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Exelon Nuclear

April 18, 2001

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 2000 and
Offsite Dose Calculation Manual Changes for 2000

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 2000. The report is required to be submitted by April 30, 2001, and is provided as Attachment 1 to this letter. A listing of commitments contained in this submittal is provided as Attachment 2.

Pursuant to 10 CFR 50.4, a summary data of the changes made to the Exelon Company Offsite Dose Calculation Manual (ODCM) during the period of January through December 2000 is provided in Attachment 3.

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, 2000, is provided as Attachment 4.

If you have any questions about this submittal please contact Mr. Ron Schuster at (847) 746-2084 extension 2975.

Respectfully,

David A. Bump
Zion Nuclear Station
Decommissioning Plant Manager

A009
IE48

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

ZION NUCLEAR POWER STATION
2000 RADIOACTIVE EFFLUENT RELEASE REPORT
UNIT 1 & 2 (DOCKET Numbers 50-295 & 50-304)

EXECUTIVE SUMMARY

A review of 2000 effluent data versus previous years' data showed there were no abnormally high amounts of radioactivity released during 2000. In 2000, there was no radioactive iodine released. The release of noble gas and particulates continued to trend downward. This trend can be attributed to the shutdown of both units.

Airborne

	Yearly Dose Limit per Reactor Unit	Dose to Maximally Exposed Receptor (Child) from Unit 1	Dose to Maximally Exposed Receptor (Child) from Unit 2
Gamma Air	10 mrad	0 mrad	0 mrad
Beta Air	20 mrad	0 mrad	0 mrad
Total Body	5 marad	0 mrem	0 mrem
Skin	15 mrad	0 mrem	0 mrem
Organ	15 mrad	1.61E-3 mrem	9.28E-3 mrem

Aquatic doses were low because both units are no longer operational. Aquatic doses for Unit 1 were higher than the doses for Unit 2 because there are no discharges of radioactive effluents performed using the Unit 2 Discharge Canal. All liquid releases are performed using the Unit 1 Discharge Canal.

Aquatic

	Yearly Dose Limit per Reactor Unit	Dose to Maximally Exposed Receptor (Infant) from Unit 1	Dose to Maximally Exposed Receptor (Child) from Unit 2
Total Body	3 mrem	2.85E-4 mrem	0 mrem
Organ	10 mrem	9.49E-4 mrem	0 mrem

The doses to the public, from all Zion Station effluent paths during 2000, were extremely low and far below all regulatory limits.

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* DELIVER TO HEALTH PHYSICS *
****

26-feb-2001 13:14:08

Total Effective Dose Equivalent - 10CFR20 Listing

STATION: ZION STATION
UNIT: 1
PERIOD: 01/01/00 12/31/00
NAME: ZIRNHELT
REPORT: ANNUAL
MODE: ACTUAL

For ADULT dose calculations, the included pathways are:
INHALATION
MILK
PRODUCE
VEGETABLES
MEAT
GROUND DEPOSITION
FISH
WATER
SKYSHINE
WHOLE BODY

Airborne Effluents are complete from 01/01/00 to 12/31/00
Aquatic Effluents are complete from 01/01/00 to 12/31/00
Skyshine entries are complete from to

ZION STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/26/01

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body (DDE)	Plume	0.00E+00		
	Skyshine	0.00E+00		
	Ground	4.10E-05		
	Total	4.10E-05	25.0	0.00
Organ Dose (CDE)	Thyroid	9.32E-04	75.0	0.00
	Gonads	1.03E-03	25.0	0.00
	Breast	9.40E-04	25.0	0.00
	Lung	9.45E-04	25.0	0.00
	Marrow	9.66E-04	25.0	0.00
	Bone	9.46E-04	25.0	0.00
	Remainder	1.15E-03	25.0	0.00
	CEDE	1.03E-03		
	TEDE	1.07E-03	100.0	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.1 OCTOBER 1997
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

ZION STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/26/01

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

Total Effective Dose Eqivalent, mrem/yr 1.07E-03

10 CFR 20.1301 (a)(1) limit mrem/yr 100.0

% of limit 0.00

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	3.00E-05	4.13E-04	5.42E-04	8.55E-05	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.1 OCTOBER 1997
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

****
* DELIVER TO HEALTH PHYSICS *
****

26-feb-2001 13:17:43

Total Effective Dose Equivalent - 10CFR20 Listing

STATION: ZION STATION
UNIT: 2
PERIOD: 01/01/00 12/31/00
NAME: ZIRNHELT
REPORT: ANNUAL
MODE: ACTUAL

For ADULT dose calculations, the included pathways are:
INHALATION
MILK
PRODUCE
VEGETABLES
MEAT
GROUND DEPOSITION
FISH
WATER
SKYSHINE
WHOLE BODY

Airborne Effluents are complete from 01/01/00 to 12/31/00
Aquatic Effluents are complete from 01/01/00 to 12/31/00
Skyshine entries are complete from to

ZION STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/26/01

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

Total Effective Dose Eqivalent,	mrem/yr	3.53E-03
10 CFR 20.1301 (a)(1) limit	mrem/yr	100.0
	% of limit	0.00

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	1.83E-04	1.93E-04	2.97E-03	1.88E-04	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.1 OCTOBER 1997
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

ZION STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/26/01

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body (DDE)	Plume	0.00E+00		
	Skyshine	0.00E+00		
	Ground	4.41E-04		
	Total	4.41E-04	25.0	0.00
Organ Dose (CDE)	Thyroid	3.08E-03	75.0	0.00
	Gonads	3.08E-03	25.0	0.01
	Breast	3.08E-03	25.0	0.01
	Lung	3.12E-03	25.0	0.01
	Marrow	3.08E-03	25.0	0.01
	Bone	3.08E-03	25.0	0.01
	Remainder	3.09E-03	25.0	0.01
	CEDE	3.09E-03		
	TEDE	3.53E-03	100.0	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.1 OCTOBER 1997
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 1 (Docket Number 50-295)

INFANT RECEPTOR

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
		Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
A. Airborne								
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.34E-05	1.12E-04	3.28E-05	1.91E-05	15.0 mrem	**1.77E-04**	**0.00%**
Critical Organ		Lung	Lung	Liver	Lung		**Lung**	
B. Aquatic								
Total Body	1.5 mrem	1.40E-05	1.96E-04	5.66E-05	1.82E-05	3.0 mrem	**2.85E-04**	**0.01%**
Internal Organ	5.0 mrem	2.58E-05	7.80E-04	7.57E-05	6.78E-05	10.0 mrem	**9.49E-04**	**0.01%**
Critical Organ		Liver	Liver	Liver	Liver		**Liver**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 1 (Docket Number 50-295)

CHILD RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.38E-05	1.41E-04	1.44E-03	1.95E-05	15.0 mrem	**1.61E-03**	**0.01%**
Critical Organ		Lung	Liver	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	1.67E-05	2.24E-04	5.77E-05	3.47E-05	3.0 mrem	**3.33E-04**	**0.01%**
Internal Organ	5.0 mrem	3.64E-05	6.39E-04	7.07E-05	1.49E-04	10.0 mrem	**8.95E-04**	**0.01%**
Critical Organ		Liver	Liver	Liver	Liver		**Liver**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 1 (Docket Number 50-295)

TEENAGE RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.40E-05	1.41E-04	9.45E-04	1.98E-05	15.0 mrem	**1.12E-03**	**0.01%**
Critical Organ		Lung	Liver	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	1.37E-05	1.60E-04	3.13E-05	5.03E-05	3.0 mrem	**2.55E-04**	**0.01%**
Internal Organ	5.0 mrem	2.61E-05	3.17E-04	3.80E-05	1.29E-04	10.0 mrem	**5.10E-04**	**0.01%**
Critical Organ		Liver	Liver	GI LLI	Liver		**Liver**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 1 (Docket Number 50-295)

ADULT RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.37E-05	1.38E-04	8.30E-04	1.94E-05	15.0 mrem	**1.00E-03**	**0.01%**
Critical Organ		Lung	GI LLI	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	2.24E-05	2.68E-04	4.55E-05	8.97E-05	3.0 mrem	**4.26E-04**	**0.01%**
Internal Organ	5.0 mrem	2.88E-05	3.46E-04	5.57E-05	1.30E-04	10.0 mrem	**5.61E-04**	**0.01%**
Critical Organ		Liver	Liver	GI LLI	Liver		**Liver**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 2 (Docket Number 50-304)

INFANT RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.88E-04	2.82E-04	1.95E-04	1.90E-04	15.0 mrem	**8.55E-04**	**0.01%**
Critical Organ		Lung	Lung	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0 mrem	**0.00E+00**	**0.00%**
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrem	**0.00E+00**	**0.00%**
Critical Organ		N/A	N/A	N/A	N/A		**N/A**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 2 (Docket Number 50-304)

CHILD RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.94E-04	3.39E-04	8.55E-03	1.92E-04	15.0 mrem	**9.28E-03**	**0.06%**
Critical Organ		Lung	Liver	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0 mrem	**0.00E+00**	**0.00%**
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrem	**0.00E+00**	**0.00%**
Critical Organ		N/A	N/A	N/A	N/A		**N/A**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 2 (Docket Number 50-304)

TEENAGE RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.97E-04	3.39E-04	5.61E-03	1.93E-04	15.0 mrem	**6.34E-03**	**0.04%**
Critical Organ		Lung	Lung	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0 mrem	**0.00E+00**	**0.00%**
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrem	**0.00E+00**	**0.00%**
Critical Organ		N/A	N/A	N/A	N/A		**N/A**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
DOSE TO PUBLIC
UNIT 2 (Docket Number 50-304)

ADULT RECEPTOR

A. Airborne

		Maximum Quarterly Dose (mrad, mrem)				Yearly Limit 10CFR50 Appendix I	Maximum Annual Dose (mrad, mrem)	% of Yearly Dose Limit
	Qtrly Obj	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Gamma Air	5.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrad	**0.00E+00**	**0.00%**
Beta Air	10.0 mrad	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20.0 mrad	**0.00E+00**	**0.00%**
Total Body	2.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0 mrem	**0.00E+00**	**0.00%**
Skin	7.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	15.0 mrem	**0.00E+00**	**0.00%**
Organ	7.5 mrem	1.91E-04	3.31E-04	4.93E-03	1.91E-04	15.0 mrem	**5.64E-03**	**0.04%**
Critical Organ		Lung	Lung	Liver	Lung		**Lung**	

B. Aquatic

Total Body	1.5 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0 mrem	**0.00E+00**	**0.00%**
Internal Organ	5.0 mrem	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10.0 mrem	**0.00E+00**	**0.00%**
Critical Organ		N/A	N/A	N/A	N/A		**N/A**	

Total body doses to individuals and populations in unrestricted areas from direct radiation from Zion Station are judged to be negligible in comparison with 10CFR20 annual limit of 100 mrem TEDE and 40CFR190 annual limits of 25 mrem DDE whole body, 75 mrem CDE thyroid, and 25 mrem CDE other organs.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
B. Iodine																		
1. Total I-131 Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
C. Particulates (half-life > 8 days)																		
1. Total Release Activity‡	Ci	2.73E-06	1.97E-06	2.12E-06	**6.82E-06**	1.21E-06	5.04E-07	1.46E-07	**1.86E-06**	<LLD	<LLD	<LLD	**4.34E-12**	<LLD	1.55E-07	6.07E-06	**6.23E-06**	**1.49E-05**
2. Average Release Rate	uCi/sec	1.02E-06	7.85E-07	7.91E-07	**8.67E-07**	4.67E-07	1.88E-07	5.64E-08	**2.37E-07**	<LLD	<LLD	<LLD	**5.46E-13**	<LLD	5.98E-08	2.26E-06	**7.84E-07**	**4.72E-07**
3. Gross Alpha Activity‡	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	5.42E-01	<LLD	<LLD	**5.42E-01**	5.16E-01	<LLD	<LLD	**5.16E-01**	<LLD	<LLD	<LLD	**<LLD**	**1.06E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	2.09E-01	<LLD	<LLD	**6.90E-02**	1.93E-01	<LLD	<LLD	**6.49E-02**	<LLD	<LLD	<LLD	**<LLD**	**3.35E-02**
E. Sum of Iodine, Particulate (half-lives > 8 days), and Tritium Releases.																		
1. Total Release Activity	Ci	2.73E-06	1.97E-06	2.12E-06	**6.82E-06**	5.42E-01	5.04E-07	1.46E-07	**5.42E-01**	5.16E-01	0.00E+00	0.00E+00	**5.16E-01**	0.00E+00	1.55E-07	6.07E-06	**6.23E-06**	**1.06E+00**

‡ Gross Alpha, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. The difference between the quarterly Particulates total and the sum of the totals of the three corresponding months equals the total quarterly activities of Sr-89 and Sr-90. The cells for monthly activity values of Gross Alpha on this page and Sr-89 and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

Lower limit of detection (LLD) values are presented in the Gaseous Effluents LLD Values for Gaseous Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

Percent of technical specification limit information is presented in the Gaseous Effluents Supplemental Information and Dose to Public sections of this report.

