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FACILITY: Zion

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

YEAR: 1982

I. Airborne Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
1. Gross Radioactivity Releases											
a) Total Release	Curies	8.23E+2	3.23E+3	1.56E+2	4.21E+3	6.25E+2	1.04E+3	2.93E+3	4.60E+3	8.81E+3	6.6A3fla1
b) Maximum Release Rate (1)	uci/sec	3.66E+2	1.04E+4	9.75E+1	1.04E+4	8.12E+2	1.86E+3	4.54E+3	4.54E+3	1.04E+4	6.6A3fla2
c) Isotopes Released	Curies										6.6A3fla3
Xe-131m		ND	4.10E0	ND	4.10E0	ND	1.91E-2	ND	1.91E-2	4.12E0	
Xe-133m		3.15E-2	1.71E-1	ND	2.03E-1	1.28E-2	3.95E0	3.61E+2	3.65E+2	3.65E+2	
Kr-88		1.26E+1	1.95E+1	ND	3.21E+1	ND	ND	1.03E-2	1.03E-2	3.21E+1	
Kr-85m		7.85E0	1.13E+1	ND	1.92E+1	ND	ND	ND	ND	1.92E+1	
Xe-135		7.76E+1	1.09E+2	2.53E0	1.89E+2	6.73E-3	1.39E0	1.14E-2	1.41E0	1.90E+2	
Xe-133		6.44E+2	2.88E+3	1.53E+2	3.68E+3	6.25E+2	1.03E+3	1.27E+3	2.93E+3	6.61E+3	
Ar-41		2.31E+1	3.95E+1	ND	6.26E+1	ND	ND	ND	ND	6.26E+1	
Kr-85		ND	1.41E-1	ND	1.41E-1	ND	ND	ND	ND	1.41E-1	
Kr-87		4.65E0	5.80E0	ND	1.05E+1	ND	ND	1.30E+3	1.30E+3	1.31E+3	
Xe-135m		5.19E+1	8.16E0	ND	6.01E+1	ND	ND	ND	ND	6.01E+1	3.12.1.A.1
Xe-138		5.87E-1	1.97E0	ND	2.56E0	ND	ND	ND	ND	2.56E0	
d) Percent of quarterly gaseous activity limit (9600 uci/sec)	%	1.09E0	4.28E0	2.07E-1	5.58E0	8.28E-1	1.38E0	3.88E0	6.10E0	1.17E+1	6.6A3fla4 3.12.1.A
2. Iodine Releases											
a) Isotopes Released	Curies										6.6A3flb
I-131		6.23E-4	2.00E-3	2.37E-4	2.86E-3	1.79E-5	1.31E-5	4.16E-5	7.26E-5	2.93E-3	
I-133		1.96E-4	2.97E-4	ND	4.93E-4	ND	ND	ND	ND	4.93E-4	
I-135		5.55E-5	5.93E-5	ND	1.15E-4	ND	ND	ND	ND	1.15E-4	

1. Gross Gaseous Radioactivity Release Maximum Release Rate 60,000 uc/sec.

FACILITY: Zion

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

YEAR: 1982

1. Airborne Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
b) Percent of Iodine 131 Limit	%(1)	--	--	--	--	--	--	--	--	--	6.6A3f1b2
											3.12.1.B
3. Particulate Releases											6.6A3f1c1
a) Gross Radioactivity	Curies	7.31E-5	3.07E-4	9.31E-5	4.73E-4	2.30E-4	5.19E-4	9.42E-4	1.69E-3	2.16E-3	6.6A3f1c2
b) Gross Alpha Radioactivity	Curies	4.85E-6	3.41E-5	2.87E-5	6.77E-5	2.98E-7	4.16E-6	3.59E-4	3.64E-4	4.31E-4	6.6A3f1c3
c) Isotopes Released	Curies										
Sr-89		--	--	--	*	--	--	--	*	*	
Sr-90		--	--	--	*	--	--	--	*	*	
Co-58		ND	ND	1.95E-13	1.95E-13	ND	ND	ND	ND	1.95E-13	
Co-60		4.85E-6	1.49E-6	1.46E-5	2.09E-5	ND	ND	ND	ND	2.09E-5	
Cs-134		ND	1.26E-9	ND	1.26E-9	ND	ND	ND	ND	1.26E-9	
Cs-137		ND	3.13E-5	1.41E-5	4.54E-5	2.98E-7	ND	ND	2.98E-7	4.57E-5	
Mn-54		ND	ND	ND	ND	ND	ND	ND	ND	ND	
I-131		ND	1.24E-6	ND	1.24E-6	ND	ND	ND	ND	1.24E-6	
I-133		ND	ND	ND	ND	ND	ND	ND	ND	ND	
I-135		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nb-95		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zr-95		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cr-51		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ba-La-140		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Mo-99		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tc-99m		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Np-239		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Na-24		ND	ND	ND	ND	ND	ND	ND	ND	ND	

