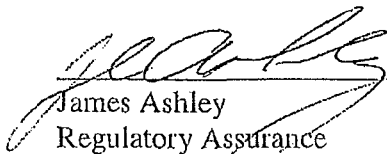
Ken Greenlee
RadChem Manager

10-2-09
Date



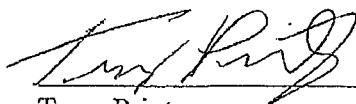
Kenneth L. King
Maintenance Manager

10/2/09
Date



James Ashley
Regulatory Assurance

10-2-09
Date



Terry Printz
Operations / Engineering Manager

10-2-09
Date

Letter to File

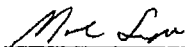
Date: October 15, 2009

Subject: Zion Station 30-Day Return to Service Letter for ORT-PR25, Revision 1

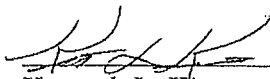
On September 4, 2009 ORT-PR25 was declared out of service due to false high radiation alarms.

Zion Radiation Protection ODCM table 12.2-1 requires ORT-PR25 to be returned to service within 30 days. If the monitor is not returned to service within 30 days the station is to conduct a station review to determine the plan to return the monitor to an operable status.

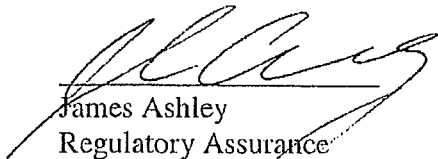
Troubleshooting has been performed over the last 44 days to determine the cause of the high radiation alarms. The alarms occurred 28 times primarily within 20 minutes of sunset when outdoor lighting was automatically activated. The plan is to continue monitoring and troubleshooting efforts. The Corporate Radiation Monitor Subject Matter Expert has been contacted as well as other sites and the manufacturer. Additional time is required to fully investigate both lighting issues and vendor recommendations related to potential causes. The estimated return to service date is no later than November 30, 2009.


Ken Greenlee
RadChem Manager

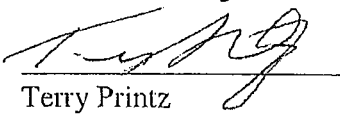
10/15-09
Date


Kenneth L. King
Maintenance Manager

10/15/09
Date


James Ashley
Regulatory Assurance

10-15-09
Date


Terry Printz
Operations / Engineering Manager

10-15-09
Date

AL 2009-0063

AL 2009-0063

Letter to File

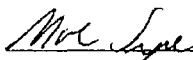
Date: October 15, 2009

Subject: Zion Station 30-Day Return to Service Letter for ORT-PR30A


On September 16, 2009 ORT-PR30A was declared out of service due to a monitor fail condition that could not be remedied. ORT-PR30A is the Fuel Building noble gas effluent monitor.

Zion Radiation Protection ODCM table 12.2-3, Surveillance 10, requires ORT-PR30A to be returned to service within 30 days. If the monitor is not returned to service within 30 days the station is to conduct a station review to determine the plan to return the monitor to an operable status.

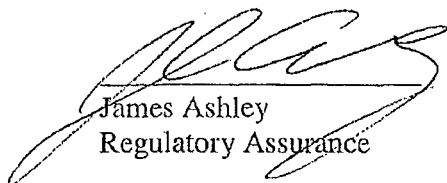
Troubleshooting has been ongoing to determine the cause of the monitor problem. The manufacturer has been contacted to assist in troubleshooting efforts. The plan is to replace the existing detector module and alter the sample collection method. Following replacement, the system will be monitored for a period of time prior to returning it to service. The estimated return to service date is no later than October 31, 2009.


for Ken Greenlee
RadChem Manager


10-15-09
Date


Kenneth L. King
Maintenance Manager

10/15/09
Date


James Ashley
Regulatory Assurance

10-15-09
Date


Terry Printz
Operations / Engineering Manager

10-15-09
Date

Letter to File


Date: October 30, 2009

Subject: Zion Station 30-Day Return to Service Letter for ORT-PR30A

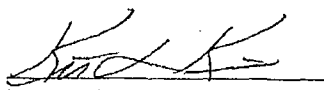
On September 16, 2009 ORT-PR30A was declared out of service due to a monitor fail condition that could not be remedied. ORT-PR30A is the Fuel Building noble gas effluent monitor.

Zion Radiation Protection ODCM table 12.2-3, Surveillance 10, requires ORT-PR30A to be returned to service within 30 days. If the monitor is not returned to service within 30 days the station is to conduct a station review to determine the plan to return the monitor to an operable status.

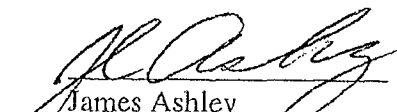
Troubleshooting has been ongoing to determine the cause of the monitor problem. The manufacturer has been contacted to assist in troubleshooting efforts. A functional detector module has been installed and the monitor tubing has been reconfigured. The system is currently being monitored and will continue through the week of November 9, 2009 with an expected return to service date no later than November 13, 2009.


Ken Greenlee
RadChem Manager


10-30-09
Date


Kenneth L. King
Maintenance Manager

10-30-09
Date


James Ashley
Regulatory Assurance

10-30-09
Date


Terry Printz
Operations / Engineering Manager

10/30/09
Date

2009 Summary of changes made to the ODCM

Attachment 3:

For the year 2009 there were no changes made to the Zion Station ODCM.