The abbreviation "No Rel" indicates that no batch releases were performed during the applicable period.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
Ar-41	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-131	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-131m	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
B. Iodines																		
Br-82	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
I-131	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
I-132	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
I-133	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
I-134	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
I-135	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
C. Particulates																		
Na-24	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Cr-51*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Mn-54*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Co-57*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Co-58*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Co-60*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Zn-65*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Se-75*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Rb-88	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Sr-89*	Ci				No Rel				No Rel				No Rel				No Rel	<LLD
Sr-90*	Ci				No Rel				No Rel				No Rel				No Rel	<LLD
Zr-95*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Nb-95*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Ru-103*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Ag-110m*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Cs-134*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Cs-136*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Cs-137*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Cs-138	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Ba-140*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
La-140	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Ce-144*	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
Pr-144	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
W-187	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	<LLD	<LLD	<LLD	No Rel	No Rel	<LLD	No Rel	No Rel	<LLD

* Particulate isotope with half-life greater than 8 days.

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ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
CONTINUOUS MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-87	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
B. Iodines																		
Br-82	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Particulates																		
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mn-54*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60*	Ci	2.73E-06	1.98E-06	2.12E-06	**6.83E-06**	1.21E-06	5.04E-07	<LLD	**1.71E-06**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	3.24E-06	**3.24E-06**	**1.18E-05**
Zn-65*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Se-75*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89*	Ci				**<LLD**				**<LLD**				**4.34E-12**				**<LLD**	**4.34E-12**
Sr-90*	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Zr-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ru-103*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ag-110m*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-136*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-137*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	1.47E-07	**1.47E-07**	<LLD	<LLD	<LLD	**<LLD**	<LLD	1.55E-07	2.67E-06	**2.83E-06**	**2.98E-06**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-144*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Pr-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
W-187	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	5.40E-01	<LLD	<LLD	**5.40E-01**	6.03E-01	<LLD	<LLD	**6.03E-01**	<LLD	<LLD	<LLD	**<LLD**	**1.14E+00**

* Particulate isotope with half-life greater than 8 days.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 (Docket Number 50-295)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
B. Iodine																		
1. Total I-131 Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
C. Particulates (half-lives > 8 days)																		
1. Total Release Activity‡	Ci	<LLD	1.14E-07	8.80E-08	**2.02E-07**	<LLD	2.52E-07	7.35E-08	**3.26E-07**	<LLD	<LLD	<LLD	**2.17E-12**	<LLD	7.76E-08	5.59E-07	**6.37E-07**	**1.17E-06**
2. Average Release Rate	uCi/sec	<LLD	4.54E-08	3.28E-08	**2.57E-08**	<LLD	9.40E-08	2.84E-08	**4.15E-08**	<LLD	<LLD	<LLD	**2.73E-13**	<LLD	3.00E-08	2.09E-07	**8.01E-08**	**3.70E-08**
3. Gross Alpha Activity‡	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	2.71E-01	<LLD	<LLD	**2.71E-01**	8.72E-02	<LLD	<LLD	**8.72E-02**	<LLD	<LLD	<LLD	**<LLD**	**3.58E-01**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	1.05E-01	<LLD	<LLD	**3.45E-02**	3.25E-02	<LLD	<LLD	**1.10E-02**	<LLD	<LLD	<LLD	**<LLD**	**1.13E-02**
E. Sum of Iodine, Particulate (half-lives > 8 days), and Tritium Releases.																		
1. Total Release Activity	Ci	0.00E+00	1.14E-07	8.80E-08	**2.02E-07**	2.71E-01	2.52E-07	7.35E-08	**2.71E-01**	8.72E-02	0.00E+00	0.00E+00	**8.72E-02**	0.00E+00	7.76E-08	5.59E-07	**6.37E-07**	**3.58E-01**

‡ Gross Alpha, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. The difference between the quarterly Particulates total and the sum of the totals of the three corresponding months equals the total quarterly activities of Sr-89 and Sr-90. The cells for monthly activity values of Gross Alpha on this page and Sr-89 and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

Lower limit of detection (LLD) values are presented in the Gaseous Effluents LLD Values for Gaseous Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

Percent of technical specification limit information is presented in the Gaseous Effluents Supplemental Information and Dose to Public sections of this report.

The abbreviation "No Rel" indicates that no batch releases were performed during the applicable period.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 (Docket Number 50-295)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
Ar-41	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-85	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-85m	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-87	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-88	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-131	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-131m	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133m	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-135	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-135m	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-138	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
B. Iodines																		
Br-82	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-131	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-132	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-133	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-134	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
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C. Particulates																		
Na-24	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cr-51*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mn-54*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-57*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-58*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-60*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Zn-65*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Se-75*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Rb-88	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sr-89*	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Sr-90*	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Zr-95*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Nb-95*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mo-99	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Tc-99m	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
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Cs-134*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
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Cs-138	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ba-140*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
La-140	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ce-144*	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Pr-144	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
W-187	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD

* Particulate isotope with half-life greater than 8 days.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 1 (Docket Number 50-295)
CONTINUOUS MODE

Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																	
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-87	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Xe-133m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
B. Iodines																	
Br-82	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Particulates																	
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mn-54*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60*	Ci	<LLD	1.14E-07	8.83E-08	**2.02E-07**	<LLD	2.52E-07	**<LLD**	**2.52E-07**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	5.59E-07	**5.59E-07**	**1.01E-06**
Zn-65*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Se-75*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89*	Ci				**<LLD**				**<LLD**				**2.17E-12**				**<LLD**	**2.17E-12**
Sr-90*	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Zr-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ru-103*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ag-110m*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-136*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-137*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	7.35E-08	**7.35E-08**	<LLD	<LLD	<LLD	**<LLD**	<LLD	7.75E-08	<LLD	**7.75E-08**	**1.51E-07**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-144*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Pr-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
W-187	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
D. Tritium																	
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	2.70E-01	<LLD	<LLD	**2.70E-01**	8.70E-02	<LLD	<LLD	**8.70E-02**	<LLD	<LLD	<LLD	**<LLD**	**3.57E-01**

* Particulate isotope with half-life greater than 8 days.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 2 (Docket Number 50-304)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
B. Iodine																		
1. Total I-131 Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**0.00E+00**
C. Particulates (half-lives > 8 days)																		
1. Total Release Activity‡	Ci	2.73E-06	1.86E-06	2.03E-06	**6.62E-06**	1.21E-06	2.52E-07	7.33E-08	**1.54E-06**	<LLD	<LLD	<LLD	**2.17E-12**	<LLD	7.76E-08	5.35E-06	**5.43E-06**	**1.36E-05**
2. Average Release Rate	uCi/sec	1.02E-06	7.41E-07	7.57E-07	**8.41E-07**	4.67E-07	9.40E-08	2.83E-08	**1.96E-07**	<LLD	<LLD	<LLD	**2.73E-13**	<LLD	3.00E-08	2.00E-06	**6.83E-07**	**4.30E-07**
3. Gross Alpha Activity‡	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
D. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	2.70E-01	<LLD	<LLD	**2.70E-01**	4.29E-01	<LLD	<LLD	**4.29E-01**	<LLD	<LLD	<LLD	**<LLD**	**6.99E-01**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	**<LLD**	1.04E-01	<LLD	<LLD	**3.44E-02**	1.60E-01	<LLD	<LLD	**5.40E-02**	<LLD	<LLD	<LLD	**<LLD**	**2.21E-02**
E. Sum of Iodine, Particulate (half-lives > 8 days), and Tritium Releases.																		
1. Total Release Activity	Ci	2.73E-06	1.86E-06	2.03E-06	**6.62E-06**	2.70E-01	2.52E-07	7.33E-08	**2.70E-01**	4.29E-01	0.00E+00	0.00E+00	**4.29E-01**	0.00E+00	7.76E-08	5.35E-06	**5.43E-06**	**6.99E-01**

‡ Gross Alpha, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. The difference between the quarterly Particulates total and the sum of the totals of the three corresponding months equals the total quarterly activities of Sr-89 and Sr-90. The cells for monthly activity values of Gross Alpha on this page and Sr-89 and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

Lower limit of detection (LLD) values are presented in the Gaseous Effluents LLD Values for Gaseous Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

Percent of technical specification limit information is presented in the Gaseous Effluents Supplemental Information and Dose to Public sections of this report.

The abbreviation "No Rel" indicates that no batch releases were performed during the applicable period.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 2 (Docket Number 50-304)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																		
Ar-41	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-85	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-85m	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-87	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-88	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-131	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-131m	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133m	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-135	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-135m	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-138	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
B. Iodines																		
Br-82	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-131	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-132	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-133	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-134	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-135	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
C. Particulates																		
Na-24	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cr-51*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mn-54*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-57*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-58*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-60*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Zn-65*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Se-75*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Rb-88	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sr-89*	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Sr-90*	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Zr-95*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Nb-95*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mo-99	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Tc-99m	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ru-103*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ag-110m*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-134*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-136*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-137*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-138	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ba-140*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
La-140	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ce-144*	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Pr-144	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
W-187	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
D. Tritium																		
1. Total Release Activity	Ci	<LLD	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD

* Particulate isotope with half-life greater than 8 days.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
GASEOUS EFFLUENTS - ALL RELEASES ARE AT GROUND LEVEL
UNIT 2 (Docket Number 50-304)
CONTINUOUS MODE

Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Gases																	
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Xe-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Xe-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
B. Iodines																	
Br-82	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Particulates																	
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mn-54*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60*	Ci	2.73E-06	1.86E-06	2.03E-06	**6.62E-06**	1.21E-06	2.52E-07	<LLD	**1.46E-06**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	2.86E-06	**2.86E-06**	**1.09E-05**
Zn-65*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Se-75*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89*	Ci				**<LLD**				**<LLD**				**2.17E-12**				**<LLD**	**2.17E-12**
Sr-90*	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Zr-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ru-103*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ag-110m*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-136*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-137*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	7.35E-08	**7.35E-08**	<LLD	<LLD	<LLD	**<LLD**	<LLD	7.75E-08	2.67E-06	**2.75E-06**	**2.82E-06**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-144*	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Pr-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
W-187	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
D. Tritium																	
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	2.70E-01	<LLD	<LLD	**2.70E-01**	5.16E-01	<LLD	<LLD	**5.16E-01**	<LLD	<LLD	<LLD	**<LLD**	**7.86E-01**

* Particulate isotope with half-life greater than 8 days.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 (Docket Number 50-295)

GASEOUS EFFLUENTS
SUPPLEMENTAL INFORMATION

1. Regulatory Limits

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

2. Maximum Permissible Concentrations

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

3. Average Energy

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

4. Measurements and Approximations of Total Radioactivity

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

5. Batch Releases	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2000
a. Total Number of Batch Releases	0	0	0	0	**0**
b. Total Time Period for Batch Releases (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
c. Maximum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
d. Average Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
e. Minimum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
6. Abnormal Releases					
a. Number of Releases	0	0	0	0	**0**
b. Total Activity Released (Ci)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 2 (Docket Number 50-304)

GASEOUS EFFLUENTS
SUPPLEMENTAL INFORMATION

1. Regulatory Limits

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

2. Maximum Permissible Concentrations

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

3. Average Energy

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

4. Measurements and Approximations of Total Radioactivity

   See "Unit 1 & 2 GASEOUS EFFLUENTS SUPPLEMENTAL INFORMATION"

5. Batch Releases	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2000
a. Total Number of Batch Releases	0	0	0	0	**0**
b. Total Time Period for Batch Releases (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
c. Maximum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
d. Average Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
e. Minimum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
6. Abnormal Releases					
a. Number of Releases	0	0	0	0	0
b. Total Activity Released (Ci)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

GASEOUS EFFLUENTS
SUPPLEMENTAL INFORMATION

4. Measurements and Approximations of Total Radioactivity

a. Fission and Activation Gases	Gamma Spectroscopy
b. Iodines	Gamma Spectroscopy
c. Particulates	Gamma Spectroscopy, Liquid Scintillation Gas Flow Proportional Counting
d. Tritium	Liquid Scintillation

Composite sample analyses for gross alpha, Sr-89, and Sr-90 are performed by off-site vendor.