N.D. = No detectable activity above background

1. Iodine and Particulate Limits are Total Limit - See Item 14 of this report.

* = Waiting for analysis results - data will be presented in an errata to the Annual Report.

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

YEAR: 1982

FACILITY: Zion

I. Airborne Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
Sb-124		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fe 59		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cs-138		ND	1.21E-8	ND	1.21E-8	ND	ND	ND	ND	1.21E-8	
Rb-88		ND	1.05E-8	ND	1.05E-8	ND	ND	ND	ND	1.05E-8	
d) Percent of Particulate with half lives greater than 2 days	(1) %	--	--	--	--	--	--	--	--	--	6.6A3f1c4 3.12.1B
4. Sum of Iodine 131 and Particulate with half lives greater than 8 days											3.12.1B
a) Percent of Limit (2 uci/sec)	Curies %	6.96E-4 1.30E-2	2.31E-3 4.77E-2	3.30E-4 1.23E-2	3.33E-3 7.30E-2	2.48E-4 9.56E-3	5.32E-4 1.99E-2	9.84E-4 3.79E-2	1.76E-3 6.74E-2	5.09E-3 1.40E-1	3.12.1B
b) Percent of quarterly limit (0.16 uci/sec)	%	5.52E-2	1.84E-1	2.62E-2	2.65E-1	1.97E-2	4.23E-2	7.82E-2	1.40E-1	4.05E-1	3.12.1B.1

1. Iodine and Particulate limits are expressed as a combined limit - See Item I-4 of this report.

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

Unit 1 Discharge

YEAR: 1982

FACILITY: ZION

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
1. Gross Radioactivity*											
a) Total Release	Curies	1.48E-1	1.06E-1	1.70E-2	2.71E-7	No	No	2.43E-2	2.43E-2	2.95E-1	6.6A3f2a
b) Average Concentration Released	uci/ml	4.80E-10	1.11E-9	8.32E-10	8.07E-10	Liquid Waste	Liquid Waste	8.92E-10	8.92E-10	8.29E-10	6.6A3f2a
c) Maximum Concentration Released	uci/ml	1.37E-8	8.51E-9	7.22E-9	1.37E-8	Dis-charged	Dis-charged	2.90E-8	2.90E-8	2.90E-8	6.6A3f2f
d) Percent of Tech Spec Limit (5 curies)	%	2.96E0	2.12E0	3.40E-1	5.42E0			4.86E-1	4.86E-1	5.91E0	6.6A3f2f
2. Tritium											
a) Total Release	Curies	2.98E+1	3.42E+1	3.00E+1	9.40E+1			8.20E+1	8.20E+1	1.76E+2	6.6A3f2b
b) Average Concentration Released	uci/ml	2.98E-7	3.59E-7	1.47E-6	7.09E-7			3.01E-6	3.01E-6	1.28E-6	6.6A3f2b
c) Percent of Tech Spec Limit (3x10 ⁻⁴ uci/ml)	%	9.93E-3	1.20E-2	4.89E-2	7.08E-2			1.00E-1	1.00E-1	1.71E-1	6.6A3f2h
3. Dissolved Noble Gases											
a) Total Release	Curies	2.36E0	2.21E0	2.65E-1	4.84E0			2.56E-1	2.56E-1	5.09E0	6.6A3f2c
b) Average Concentration Released	uci/ml	2.36E-8	2.32E-8	1.30E-8	1.99E-8			9.39E-9	9.39E-9	1.73E-8	6.6A3f2c
						↓	↓				

N.D. = No detectable activity above background *Excluding Tritium, Alpha, & Dissolved Noble Gases