5. Batch Releases	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2000
a. Total Number of Batch Releases	0	0	0	0	**0**
b. Total Time Period for Batch Releases (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
c. Maximum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
d. Average Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
e. Minimum Time Period for a Batch Release (minutes)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

6. Abnormal Releases					
a. Number of Releases	0	0	0	0	**0**
b. Total Activity Released (Ci)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

GASEOUS EFFLUENTS
SUPPLEMENTAL INFORMATION

1. Regulatory Limits

The calculated annual total quantity of all radioactive material above background released from each unit at Zion Station to the atmosphere is limited by off-site dose restrictions stated in the station technical specifications, Off-site Dose Calculation Manual (ODCM), and 10CFR50 Appendix I. The off-site dose limits per reactor unit are listed below.

	Quarterly (mrem)	Yearly (mrem)
Gamma Air	5	10
Beta Air	10	20
Total Body	2.5	5
Skin	7.5	15
Organ	7.5	15

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 off-site dose-rate restrictions stated in station technical specifications and the ODCM. The release-rate limits were determined by using the ODCM computer code to calculate release rates which would produce a specified instantaneous dose rate at the site boundary. The off-site dose-rate limits are listed below.

Noble Gases	500	mrem/year Total Body
Noble Gases	3000	mrem/year Skin
I-131, I-133, H-3, and particulates with half-lives greater than 8 days	1500	mrem/year Organ

3. Average Energy

There were no measurable noble gas releases during 2000. Due to permanent cessation of operation and radioactive decay, the only gas available for release is Kr-85 present in spent fuel rods.

Isotope	Percent of Effluent
Kr-85	100

Average Gamma Energy per Decay of the Mixture (keV)	5.0
Average Beta Energy per Decay of the Mixture (keV)	269.0

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

GASEOUS EFFLUENTS
LOWER LIMIT OF DETECTION (LLD) VALUES FOR GASEOUS RELEASES

Isotope	LLD (uCi/ml)
Alpha	1.97E-15
H-3	6.30E-08
Kr-85	3.34E-06
Mn-54	7.76E-13
Co-58	6.98E-13
Co-60	1.84E-12
Zn-65	1.61E-12
Sr-89	1.69E-14
Sr-90	3.37E-15
Mo-99	8.85E-13
Cs-134	6.84E-13
Cs-137	1.37E-12
Ce-141	1.30E-12
Ce-144	5.80E-12

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products (not incl. tritium, gases, alpha)																		
1. Total Activity Released §	Ci	9.20E-03	6.43E-03	No Rel	**1.56E-02**	No Rel	4.62E-03	1.09E-03	**5.71E-03**	No Rel	6.09E-04	No Rel	**6.10E-04**	No Rel	5.68E-04	1.16E-02	**1.21E-02**	**3.41E-02**
2. Average Conc. Released	uCi/ml	8.21E-09	8.53E-09	No Rel	**8.34E-09**	No Rel	3.42E-08	8.36E-09	**2.15E-08**	No Rel	6.43E-09	No Rel	**6.44E-09**	No Rel	3.69E-09	1.64E-08	**1.41E-08**	**1.10E-08**
3. % of Value (9E-7 uCi/ml)	%	9.12E-01	9.48E-01	No Rel	**9.27E-01**	No Rel	3.80E+00	9.29E-01	**2.39E+00**	No Rel	7.15E-01	No Rel	**7.16E-01**	No Rel	4.10E-01	1.82E+00	**1.57E+00**	**1.22E+00**
B. Tritium																		
1. Total Activity Released	Ci	2.44E+00	1.81E+00	No Rel	**4.25E+00**	No Rel	1.28E-01	1.67E-01	**2.95E-01**	No Rel	1.44E-01	No Rel	**1.44E-01**	No Rel	1.05E-01	4.81E-01	**5.86E-01**	**5.28E+00**
2. Average Conc. Released	uCi/ml	2.18E-06	2.40E-06	No Rel	**2.27E-06**	No Rel	9.47E-07	1.28E-06	**1.11E-06**	No Rel	1.52E-06	No Rel	**1.52E-06**	No Rel	6.82E-07	6.83E-07	**6.83E-07**	**1.71E-06**
3. % of Value (1E-3 uCi/ml)	%	2.18E-01	2.40E-01	No Rel	**2.27E-01**	No Rel	9.47E-02	1.28E-01	**1.11E-01**	No Rel	1.52E-01	No Rel	**1.52E-01**	No Rel	6.82E-02	6.83E-02	**6.83E-02**	**1.71E-01**
C. Dissolved and Entrained Gases																		
1. Total Activity Released	Ci	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Conc. Released	uCi/ml	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
3. % of Value (7E-5 uCi/ml)	%	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
D. Gross Alpha																		
1. Total Activity Released	Ci	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
2. Average Conc. Released	uCi/ml	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
3. % of Value (2E-9 uCi/ml)	%	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
E. Volume of Releases																		
1. Volume of Waste Released‡	liters	4.89E+05	3.80E+05	0.00E+00	**8.69E+05**	0.00E+00	1.03E+05	4.24E+04	**1.45E+05**	0.00E+00	4.84E+04	0.00E+00	**4.84E+04**	0.00E+00	5.11E+04	4.31E+05	**4.82E+05**	**1.54E+06**
2. Volume of Dilution Water‡	liters	1.12E+09	7.53E+08	0.00E+00	**1.87E+09**	0.00E+00	1.35E+08	1.30E+08	**2.65E+08**	0.00E+00	9.46E+07	0.00E+00	**9.46E+07**	0.00E+00	1.54E+08	7.04E+08	**8.58E+08**	**3.09E+09**

§ Fe-55, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. Therefore, the difference between the Fission and Activation Products total quarterly activity and the sum of the total activities of the three corresponding months equals the total quarterly activities of Fe-55, Sr-89, and Sr-90. The cells for monthly activity values of Fe-55, Sr-89, and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

‡ These data include only information for batch releases from Lake Discharge Tanks.

Lower limit of detection (LLD) values are presented in the Liquid Effluents LLD Values for Liquid Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

The abbreviation "No Rel" indicates that no releases were performed during the applicable period.

"% of Value" means percent of concentration values in Appendix B, Table 2, Column 2 to 10CFR20. The % of Value for Fission and Activation Products and Dissolved and Entrained Gases provides a comparison of the total concentration of the group to the lowest isotopic concentration value of the particular group. The concentration of Fission and Activation Products and Dissolved and Entrained Gases are compared to the concentration limits for Cs-134 (9E-7 uCi/ml) and Ar-41 (7E-5 uCi/ml), respectively. Concentration limits for Dissolved and Entrained Gases are listed in ODCM Table 12.3-1.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51	Ci	3.62E-04	<LLD	<LLD	**3.62E-04**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**3.62E-04**
Mn-54	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Fe-55	Ci				**8.12E-07**				**5.15E-07**				**6.00E-07**				**<LLD**	**1.93E-06**
Fe-59	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60	Ci	1.29E-03	1.23E-03	<LLD	**2.52E-03**	<LLD	2.37E-03	4.21E-04	**2.79E-03**	<LLD	1.89E-04	<LLD	**1.89E-04**	<LLD	1.56E-04	2.39E-03	**2.55E-03**	**8.05E-03**
Zn-65	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89	Ci				**<LLD**				**<LLD**				**5.61E-08**				**<LLD**	**5.61E-08**
Sr-90	Ci				**2.30E-09**				**<LLD**				**5.05E-08**				**<LLD**	**5.28E-08**
Sr-92	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Zr-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Ag-110m	Ci	1.27E-05	1.92E-05	<LLD	**3.19E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**3.19E-05**
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Sb-122	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-124	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-125	Ci	7.01E-03	4.63E-03	<LLD	**1.16E-02**	<LLD	1.36E-03	4.29E-04	**1.79E-03**	<LLD	3.85E-04	<LLD	**3.85E-04**	<LLD	3.79E-04	1.42E-03	**1.80E-03**	**1.56E-02**
Sb-126	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-123m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134	Ci	2.23E-05	1.55E-05	<LLD	**3.78E-05**	<LLD	2.47E-05	<LLD	**2.47E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	2.19E-04	**2.19E-04**	**2.82E-04**
Cs-137	Ci	5.03E-04	5.35E-04	<LLD	**1.04E-03**	<LLD	8.67E-04	1.06E-04	**9.73E-04**	<LLD	3.50E-05	<LLD	**3.50E-05**	<LLD	3.29E-05	7.54E-03	**7.57E-03**	**9.62E-03**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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B. Iodines																		
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Tritium																		
1. Total Release Activity	Ci	2.44E+00	1.81E+00	<LLD	**4.25E+00**	<LLD	1.28E-01	1.67E-01	**2.95E-01**	<LLD	1.44E-01	<LLD	**1.44E-01**	<LLD	1.55E-01	4.81E-01	**6.36E-01**	**5.33E+00**
D. Dissolved and Entrained Gases																		
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)
CONTINUOUS MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Sr-90	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
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Nb-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Sb-122	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-124	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Sb-126	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-123m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-137	Ci	<LLD	<LLD	3.97E-05	**3.97E-05**	<LLD	<LLD	8.24E-05	**8.24E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**1.22E-04**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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B. Iodines																		
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	8.97E-05	<LLD	<LLD	**8.97E-05**	<LLD	<LLD	<LLD	**<LLD**	**8.97E-05**
D. Dissolved and Entrained Gases																		
Ar-41	Ci	**<LLD**	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	**<LLD**	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131m	Ci	**<LLD**	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
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Xe-133m	Ci	**<LLD**	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135	Ci	**<LLD**	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 (Docket Numbers 50-295)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products (not incl. tritium, gases, alpha)																		
1. Total Activity Released §	Ci	9.20E-03	6.43E-03	No Rel	**1.56E-02**	No Rel	4.62E-03	1.09E-03	**5.71E-03**	No Rel	6.09E-04	No Rel	**6.10E-04**	No Rel	5.68E-04	1.16E-02	**1.21E-02**	**3.41E-02**
2. Average Conc. Released	uCi/ml	8.21E-09	8.53E-09	No Rel	**8.34E-09**	No Rel	3.42E-08	8.36E-09	**2.15E-08**	No Rel	6.43E-09	No Rel	**6.44E-09**	No Rel	3.69E-09	1.64E-08	**1.41E-08**	**1.10E-08**
3. % of Value (9E-7 uCi/ml)	%	9.12E-01	9.48E-01	No Rel	**9.27E-01**	No Rel	3.80E+00	9.29E-01	**2.39E+00**	No Rel	7.15E-01	No Rel	**7.16E-01**	No Rel	4.10E-01	1.82E+00	**1.57E+00**	**1.22E+00**
B. Tritium																		
1. Total Activity Released	Ci	2.44E+00	1.81E+00	<LLD	**4.25E+00**	<LLD	1.28E-01	1.67E-01	**2.95E-01**	<LLD	1.44E-01	<LLD	**1.44E-01**	<LLD	1.05E-01	4.81E-01	**5.86E-01**	**5.28E+00**
2. Average Conc. Released	uCi/ml	2.18E-06	2.40E-06	No Rel	**2.27E-06**	No Rel	9.47E-07	1.28E-06	**1.11E-06**	No Rel	1.52E-06	No Rel	**1.52E-06**	No Rel	6.82E-07	6.83E-07	**6.83E-07**	**1.71E-06**
3. % of Value (1E-3 uCi/ml)	%	2.18E-01	2.40E-01	No Rel	**2.27E-01**	No Rel	9.47E-02	1.28E-01	**1.11E-01**	No Rel	1.52E-01	No Rel	**1.52E-01**	No Rel	6.82E-02	6.83E-02	**6.83E-02**	**1.71E-01**
C. Dissolved and Entrained Gases																		
1. Total Activity Released	Ci	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
2. Average Conc. Released	uCi/ml	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
3. % of Value (7E-5 uCi/ml)	%	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	No Rel	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**0.00E+00**
D. Gross Alpha																		
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
2. Average Conc. Released	uCi/ml	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
3. % of Value (2E-9 uCi/ml)	%	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	<LLD	<LLD	No Rel	**<LLD**	No Rel	<LLD	<LLD	**<LLD**	**<LLD**
E. Volume of Releases																		
1. Volume of Waste Released‡	liters	4.89E+05	3.80E+05	0.00E+00	**8.69E+05**	0.00E+00	1.03E+05	4.24E+04	**1.45E+05**	0.00E+00	4.84E+04	0.00E+00	**4.84E+04**	0.00E+00	5.11E+04	4.31E+05	**4.82E+05**	**1.54E+06**
2. Volume of Dilution Water‡	liters	1.12E+09	7.53E+08	0.00E+00	**1.87E+09**	0.00E+00	1.35E+08	1.30E+08	**2.65E+08**	0.00E+00	9.46E+07	0.00E+00	**9.46E+07**	0.00E+00	1.54E+08	7.04E+08	**8.58E+08**	**3.09E+09**

§ Fe-55, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. Therefore, the difference between the Fission and Activation Products total quarterly activity and the sum of the total activities of the three corresponding months equals the total quarterly activities of Fe-55, Sr-89, and Sr-90. The cells for monthly activity values of Fe-55, Sr-89, and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

‡ These data include only information for batch releases from Lake Discharge Tanks.

Lower limit of detection (LLD) values are presented in the Liquid Effluents LLD Values for Liquid Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

The abbreviation "No Rel" indicates that no releases were performed during the applicable period.

"% of Value" means percent of concentration values in Appendix B, Table 2, Column 2 to 10CFR20. The % of Value for Fission and Activation Products and Dissolved and Entrained Gases provides a comparison of the total concentration of the group to the lowest isotopic concentration value of the particular group. The concentration of Fission and Activation Products and Dissolved and Entrained Gases are compared to the concentration limits for Cs-134 (9E-7 uCi/ml) and Ar-41 (7E-5 uCi/ml), respectively. Concentration limits for Dissolved and Entrained Gases are listed in ODCM Table 12.3-1.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 (Docket Numbers 50-295)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51	Ci	3.62E-04	<LLD	<LLD	**3.62E-04**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**3.62E-04**
Mn-54	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Fe-55	Ci				**8.12E-07**				**5.15E-07**				**6.00E-07**				**<LLD**	**1.93E-06**
Fe-59	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60	Ci	1.29E-03	1.23E-03	<LLD	**2.52E-03**	<LLD	2.37E-03	4.21E-04	**2.79E-03**	<LLD	1.89E-04	<LLD	**1.89E-04**	<LLD	1.56E-04	2.39E-03	**2.55E-03**	**8.05E-03**
Zn-65	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89	Ci				**<LLD**				**<LLD**				**5.61E-08**				**<LLD**	**5.61E-08**
Sr-90	Ci				**2.30E-09**				**3.44r-9**				**5.05E-08**				**<LLD**	**5.28E-08**
Sr-92	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Zr-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Zr-97	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ru-103	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ag-110m	Ci	1.27E-05	1.92E-05	<LLD	**3.19E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**3.19E-05**
Sn-113	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sn-117m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-122	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-124	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-125	Ci	7.01E-03	4.63E-03	<LLD	**1.16E-02**	<LLD	1.36E-03	4.29E-04	**1.79E-03**	<LLD	3.85E-04	<LLD	**3.85E-04**	<LLD	3.79E-04	1.42E-03	**1.80E-03**	**1.56E-02**
Sb-126	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-123m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134	Ci	2.23E-05	1.55E-05	<LLD	**3.78E-05**	<LLD	2.47E-05	<LLD	**2.47E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	2.19E-04	**2.19E-04**	**2.82E-04**
Cs-137	Ci	5.03E-04	5.35E-04	<LLD	**1.04E-03**	<LLD	8.67E-04	1.06E-04	**9.73E-04**	<LLD	3.50E-05	<LLD	**3.50E-05**	<LLD	3.29E-05	7.54E-03	**7.57E-03**	**9.62E-03**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Pr-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
B. Iodines																		
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Tritium																		
1. Total Release Activity	Ci	2.44E+00	1.81E+00	0.00E+00	**4.25E+00**	0.00E+00	1.28E-01	1.67E-01	**2.95E-01**	0.00E+00	1.44E-01	0.00E+00	**1.44E-01**	0.00E+00	1.55E-01	4.81E-01	**6.36E-01**	**5.33E+00**
D. Dissolved and Entrained Gases																		
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 1 (Docket Numbers 50-295)
CONTINUOUS MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cr-51	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mn-54	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Fe-55	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Fe-59	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Co-60	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	4.89E-05	**4.89E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**4.89E-05**
Zn-65	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sr-89	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Sr-90	Ci				**<LLD**				**<LLD**				**<LLD**				**<LLD**	**<LLD**
Sr-92	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Nb-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Zr-95	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Zr-97	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ru-103	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ag-110m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sn-113	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sn-117m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-122	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-124	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-125	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Sb-126	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-123m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Te-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Cs-137	Ci	<LLD	<LLD	3.97E-05	**3.97E-05**	<LLD	<LLD	8.24E-05	**8.24E-05**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**1.22E-04**
Cs-138	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ba-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
La-140	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Pr-144	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
B. Iodines																		
I-131	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-134	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
C. Tritium																		
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	8.97E-05	<LLD	<LLD	**8.97E-05**	<LLD	<LLD	<LLD	**<LLD**	**8.97E-05**
D. Dissolved and Entrained Gases																		
Ar-41	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-133m	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	<LLD	<LLD	<LLD	**<LLD**	**<LLD**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 2 (Docket Numbers 50-304)
SUMMATION OF ALL RELEASES

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products (not incl. tritium, gases, alpha)																		
1. Total Activity Released §	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**0.00E+00**
2. Average Conc. Released	uCi/ml	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
3. % of Value (9E-7 uCi/ml)	%	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
B. Tritium																		
1. Total Activity Released	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**0.00E+00**
2. Average Conc. Released	uCi/ml	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
3. % of Value (1E-3 uCi/ml)	%	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
C. Dissolved and Entrained Gases																		
1. Total Activity Released	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**0.00E+00**
2. Average Conc. Released	uCi/ml	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
3. % of Value (7E-5 uCi/ml)	%	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#DIV/0!**
D. Gross Alpha																		
1. Total Activity Released	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**<LLD**
2. Average Conc. Released	uCi/ml	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**<LLD**
3. % of Value (2E-9 uCi/ml)	%	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	**#VALUE!**
E. Volume of Releases																		
1. Volume of Waste Released‡	liters	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	**0.00E+00**
2. Volume of Dilution Water‡	liters	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	**0.00E+00**

§ Fe-55, Sr-89, and Sr-90 Activities are quantified by quarterly composite analyses. Therefore, the difference between the Fission and Activation Products total quarterly activity and the sum of the total activities of the three corresponding months equals the total quarterly activities of Fe-55, Sr-89, and Sr-90. The cells for monthly activity values of Fe-55, Sr-89, and Sr-90 on the Batch and Continuous Mode data sheets are blank because monthly values are not applicable.

‡ These data include only information for batch releases from Lake Discharge Tanks.

Lower limit of detection (LLD) values are presented in the Liquid Effluents LLD Values for Liquid Releases section. The abbreviation "<LLD" indicates the activity concentration of the radionuclide for each individual sample analyzed during the applicable period was less than the LLD value for that nuclide. If the abbreviation "<LLD" is listed for a group of radionuclides, the activity concentration of each radionuclide for each sample during the period was less than the LLD value for the respective radionuclide.

The abbreviation "No Rel" indicates that no releases were performed during the applicable period.

"% of Value" means percent of concentration values in Appendix B, Table 2, Column 2 to 10CFR20. The % of Value for Fission and Activation Products and Dissolved and Entrained Gases provides a comparison of the total concentration of the group to the lowest isotopic concentration value of the particular group. The concentration of Fission and Activation Products and Dissolved and Entrained Gases are compared to the concentration limits for Cs-134 (9E-7 uCi/ml) and Ar-41 (7E-5 uCi/ml), respectively. Concentration limits for Dissolved and Entrained Gases are listed in ODCM Table 12.3-1.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 2 (Docket Numbers 50-304)
BATCH MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Cr-51	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Mn-54	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Co-57	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Fe-55	Ci				No Rel				No Rel				No Rel				No Rel	<LLD
Fe-59	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Co-58	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Co-60	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Zn-65	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sr-85	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Rb-88	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sr-89	Ci				No Rel				No Rel				No Rel				No Rel	<LLD
Sr-90	Ci				No Rel				No Rel				No Rel				No Rel	<LLD
Sr-92	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Nb-95	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Zr-95	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Zr-97	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Mo-99	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Tc-99m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Ru-103	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Ag-110m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sn-113	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sn-117m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sb-122	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sb-124	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sb-125	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Sb-126	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Te-123m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Te-132	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Cs-134	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Cs-137	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Cs-138	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Ba-140	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
La-140	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Ce-141	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Ce-144	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Pr-144	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
B. Iodines																		
I-131	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
I-132	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
I-133	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
I-134	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
I-135	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
C. Tritium																		
1. Total Release Activity	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
D. Dissolved and Entrained Gases																		
Ar-41	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Kr-85	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Xe-131m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Xe-133	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Xe-133m	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD
Xe-135	Ci	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	No Rel	<LLD

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
LIQUID RELEASES
UNIT 2 (Docket Numbers 50-304)
CONTINUOUS MODE

	Units	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
A. Fission and Activation Products																		
Na-24	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cr-51	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mn-54	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-57	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Fe-55	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Fe-59	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-58	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Co-60	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Zn-65	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sr-85	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Rb-88	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sr-89	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Sr-90	Ci				**No Rel**				**No Rel**				**No Rel**				**No Rel**	<LLD
Sr-92	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Nb-95	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Zr-95	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Zr-97	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Mo-99	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Tc-99m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ru-103	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ag-110m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sn-113	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sn-117m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sb-122	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sb-124	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sb-125	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Sb-126	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Te-123m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Te-132	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-134	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-137	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Cs-138	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ba-140	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
La-140	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ce-141	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Ce-144	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Pr-144	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
B. Iodines																		
I-131	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-132	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-133	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-134	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
I-135	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
C. Tritium																		
1. Total Release Activity	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
D. Dissolved and Entrained Gases																		
Ar-41	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Kr-85	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-131m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-133m	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD
Xe-135	Ci	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	No Rel	No Rel	No Rel	**No Rel**	<LLD

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 (Docket Number 50-295)

LIQUID EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2000
1	Batch Releases					
	a. Total Number of Batch Releases	16	3	1	9	**29**

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

LIQUID EFFLUENTS
LOWER LIMIT OF DETECTION (LLD) VALUES FOR LIQUID RELEASES

Isotope	LLD (uCi/ml)
Alpha	1.00E-07
H-3	3.09E-06
Kr-85	6.01E-06
Mn-54	1.72E-08
Fe-55	4.45E-08
Co-58	1.95E-08
Fe-59	3.96E-08
Co-60	4.48E-08
Zn-65	4.27E-08
Sr-89	4.88E-08
Sr-90	1.53E-08
Mo-99	2.79E-08
Cs-134	1.92E-08
Cs-137	3.13E-08
Ce-141	4.57E-08
Ce-144	1.88E-07

NOTE: LLDs for other liquid effluent isotopes included in the Annual Radioactive Effluent Release Report were not available for submittal.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
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 2000 and an entire copy of the ODCM, current as of December 31, 2000.

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 inoperablility 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.

   During 2000, all inoperable liquid and gaseous radiation monitors were returned to operability within the time specified in the ODCM.

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 2000.
   No liquid holdup tanks exceeded the limits of Permanently Defueled Technical Specifications 5.6.3. during 2000.

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%
Total Error	23%

b. Liquid Effluents

Sampling Error	5%
Calibration Error	10%
Counting Statistics Error	16%
Sample Volume Error	2%
Total Error	20%

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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	1.21E+01	1.21E+01	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	6.71E-01%	8.15E-02
C-14	1.43E+00%	1.74E-01
Cr-51	0.00E+00%	0.00E+00
Mn-54	5.88E-03%	7.13E-04
Fe-55	3.62E+01%	4.39E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	4.92E-05%	5.97E-06
Co-58	4.12E-08%	5.00E-09
Co-60	4.71E+01%	5.72E+00
Ni-59	1.41E-01%	1.71E-02
Ni-63	1.28E+01%	1.55E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	4.45E-02%	5.40E-03
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	4.25E-04%	5.16E-05
Ag-110	5.86E-03%	7.11E-04
Sn-113	7.66E-07%	9.30E-08
Sb-125	1.18E-01%	1.43E-02
I-129	4.92E-04%	5.97E-05
Cs-134	1.10E-01%	1.33E-02
Cs-137	1.21E+00%	1.47E-01
Ce-144	4.93E-02%	5.99E-03
Pu-238	1.70E-03%	2.06E-04
Pu-239	6.44E-04%	7.82E-05
Pu-241	7.30E-02%	8.86E-03
Pu-242	9.06E-08%	1.10E-08
Am-241	1.08E-03%	1.31E-04
Cm-242	1.46E-03%	1.78E-04
Cm-243	1.57E-03%	1.90E-04
Zn-95	1.20E-03%	1.46E-04

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-110	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	1.21E+01	1.21E+01	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	6.71E-01%	8.15E-02
C-14	1.43E+00%	1.74E-01
Cr-51	0.00E+00%	0.00E+00
Mn-54	5.88E-03%	7.13E-04
Fe-55	3.62E+01%	4.39E+00
Fe-59	0.00E+00%	0.00E+00
Co-57	4.92E-05%	5.97E-06
Co-58	4.12E-08%	5.00E-09
Co-60	4.71E+01%	5.72E+00
Ni-59	1.41E-01%	1.71E-02
Ni-63	1.28E+01%	1.55E+00
Sr-89	0.00E+00%	0.00E+00
Sr-90	4.45E-02%	5.40E-03
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	4.25E-04%	5.16E-05
Ag-110m	5.86E-03%	7.11E-04
Sn-113	7.66E-07%	9.30E-08
Sb-125	1.18E-01%	1.43E-02
I-129	4.92E-04%	5.97E-05
Cs-134	1.10E-01%	1.33E-02
Cs-137	1.21E+00%	1.47E-01
Ce-144	4.93E-02%	5.99E-03
Pu-238	1.70E-03%	2.06E-04
Pu-239	6.44E-04%	7.82E-05
Pu-241	7.30E-02%	8.86E-03
Pu-242	9.06E-08%	1.10E-08
Am-241	1.08E-03%	1.31E-04
Cm-242	1.46E-03%	1.78E-04
Cm-243	1.57E-03%	1.90E-04
Zn-95	1.20E-03%	1.46E-04

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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	2.54E+02	2.31E-02	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	5.86E-03%	1.35E-06
C-14	2.06E+00%	4.75E-04
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	1.31E+01%	3.04E-03
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	4.71E+01%	1.09E-02
Ni-59	0.00E+00%	4.96E-05
Ni-63	2.32E+01%	5.35E-03
Sr-89	0.00E+00%	0.00E+00
Sr-90	7.28E-02%	1.68E-05
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	6.15E-04%	1.42E-07
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	1.06E+00%	2.44E-04
I-129	7.02E-04%	1.62E-07
Cs-134	0.00E+00%	0.00E+00
Cs-137	1.29E+01%	2.98E-03
Ce-144	8.54E-02%	1.97E-05
Pu-238	0.00E+00%	7.27E-07
Pu-239	1.21E-03%	2.79E-07
Pu-241	1.38E-01%	3.18E-05
Pu-242	0.00E+00%	0.00E+00
Am-241	2.10E-03%	4.84E-07
Cm-242	0.00E+00%	8.10E-07
Cm-243	3.04E-03%	7.01E-07
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-110	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	2.54E+02	2.31E-02	2.50E+01%

Nuclide Name	Percent Abundance	Activity (Ci)
H-3	5.86E-03%	1.35E-06
C-14	2.06E+00%	4.75E-04
Cr-51	0.00E+00%	0.00E+00
Mn-54	0.00E+00%	0.00E+00
Fe-55	1.31E+01%	3.04E-03
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	4.71E+01%	1.09E-02
Ni-59	2.15E-01%	4.96E-05
Ni-63	2.32E+01%	5.35E-03
Sr-89	0.00E+00%	0.00E+00
Sr-90	7.28E-02%	1.68E-05
Zr-95	0.00E+00%	0.00E+00
Nb-95	0.00E+00%	0.00E+00
Tc-99	6.15E-04%	1.42E-07
Ag-110m	0.00E+00%	0.00E+00
Sn-113	0.00E+00%	0.00E+00
Sb-125	1.06E+00%	2.44E-04
I-129	7.02E-04%	1.62E-07
Cs-134	0.00E+00%	0.00E+00
Cs-137	1.29E+01%	2.98E-03
Ce-144	8.54E-02%	1.97E-05
Pu-238	3.15E-03%	7.27E-07
Pu-239	1.21E-03%	2.79E-07
Pu-241	1.38E-01%	3.18E-05
Pu-242	0.00E+00%	0.00E+00
Am-241	2.10E-03%	4.84E-07
Cm-242	3.51E-03%	8.10E-07
Cm-243	3.04E-03%	7.01E-07
Zn-95	0.00E+00%	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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

c. Irradiated components, control rods, etc.

No irradiated component shipments were performed during 2000.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Radioactive Waste Shipments for 1999

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:									
04/10/2000	ZRW00-001	DAW	Amer. Ecology	A	Seavan	None	0.0015916	36.250	1280.00
05/01/2000	ZRW00-002	DAW	GTS Duratek	A	Seavan	None	0.0112332	72.499	2560.00
05/08/2000	ZRW00-003	DAW	Amer. Ecology	A	Seavan	None	0.0102310	72.499	2560.00
05/12/2000	ZRW00-004	Filter Media + Resin	Barnwell	A	14-215	None	9.01000	5.828	205.80
05/25/2000	ZRW00-005	Filter Media + Resin	Barnwell	A	14-215	None	2.50985	5.828	205.80
06/21/2000	ZRW00-006	Filter Media + Resin	Barnwell	A	8-120	None	0.6161421	3.407	120.30
Sub totals:	**2**						**12.1590464**	**196.311**	**6931.90**
3rd Quarter:									
Sub totals:	**0**						**0.0000000**	**0.000**	**0.00**
4th Quarter:									
12/12/2000	ZRW00-007	DAW	GTS Duratek	A	Seavan	None	0.0000280	72.499	2560.00
Sub totals:	**1**						**0.0000280**	**72.499**	**2560.00**
Totals:	**7**						**12.1590744**	**268.810**	**9491.90**

	Class A	Class B	Class C
Number of Shipments	7	0	0
Activity (Ci)	1.22E+01	0.00E+00	0.00E+00
Volume (m^3)	2.69E+02	0.00E+00	0.00E+00

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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	Mode of Transportation	Destination
3	Exclusive Use Vehicle	Barnwell, South Carolina
2	Exclusive Use Vehicle	Oak Ridge, Tennessee (American Ecology)
2	Exclusive Use Vehicle	Oak Ridge, Tennessee (GTS Duratek)

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments were performed during 2000.

ZION NUCLEAR POWER STATION
ANNUAL RADIOACTIVE EFFLUENT REPORT FOR 2000
UNIT 1 & 2 (Docket Numbers 50-295 & 50-304)

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

c. Irradiated components, control rods, etc.

No irradiated component shipments were performed during 2000.

Murray & Trettel, Inc.

25 January 2001

Mr. Ron Schuster
Rad Chemical Department
Zion Station
Commonwealth Edison Company
101 Shiloh Boulevard
Zion, IL 60099

Dear Mr. Schuster:

Enclosed are copies of the Zion Station meteorological site quarterly joint-frequency wind rose tables for the first, second, third, and fourth quarters of 2000. They are being sent pursuant to the Specification for Meteorogical Data and Meteorogical Monitoring Service & Maintenance (MET1), 3.3.2/3.3.3, METSPECS/18/15 and METSPECS/18/41, Table 2a, format of wind rose table. This year we have printed the wind rose tables on a laser printer, we welcome your comments.

If you have any questions, please give me a call.

Sincerely,

Tom Begley
Environmental Meteorologist

/tb

Enclosures

414 West Frontage Road • Northfield, IL 60093 • (847) 446-7800 • Fax: (847) 446-8130

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

January-March 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2148
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																	STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
C	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
A	N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
L	SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
M	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
1	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
-	N	.05	.09	.00	.00	.00	.05	.05	.00	.00	.05	.14	.09	.00	.14	.05	.00	.70				.70			
3	SS	.28	.14	.09	.09	.09	.05	.14	.14	.28	.28	.28	.33	.38	.38	.19	.09	3.26					3.26		
	MS	.09	.33	.19	.14	.14	.09	.00	.09	.14	.09	.19	.19	.23	.47	.09	.23	2.70						2.70	
	ES	.09	.05	.05	.00	.05	.00	.05	.05	.09	.09	.14	.14	.33	.19	.05	.05	1.40							1.40
	EU	.00	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09						
	MU	.00	.00	.00	.00	.09	.05	.00	.00	.00	.00	.00	.00	.00	.14	.05	.00	.33		.33					
4	SU	.00	.09	.05	.05	.14	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	.00	.51			.51				
-	N	.37	1.26	.28	.14	.23	.79	.51	.51	.37	.61	.84	.98	.79	.93	1.07	.70	10.38				10.38			
7	SS	.65	.84	.51	.00	.19	.09	.56	.84	1.16	1.21	1.21	1.30	1.63	1.40	1.54	.51	13.64					13.64		
	MS	.33	.23	.28	.09	.09	.05	.28	.37	.88	.42	.19	.37	1.77	.79	.28	.19	6.61						6.61	
	ES	.05	.05	.09	.19	.05	.05	.23	.74	.88	.05	.23	.51	.93	.33	.09	.09	4.56							4.56
	EU	.05	.47	.19	.09	.14	.00	.14	.00	.00	.05	.00	.00	.00	.05	.19	.09	1.44	1.44						
	MU	.09	.28	.05	.00	.00	.00	.00	.00	.00	.00	.05	.14	.23	.19	.19	.23	1.44		1.44					
8	SU	.19	.14	.00	.00	.00	.00	.09	.09	.00	.00	.14	.33	.37	.33	.19	.23	2.09			2.09				
-	N	.98	1.12	.74	.42	.65	.51	.23	1.02	.51	1.16	1.44	1.68	1.91	1.54	2.37	2.23	18.53				18.53			
1	SS	.28	.74	.19	.09	.00	.05	.28	.93	.61	2.19	1.91	1.35	2.19	.79	1.12	.19	12.90					12.90		
2	MS	.00	.00	.00	.00	.00	.00	.09	.70	.56	.00	.09	.00	.05	.00	.00	.00	1.49						1.49	
	ES	.00	.00	.00	.00	.00	.00	.05	.84	.61	.00	.00	.00	.00	.00	.00	.00	1.49							1.49
	EU	.05	.19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00	.09	.00	.51	.51						
1	MU	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.14	.23	.00	.09	.00	.61		.61					
3	SU	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.09	.19	.19	.33	.05	.09	1.02			1.02				
-	N	.84	.47	1.49	1.02	.42	.33	.28	.88	.23	.33	.98	1.12	1.16	.09	.42	.65	10.71				10.71			
1	SS	.00	.00	.05	.05	.00	.00	.00	.09	.05	.28	.51	.84	.23	.05	.00	.00	2.14					2.14		
8	MS	.00	.00	.00	.00	.00	.00	.00	.09	.05	.00	.00	.00	.00	.00	.00	.00	.14						.14	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

January-March 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.05		.05					
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.09			.09				
- N	.05	.00	.28	.33	.00	.05	.00	.28	.00	.00	.05	.00	.09	.00	.00	.00	1.12				1.12			
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.05					.05		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
TOT	4.57	6.47	4.52	2.79	2.33	2.14	2.98	7.68	6.43	6.80	8.57	9.69	13.04	8.20	8.20	5.59	100.00	2.05	2.42	3.72	41.43	31.98	10.94	7.45

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.09	.65	.19	.14	.19	.00	.14	.00	.00	.05	.00	.00	.19	.05	.28	.09	2.05	Extremely Unstable
.19	.28	.05	.00	.09	.05	.00	.00	.00	.00	.09	.28	.51	.33	.33	.23	2.42	Moderately Unstable
.23	.23	.05	.09	.14	.00	.09	.09	.00	.00	.23	.51	.65	.74	.33	.33	3.72	Slightly Unstable
2.28	2.93	2.79	1.91	1.30	1.72	1.07	2.70	1.12	2.14	3.45	3.86	3.96	2.70	3.91	3.58	41.43	Neutral
1.21	1.72	.84	.23	.28	.19	.98	2.00	2.10	3.96	3.96	3.82	4.43	2.61	2.84	.79	31.98	Slightly Stable
.42	.56	.47	.23	.23	.14	.37	1.26	1.63	.51	.47	.56	2.05	1.26	.37	.42	10.94	Moderately Stable
.14	.09	.14	.19	.09	.05	.33	1.63	1.58	.14	.37	.65	1.26	.51	.14	.14	7.45	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.52	.61	.33	.23	.28	.19	.23	.28	.52	.52	.75	.75	.94	1.17	.38	.37	8.05	0.8 - 3.5 mph
1.40	2.47	1.21	.51	.84	1.02	1.58	2.47	3.31	2.28	2.47	3.17	5.12	3.68	3.12	1.49	36.13	3.6 - 7.5 mph
1.58	2.75	1.16	.61	.79	.56	.88	3.58	2.28	3.40	3.63	3.49	4.75	2.89	4.05	2.98	39.39	7.6 - 12.5 mph
1.02	.65	1.54	1.12	.42	.33	.28	1.07	.33	.61	1.63	2.28	2.00	.47	.65	.74	15.13	12.6 - 18.5 mph
.05	.00	.28	.33	.00	.05	.00	.28	.00	.00	.09	.00	.23	.00	.00	.00	1.30	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

April-June 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2184
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
- N	.09	.00	.14	.14	.18	.18	.09	.00	.05	.09	.09	.05	.00	.09	.00	.09	1.28				1.28			
3 SS	.32	.09	.09	.27	.23	.23	.05	.18	.32	.23	.18	.23	.27	.09	.32	.32	3.43					3.43		
MS	.14	.09	.23	.18	.18	.18	.23	.18	.32	.50	.41	.23	.23	.27	.18	.32	3.89						3.89	
ES	.18	.09	.00	.00	.09	.09	.14	.05	.50	.82	.46	.46	.23	.09	.14	.05	3.39							3.39
EU	.00	.00	.14	.09	.09	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.37	.37						
MU	.00	.09	.00	.23	.00	.05	.05	.00	.00	.00	.00	.00	.00	.05	.00	.00	.46		.46					
4 SU	.00	.23	.27	.09	.05	.05	.05	.05	.00	.05	.05	.00	.05	.14	.14	.00	1.19			1.19				
- N	.69	.87	.60	.37	.69	.92	1.01	.64	.50	.09	.37	.46	.55	.55	.60	.50	9.39				9.39			
7 SS	1.79	.69	.60	.55	.78	.41	1.51	2.47	1.97	1.14	1.05	.92	1.19	.92	.87	.73	17.58					17.58		
MS	.60	.32	.14	.14	.09	.50	.41	.96	1.97	.82	.27	.60	1.10	.73	.18	.46	9.29						9.29	
ES	.14	.09	.00	.09	.05	.05	.14	.32	2.11	.41	.05	.55	.87	.41	.09	.00	5.36							5.36
EU	.23	.23	.23	.14	.09	.05	.00	.05	.00	.00	.00	.09	.27	.14	.46	.00	1.97	1.97						
MU	.00	.09	.27	.14	.00	.05	.00	.00	.00	.00	.05	.00	.05	.09	.05	.05	.82		.82					
8 SU	.27	.32	.27	.00	.00	.09	.00	.00	.00	.00	.27	.32	.05	.23	.14	.05	2.01			2.01				
- N	2.84	1.65	.23	.00	.09	.18	.14	1.01	.05	.82	1.69	1.47	.60	.73	1.05	.27	12.82				12.82			
1 SS	1.19	.46	.18	.32	.09	.09	.50	1.88	.32	1.14	2.79	.87	.23	.14	.14	.05	10.39					10.39		
2 MS	.05	.00	.09	.09	.09	.05	.14	.87	.23	.05	.00	.00	.00	.00	.05	.00	1.69						1.69	
ES	.00	.00	.00	.00	.00	.00	.09	.55	.14	.00	.00	.00	.00	.00	.00	.00	.78							.78
EU	.60	.32	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.78	.46	.14	.18	2.56	2.56						
1 MU	.27	.14	.00	.05	.00	.00	.00	.00	.00	.00	.14	.00	.32	.05	.00	.00	.96		.96					
3 SU	.27	.18	.05	.00	.00	.00	.00	.00	.00	.14	.14	.00	.09	.00	.09	.18	1.14			1.14				
- N	1.60	1.51	.09	.05	.00	.00	.05	.05	.00	.37	.64	.32	.69	.14	.18	.27	5.95				5.95			
1 SS	.05	.00	.05	.23	.09	.05	.09	.37	.00	.18	.37	.05	.00	.00	.05	.00	1.56					1.56		
8 MS	.00	.00	.05	.00	.05	.05	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18						.18	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

April-June 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05						
1 MU	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14		.14					
9 SU	.05	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18			.18				
- N	.46	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.00	.00	.00	.69				.69			
2 SS	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09					.09		
4 MS	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.05						.05	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
T SU	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14			.14				
N	.18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18				.18			
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
TOT	12.27	7.65	3.85	3.16	2.93	3.34	4.72	9.66	8.47	6.87	9.02	6.59	7.78	5.31	4.85	3.53	100.00	4.95	2.38	4.67	30.31	33.06	15.11	9.52

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.82	.55	.50	.23	.18	.05	.00	.05	.00	.00	.00	.09	1.10	.60	.60	.18	4.95	Extremely Unstable
.41	.32	.27	.41	.00	.09	.05	.00	.00	.00	.18	.00	.37	.18	.05	.05	2.38	Moderately Unstable
.73	.87	.60	.09	.05	.14	.05	.05	.00	.18	.46	.32	.18	.37	.37	.23	4.67	Slightly Unstable
5.86	4.08	1.05	.55	.96	1.28	1.28	1.69	.60	1.37	2.79	2.29	2.01	1.51	1.83	1.14	30.31	Neutral
3.34	1.24	.92	1.37	1.19	.87	2.15	4.90	2.61	2.70	4.40	2.06	1.69	1.14	1.37	1.10	33.06	Slightly Stable
.78	.41	.50	.41	.41	.78	.82	2.06	2.52	1.37	.69	.82	1.33	1.01	.41	.78	15.11	Moderately Stable
.32	.18	.00	.09	.14	.14	.37	.92	2.75	1.24	.50	1.01	1.10	.50	.23	.05	9.52	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.73	.27	.46	.60	.69	.69	.50	.41	1.19	1.65	1.14	.96	.73	.55	.64	.78	12.00	0.8 - 3.5 mph
3.21	2.29	1.74	1.56	1.74	1.97	3.16	4.44	6.55	2.52	1.79	2.52	3.80	2.79	1.88	1.69	43.64	3.6 - 7.5 mph
4.58	2.75	1.28	.69	.37	.50	.87	4.35	.73	2.01	4.81	2.75	1.19	1.33	1.88	.41	30.49	7.6 - 12.5 mph
2.79	2.15	.32	.32	.14	.09	.18	.41	.00	.69	1.28	.37	1.88	.64	.46	.64	12.36	12.6 - 18.5 mph
.64	.18	.05	.00	.00	.09	.00	.05	.00	.00	.00	.00	.18	.00	.00	.00	1.19	18.6 - 24.5 mph
.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.32	> 24.5 mph

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

July-September 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2181
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																	STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
C	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
A	N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
L	SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
M	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
1	SU	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05			.05				
-	N	.18	.28	.09	.05	.18	.09	.05	.00	.05	.00	.23	.05	.09	.00	.14	.00	1.47				1.47			
3	SS	.41	.37	.69	.23	.14	.14	.41	.09	.41	.41	.23	.14	.41	.60	.50	.64	5.82					5.82		
	MS	.23	.05	.09	.09	.00	.00	.00	.00	.23	.55	.73	.55	.60	.87	.28	.41	4.68						4.68	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.14	.23	.60	.87	.46	1.10	.23	.00	3.62							3.62
	EU	.05	.32	.41	.41	.37	.28	.23	.05	.00	.00	.00	.05	.18	.37	.09	.00	2.80	2.80						
	MU	.14	.28	.18	.18	.37	.18	.00	.05	.00	.05	.00	.00	.00	.00	.05	.00	1.47		1.47					
4	SU	.18	.37	.46	.32	.41	.18	.05	.05	.00	.00	.00	.09	.09	.00	.18	.18	2.57			2.57				
-	N	1.33	2.15	1.19	.92	1.10	1.01	1.10	.96	.87	.69	.55	.83	1.38	.69	.87	.73	16.37				16.37			
7	SS	1.93	1.83	1.15	.46	.46	.46	.69	1.19	2.89	3.30	1.10	1.65	1.33	.92	1.01	1.42	21.78					21.78		
	MS	.18	.05	.05	.00	.00	.09	.00	.18	.60	1.15	1.05	.46	.18	.60	.87	.32	5.78						5.78	
	ES	.00	.00	.00	.00	.00	.05	.00	.00	.14	.05	.14	.46	.18	.60	.18	.05	1.83							1.83
	EU	.14	1.19	.37	.18	.00	.28	.23	.09	.05	.41	.50	.32	.09	.09	.09	.23	4.26	4.26						
	MU	.14	.78	.28	.00	.00	.09	.09	.05	.09	.23	.18	.00	.05	.00	.00	.05	2.02		2.02					
8	SU	.64	.37	.18	.09	.00	.23	.28	.09	.05	.14	.18	.09	.00	.00	.00	.05	2.38			2.38				
-	N	1.38	1.97	.92	.64	.46	.83	1.33	1.38	.28	.78	1.05	.87	1.56	.05	.23	.28	13.98				13.98			
1	SS	.41	.73	.46	.46	.14	.23	.41	.69	.32	.32	.55	.92	.09	.18	.05	.18	6.14					6.14		
2	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.05						.05	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
	EU	.14	.00	.00	.18	.00	.00	.00	.00	.00	.05	.14	.00	.00	.00	.00	.00	.50	.50						
1	MU	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.14		.14					
3	SU	.00	.05	.00	.05	.00	.05	.09	.09	.00	.00	.09	.00	.05	.00	.00	.00	.46			.46				
-	N	.00	.09	.05	.28	.05	.18	.14	.18	.05	.05	.05	.05	.00	.00	.00	.00	1.15				1.15			
1	SS	.00	.09	.09	.00	.00	.05	.05	.23	.09	.00	.00	.00	.00	.00	.00	.00	.60					.60		
8	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

July-September 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
9 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
- N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
2 SS	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.09					.09		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
TOT	7.47	10.96	6.69	4.63	3.67	4.40	5.14	5.46	6.24	8.39	7.43	7.43	6.74	6.05	4.77	4.54	100.00	7.57	3.62	5.46	32.97	34.43	10.50	5.46

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.32	1.51	.78	.78	.37	.55	.46	.14	.05	.46	.64	.37	.28	.46	.18	.23	7.57	Extremely Unstable
.28	1.05	.50	.23	.37	.28	.09	.09	.09	.28	.23	.00	.05	.00	.05	.05	3.62	Moderately Unstable
.83	.78	.64	.50	.41	.46	.41	.23	.05	.14	.28	.18	.14	.00	.18	.23	5.46	Slightly Unstable
2.89	4.49	2.25	1.88	1.79	2.11	2.61	2.52	1.24	1.51	1.88	1.79	3.03	.73	1.24	1.01	32.97	Neutral
2.75	3.03	2.38	1.15	.73	.87	1.56	2.29	3.71	4.03	1.88	2.71	1.83	1.70	1.56	2.25	34.43	Slightly Stable
.41	.09	.14	.09	.00	.09	.00	.18	.83	1.70	1.79	1.05	.78	1.47	1.15	.73	10.50	Moderately Stable
.00	.00	.00	.00	.00	.05	.00	.00	.28	.28	.73	1.33	.64	1.70	.41	.05	5.46	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.83	.69	.87	.41	.32	.23	.46	.09	.83	1.19	1.79	1.60	1.56	2.57	1.15	1.05	15.64	0.8 - 3.5 mph
3.81	5.00	3.44	2.29	2.71	2.25	2.06	2.48	4.49	5.23	2.84	3.53	3.35	3.16	3.26	2.71	52.59	3.6 - 7.5 mph
2.71	5.04	2.20	1.38	.60	1.65	2.34	2.29	.78	1.88	2.48	2.25	1.79	.32	.37	.78	28.84	7.6 - 12.5 mph
.14	.23	.18	.55	.05	.28	.28	.50	.14	.09	.32	.05	.05	.00	.00	.00	2.84	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00	.09	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	> 24.5 mph

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

October-December 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2208
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00				
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.09		.09					
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.05			.05				
- N	.14	.18	.23	.14	.18	.14	.14	.05	.23	.18	.23	.27	.09	.54	.41	.18	3.31				3.31			
3 SS	.09	.14	.09	.00	.09	.09	.09	.14	.14	.09	.14	.32	.36	.36	.36	.09	2.58					2.58		
MS	.05	.00	.00	.00	.00	.00	.00	.00	.09	.14	.32	.14	.45	.27	.23	.14	1.81						1.81	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.05	.09	.05	.14	.23	.23	.09	.00	.86							.86
EU	.05	.27	.18	.05	.05	.18	.00	.05	.00	.05	.18	.27	.09	.32	.05	.00	1.77	1.77						
MU	.05	.05	.14	.00	.18	.05	.00	.09	.00	.18	.09	.18	.05	.05	.05	.05	1.18		1.18					
4 SU	.00	.00	.09	.09	.00	.00	.09	.05	.05	.14	.23	.14	.23	.63	.32	.14	2.17			2.17				
- N	.45	.72	.45	.00	.18	.41	.50	.72	.72	1.13	1.13	2.40	1.86	3.67	1.95	1.45	17.75				17.75			
7 SS	.36	.23	.00	.09	.00	.00	.14	.77	.91	1.63	1.31	1.22	1.59	1.31	.63	.18	10.37					10.37		
MS	.05	.05	.00	.00	.00	.00	.00	.05	.14	.32	1.04	.50	1.49	.77	.32	.00	4.71						4.71	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.18	.14	.23	.45	.05	.00	1.13							1.13
EU	.54	.23	.09	.14	.00	.18	.23	.14	.05	.68	1.27	.82	.72	1.45	.77	.23	7.52	7.52						
MU	.05	.00	.00	.05	.00	.14	.00	.23	.05	.05	.18	.45	.23	.45	.41	.05	2.31		2.31					
8 SU	.05	.27	.14	.09	.05	.23	.09	.41	.23	.32	.50	.82	.63	.63	.45	.14	5.03			5.03				
- N	.91	.59	.72	.59	.32	.86	.32	1.49	.91	2.17	1.77	2.04	3.71	2.45	1.99	1.49	22.33				22.33			
1 SS	.09	.09	.05	.05	.00	.14	.05	.14	.05	.32	.82	.00	.18	.14	.14	.00	2.22					2.22		
2 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.14	.00	.00	.00	.18						.18	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.05	.00	.14	.05	.00	.00	.00	.00	.00	.05	.18	.09	.36	.27	.27	.05	1.49	1.49						
1 MU	.00	.00	.00	.14	.00	.00	.05	.09	.00	.05	.18	.00	.05	.18	.00	.00	.72		.72					
3 SU	.18	.00	.18	.14	.00	.23	.00	.32	.00	.09	.09	.23	.18	.32	.14	.05	2.13			2.13				
- N	.18	.27	.32	.91	.41	.14	.45	1.00	.14	.00	.23	.50	.95	.68	.45	.32	6.93				6.93			
1 SS	.00	.00	.00	.00	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00	.00	.00	.23					.23		
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00

ComEd ZION STATION
35 ft. WIND SPEED and WIND DIRECTION

October-December 2000
250-35 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																	STABILITY CLASSES						
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
1 MU	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05		.05					
9 SU	.00	.00	.00	.00	.00	.05	.27	.18	.00	.00	.00	.00	.00	.00	.00	.00	.50			.50				
- N	.05	.00	.23	.05	.00	.05	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.50				.50			
2 SS	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.05					.05		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00					
T SU	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05			.05				
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00			
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		
4 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
TOT	3.31	3.08	3.08	2.54	1.45	2.90	2.45	6.30	3.76	7.74	10.10	10.64	13.86	15.17	9.06	4.57	100.00	10.78	4.35	9.92	50.82	15.44	6.70	1.99

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.63	.50	.41	.23	.05	.36	.23	.18	.05	.77	1.63	1.18	1.18	2.04	1.09	.27	10.78	Extremely Unstable
.09	.05	.18	.18	.18	.18	.09	.41	.05	.27	.45	.63	.32	.68	.45	.14	4.35	Moderately Unstable
.23	.27	.41	.32	.05	.54	.45	.95	.27	.54	.82	1.18	1.09	1.59	.91	.32	9.92	Slightly Unstable
1.72	1.77	1.95	1.68	1.09	1.59	1.40	3.40	1.99	3.49	3.35	5.21	6.61	7.34	4.80	3.44	50.82	Neutral
.54	.45	.14	.14	.09	.23	.27	1.31	1.09	2.04	2.26	1.54	2.13	1.81	1.13	.27	15.44	Slightly Stable
.09	.05	.00	.00	.00	.00	.00	.05	.23	.50	1.36	.63	2.08	1.04	.54	.14	6.70	Moderately Stable
.00	.00	.00	.00	.00	.00	.00	.00	.09	.14	.23	.27	.45	.68	.14	.00	1.99	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.27	.32	.36	.14	.27	.23	.23	.18	.50	.50	.72	.86	1.18	1.40	1.09	.45	8.70	0.8 - 3.5 mph
.95	1.31	.86	.23	.41	.63	.72	1.72	1.86	3.49	4.17	4.85	5.53	7.20	3.35	1.81	39.09	3.6 - 7.5 mph
1.63	1.18	1.00	.91	.36	1.54	.68	2.40	1.27	3.58	4.53	4.12	5.62	5.12	3.76	1.90	39.58	7.6 - 12.5 mph
.41	.27	.63	1.22	.41	.36	.50	1.63	.14	.18	.68	.82	1.54	1.45	.86	.41	11.50	12.6 - 18.5 mph
.05	.00	.23	.05	.00	.09	.32	.36	.00	.00	.00	.00	.00	.00	.00	.00	1.09	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	> 24.5 mph

Attachment 2:

to the Zion Nuclear Power Station, Units 1 and 2, 2000 Radioactive Effluent Release Report.

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

Commitment:
None

SUMMARY

This document was written to fulfill the requirement stated in the Offsite Dose Calculation Manual 12.7.2 that "The Annual Radioactive Effluent Release report shall also include the following: an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not correct and within the time specified in Section 12.2.1 or 12.2.2".

This document details the circumstances that led to the failure to calibrate the radiation monitor 0RT-PR30A. This detector monitors the gaseous effluent from the fuel building. The failure to calibrate the detector was due to the lack of communication during the transition from an operating station to the decommissioning phase. Work at the station is tracked via; the first is to write a work request, which gets the work scheduled. The calibration of ORTPR30A was initially done but the periodic calibration was never added to the schedule. During a procedure review a Rad Tech questioned why the calibration of the radiation monitor was in a Zion Radiation Protection procedure. This prompted an investigation, which revealed the periodic calibration. The instrument was out of its calibration periodicity for 10 months.

INITIATING INCIDENT

On March 22, 2001 it was discovered that the radiation monitor 0RT-PR30A (gas detector for the fuel building) calibration had expired on May 30, 2000. This requirement comes from the Offsite Dose Calculation Manual 12.2.2.B.2 "Each radioactive plant monitoring instrumentation channel shall be demonstrated OPERABLE by performance of a CHANNNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, AND CHANNEL FUNCTIONAL TEST at the frequencies shown in Table 12.2-4". The station did not meet the condition of Channel Calibration frequency stated in Table 12.2-4 of an Annual calibration for that detector.

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PURPOSE

The purpose of this monitor is to provide a method of monitoring and sampling the gaseous effluent from the fuel building. Section 4.6.1 of the Defuel Station Analysis Report (DSAR) states " The process radiation monitoring system, which includes the effluent monitors, is designed to provide early warning of increasing radiation activity due to a malfunction of plant equipment, and to monitor radioactive discharges to the environment to ensure concentrations do not exceed specific limits."

IMMEDIATE CORRECTIVE ACTIONS

Upon discovery of the condition of the radiation monitor the following action plan was implemented to correct and document the recovery of the gas detector:

1. Removed instrument which was beyond the calibration periodicity and replaced with the calibrated spare monitor.
2. Shipped the original instrument to the vendor for calibration.
3. Required the vendor perform an as found condition on the monitor.
4. Documented this incident using the Station Corrective Action Process.
5. Wrote a pre-define to automatically generate this work in the station schedule at the required periodicity.
6. Compensatory samples were pulled until the calibrated spare instrument was declared operable.
7. Complete documentation as to the events and corrective actions taken to prevent this reoccurrence in the future.

RESULTS OF THE IMMEDIATE ACTIONS TAKEN

1. The gas detector 0RT-PR30A was removed under work request number 990270518-02, which was completed on March 23, 2001.

2. The monitor was shipped to the Eberline Corporation on March 26, 2001.

3. The original calibration on the detector was performed on May 3, 1999. The Beta efficiency at that time was 5.31% which was the corrected value for KR_{85} which is the isotope of interest for Zion Station. On March 28, 2001, the vendor was asked to perform an as found reading on the detector. The Beta efficiency was 5.45% which is 102.6 % of the original reading. Per Zion Radiation Protection Procedure 5821-33 rev.4 step 1.8.1, "If the detector efficiency for Kr_{85} as determined during calibration is approximately 4.7% to 9.0%, Then the nominal sensitivity to Kr_{85} is $3.15e^{-8}$ uCicc/cpm and the detector is functioning properly." Both the calibration and the as found check are within the specification put forth in this procedure.

4. Action Request # 990139327 was written to place this occurrence into the station corrective action tracking system. This item will remain open until station management reviews and is satisfied with the actions taken.

5. Pre-define # 186952 has been written and placed into the station schedule to ensure calibrations are properly maintained in the future.

6. Once the discovery was made, ZRP 5820-12 Rev. 16 was used to initiate the compensatory actions for 0RT-PR30A. There were six samples pulled and analyzed per Table 12.2-3 of the ODCM. Surveillance 10. Of this table states "With the number of OPERABLE channels less than the minimum required, restore the channel to OPERABLE STATUS WITHIN 30 DAYS OR CONDUCT A STATION REVIEW TO DETERMINE A PLAN OF ACTION TO RETURN THE CHANNEL TO operable status. Effluent releases via this pathway may continue provided a grab sample are obtained and analyzed for gross activity at least once per day." During the time it took the station to install the spare calibrated detector, six samples (March 22, 2001 to March 27, 2001) were pulled and analyzed and there was no activity detected.

7. The vendor has recommend that the detector be calibrated on a once a year frequency. Zion Station will follow this recommendation.

8. The writing and approval of this document shall be included as part of the Zion Station Annual Effluent report as required in ODCM 12.7.2. which states, "The Annual Radioactive Effluent Release Report shall also include the following: an explanation as to why the inoperability of liquid or gaseous monitoring instrumentation was not corrected within the time specified in Section 12.2.1 or 12.2.2, respectively; and description of the events leading to liquid holdup tanks exceeding the limits of to the Permanently Defueled Technical Specifications".

Quantifying and Qualifying Gaseous Releases from 0RT-PR30A

The radiation monitor 0RTPR30A became operable September 20, 1999. Since that time weekly samples have pulled to qualify and quantify the amount of radioactive gas discharged from the Fuel Building. A particulate, tritium, and gas sample were pulled and analyzed according to approved procedures. These results along with the total air-flow were put into a computer program to calculate the total Offsite Dose to the public.

During this time there have been 83 samples pulled and analyzed for noble gas. There were 38 samples pulled and analyzed while the radiation monitor 0RT-PR30A was still within its calibration periodicity. No radiological discharges were detected during this time. Forty-five samples were pulled and analyzed while the instrument was out of calibration. These samples indicated that there was no activity released.

Periodic Testing of ORT-PR30A

The station did complete all of the prescribed channel checks daily. The source checks are performed on a weekly periodicity, while the ODCM requires that this test be performed on a Monthly frequency. These actions met or exceeded the criteria stated in the Offsite Dose Calculation Manual 12.2.2.B.2 "Each radioactive plant monitoring instrumentation channel shall be demonstrated OPERABLE by performance of a CHANNNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, AND CHANNEL FUNCTIONAL TEST at the frequencies shown in Table 12.2-4".

On a daily basis the operations department completes PT-0 appendix N, as required for the channel check. On a weekly basis source check is conducted with a qualified Rad Tech and an individual in the Control Room. Zion Radiation Procedure 5821-22, Rev. 2 was used to insure that the parameters that are installed into the monitor are within the limits set forth in this procedure. After this portion of the procedure is completed satisfactorily, a source check of 0RT-PR30A is conducted using the same procedure. At no time did 0RT-PR30A fail the weekly source checks.

Conclusion

The radiation detector 0RT-PR30A was beyond its frequency for approximately 45 weeks. This was due to a lack of communication during the period of transferring from the Zion Decommissioning Organization (ZDO) to the Long Term Decommissioning Organization (LZDO). During the time the detector was past its calibration frequency weekly samples were pulled and analyzed and no radioactivity was detected. During this period of time the radiation detector was source checked on a weekly basis and passed all checks. At the same time as the source check a qualified Rad Technician checked the parameters installed in the monitor to verify the correct settings. There were no discrepancies found. Once the detector was discovered to be beyond its calibration frequency, the detector was replaced with a spare calibrated detector. The detector was sent to the vendor and had an as found calibration performed. The results of the as found calibration were within the specifications as stated in ZRP 5821-33, Rev. 4 Step 1.8.1.

ATTACHMENT 3

Radioactive Effluent Release Report

- Summary of the Changes to the ODCM

Zion Station
Chapter 10 Change Summary
ODCM Revision 3, May 17, 2000

10.1.1. Revised to include FB exhaust as one of the 3 main effluent release paths (also 1-2 stacks). Eliminate mention of Figures and other references replaced by general reference to DSAR text and diagrams.

10.1.1.1. Eliminate discussion of gas hold-up system.

10.1.1.2. The "Ventilation Exhaust Treatment System" renumbered as 10.1.1.1. Eliminated discussion of iodine removal systems. Removed reference to Figure 10-1.

10.1.2. Added statement referencing DSAR for specific information and available diagrams.

10.1.2.1. Changed section title to "Aux Ventilation Stack Effluent Monitors". Revised description to a basic statement that monitors provide beta and noble gas monitoring for the stack effluent flowpath.

10.1.2.2. Eliminated section titled "Auxiliary Building Ventilation Effluent Monitors". Replaced with section titled "Fuel Building Effluent Air Monitor" providing general description of new FB exhaust monitor.

10.1.2.3. Eliminate discussion of purge monitors PR09. Eliminate reference to outdated UFSAR 11.5-1 and 11.5-2. Revised general description of containment SPINGs.

10.1.2.4. Deleted section on Waste Gas Decay Monitors.

10.1.2.5. Deleted section on Condenser Air Ejector Monitors.

10.1.3.1. Removed the word "seven" from the first and last sentence of the description. Replaced the words "Tech Spec" in the last sentence with the more general term "applicable".

10.1.3.2. Eliminated specific calculations for standard effluent Tech Spec limits. Replaced with general description that setpoints based on DSEP EALs.

10.1.3.3. Revised to establish Kr-85 as the only noble gas isotope available for release.

10.1.3.4. Establish that monitor response will be based only on the energy/response characteristics of Kr-85.

10.1.3.5. Eliminated PR25 and RE14 from discussion. Stated flow based on flow instrumentation but could use # of fans operating to determine effluent flow rates. Revised bases for how using maximum flow rates provides conservative setpoint calculations. Eliminate flows for monitors PR10, PR09, and RE15 and added flow for new FB pathway.

Zion Station
Chapter 10 Change Summary
ODCM Revision 3, May 17, 2000

10.1.4.	Revised description of allocation of effluent from common point to include only FB.
10.1.5.	Delete section.
10.2.1.	Eliminate discussion of Figure 10-2 and 10-3. Reference DSAR for available system diagrams. Revised general description of system. Eliminate reference to UFSAR 11.1.3.
10.2.1.2.	Added fuel pool cooling tower as an input.
10.2.2.1.	Revised to clarify that either PR04 or PR05 is used to monitor LDT release.
10.2.2.2.	Delete "Monitor" as first word in first sentence. Eliminate reference to UFSAR and replace with general reference to DSAR.
10.2.3.1.	Added "concentration" to the description of the limits that govern liquid releases and setpoint calculations.
10.2.3.2.1.	Added note (1) providing for flows to be determined by more restrictive NPDES limits I instead of radiological limits.
10.2.3.4.	Revised to state that release mixture based on nuclide with conservative discharge limit (e.g., Sr-90).
10.2.3.5.	Changed from I-131 to Cs-137.
10.2.3.6.	Revised to state table 10-3 provides conservative estimates of pump flows.
10.2.5.	Revised to clarify that fire sump samples are collected by a compositor and not grab sampled daily.
Table 10-1	Eliminated all isotopes but Kr-85.
Table 10-2	Eliminated "Misc Exh" and "Ser. Bldg" flow data.
Table 10-3	Revised design based flows for circ and service water pumps.

Figures 10-1,2,3,4,5 - Deleted

Zion Station
Change Summary
ODCM Chapter 11 Revision 2 and Chapter 12 Revision 6

Table 11-1.1 and Table 12.5-1.1.	Established three near field air sampling locations in the sectors closest to population centers. Eliminated iodine sampling.
Table 11-1.2 and Table 12.5-1.2.	Seventeen routine monitoring stations: 14 inner ring locations, 3 air monitoring locations, and potential special interest locations. Results in at least one monitoring location in each meteorological sector in the general area of the site boundary and any special locations at the discretion of the Rad Chem Department.
Table 11-1.3. and Table 12.5-1.3.	Editorial change, reversing the order in Table 11-1.3 of the listing of the sediment and control indicators.
Table 11-1.3. and Table 12.5-1.3.	The sampling and analyses of cooling water was eliminated.
Table 11-1.4.a. and Table 12.5-1.4.a.	This sampling specification (milk) has been eliminated from the table completely.
Table 11-1.4.c. and Table 12.5-1.4.c.	This specification has been eliminated.
Table 11-1. footnotes 1-6. Table Table 12.5-1 footnotes 1-10.	Table 11.1 footnotes 1 and 4 were deleted. Table 12.5-1 footnotes 2,7,8, and 10 were deleted.
Figure 11-3	This Figure was deleted.
Table 12.5-2	Eliminated milk and food products from the table. Eliminated I-131 as an isotope of concern. Eliminated footnote (2) associated with the I-131.
Table 12.5-3	Eliminated milk and food products from the table.
Table 12.5-3 footnotes 1-7	Footnote 4, 5, and 6 were deleted.
Section 12.5.2.A.	Eliminated requirement to identify nearest milk animal and livestock in census.
Section 12.5.2.B.	Eliminated reference to growing season and agricultural authorities.

Section 12.5.1.C.	These sentences were replaced with, "The specified monitoring program is based on baseline/historical conditions for direct radiation measurements, soil, biota, and sediments established over years of operational experience and current site conditions/operating activities. The REMP need only be re-evaluated for major changes to site conditions/configuration (e.g., prior to site decommissioning, if a significant release occurs, changing baseline data...). Program changes may be initiated at any time based on operational experience.
Chapter 12	Replaced any reference to Tech Specs with the wording "Permanently Defueled technical Specification" (PDTS).
Chapter 12	Indicated "DELETED" for the definitions for "RATED THERMAL POWER, REACTOR PRESSURE, THERMAL POWER, OPERATING CYCLE, and OPERATIONAL MODE".
Table 12.2-1.4.	For liquid instrumentation, deleted the component cooling liquid monitors and placed the word "NONE" in the associated section.
Table 12.2-1	LCO Surveillance requirement 4 in on page 12-7 for the CC radiation monitors was deleted.
Table 12.2-2	Eliminated the standard surveillance requirements for the CC radiation monitors listed in on page 12-8.
Table 12.2-3	The applicability requirements for 1 & 2 RIA-PR49 were revised from "All Times" to "Supply or Exhaust Fans Operating".
Table 12.2-3	A footnote was added for item 3.3.C.1. (ORT-AR03). It clarifies that control function and auto actuation capabilities on high alarm is no longer applicable for this monitor.
Table 12.2-3 Section 4	Control room and TSC process (ORIA-PR29 and 32) and area (ORE0001 and ORE-AR31, 32, and 33) were deleted from page 12-11. The associated LCO and standard surveillances for these monitors were also eliminated.
Table 12.2-3	Surveillance 9 was revised to eliminate the "alternate monitoring" requirement and require the station to "conduct a station review to determine a plan of action to restore the channel to OPERABLE status."
Table 12.4-1	Eliminated the footnote from the fuel building ventilation pathway relating to initial applicability. Inserted footnote for continuous release points indicating that the applicability of the release point is independent of whether the associated ventilation system is operable.

Zion Station
Change Summary
ODCM Chapter 11 Revision 2 and Chapter 12 Revision 6

Sections 12.7., 12.7.2., and 12.7.3.1.	Reference to Tech Spec Sections (CTS) were revised to reference Permanently Defueled Tech Specs PDTS).
Table 12.2-1.	A modification to the LDT waste processing system was completed. The modification installed an additional LDT release flow path facilitating much lower discharge rates when releasing a LDT. This change includes the flow meter (0FI-WD005) into the ODCM with the current LDT effluent flow rate meters. Applicable LCO actions requirements and operability surveillances were also included for this new equipment.