FACILITY: ZION

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

Unit 1 Discharge

YEAR: 1982

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
4. Gross Alpha Radioactivity											
a) Total Release	Curies	4.09E-4	3.05E-4	1.92E-5	7.33E-4	No	No	3.33E-5	3.33E-5	7.66E-4	6.6A3f2c
b) Average Concentration Released	uci/ml	4.09E-12	3.20E-12	9.39E-13	2.74E-12	Liquid Waste	Liquid Waste	1.22E-12	1.22E-12	2.36E-12	6.6A3f2c
						Dis-charged	Dis-charged				
5. Volume of Liquid Waste to Discharge	Liters	6.62E+6	1.36E+7	1.05E+7	3.07E+7			1.03E+7	1.03E+7	4.10E+7	6.6A3f2c
6. Volume of Dilution Water	Liters	1.00E+11	9.54E+10	2.04E+10	2.16E+11			2.73E+10	2.73E+10	2.43E+11	6.6A3f2e
7. Isotopes Released	Curies										6.6A3f2g
Cs-134		3.69E-4	1.51E-3	7.24E-5	1.95E-3			1.09E-3	1.09E-3	3.04E-3	
Pa-La-140		ND	ND	ND	ND			ND	ND	ND	
I-131		ND	1.20E-3	ND	1.20E-3			ND	ND	1.20E-3	
Cs-137		3.51E-3	4.60E-3	5.75E-4	8.69E-3			2.13E-3	2.13E-3	1.08E-2	
CO-58		8.41E-2	5.78E-2	9.88E-3	1.52E-1			7.47E-3	7.47E-3	1.59E-1	
CO-60		2.94E-2	2.72E-2	4.61E-3	6.17E-2			1.02E-2	1.02E-2	7.19E-2	
Cr-51		2.42E-3	ND	ND	2.42E-3			ND	ND	2.42E-3	
Mn-54		ND	ND	ND	ND			ND	ND	ND	
Zn-65		ND	ND	ND	ND			ND	ND	ND	
Sn-89		ND	ND	ND	ND			ND	ND	ND	
Sr-90		ND	ND	ND	ND			ND	ND	ND	
Cu-64		ND	ND	ND	ND			ND	ND	ND	
I-132		ND	ND	ND	ND	↓	↓	ND	ND	ND	

N.D. = No detectable activity above background

FACILITY: ZION

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

Unit 1 Discharge

YEAR: 1982

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
Sb 124		4.58E-3	5.13E-3	3.07E-4	1.03E-2	No	No	8.71E-4	8.71E-4	1.12E-2	
I 133		ND	ND	ND	ND	Liquid	Liquid	ND	ND	ND	
Ag 110m		1.45E-2	5.67E-3	1.45E-3	2.16E-2	Waste	Waste	1.85E-3	1.85E-3	2.35E-2	
Na 24		ND	ND	ND	ND	dis-	dis-	ND	ND	ND	
W 187		6.41E-3	3.05E-3	ND	9.46E-3	charged	charged	4.68E-4	4.68E-4	9.93E-3	
Co 57		ND	ND	ND	ND			ND	ND	ND	
Mo 99		ND	ND	ND	ND			ND	ND	ND	
Zr 95		ND	ND	ND	ND			ND	ND	ND	
Nb 95		1.13E-3	8.76E-5	ND	1.22E-3			1.70E-4	1.70E-4	1.39E-3	
Fe 59		ND	ND	ND	ND			ND	ND	ND	
Np 239		ND	ND	ND	ND			ND	ND	ND	
Xe 133		2.32E0	2.21E0	ND	4.53E0			2.54E-1	2.54E-1	4.78E0	
Xe 135		2.02E-3	1.94E-3	2.65E-1	2.69E-1			ND	ND	2.69E-1	
Kr 85		3.27E-2	ND	ND	3.27E-2			ND	ND	3.27E-2	
Sr 92		1.65E-3	ND	4.81E-5	1.70E-3			ND	ND	1.70E-3	
Xe 133m		5.55E-3	2.91E-3	ND	8.46E-3			ND	ND	8.46E-3	
Kr 88		ND	ND	ND	ND	↓	↓	1.51E-3	1.51E-3	1.51E-3	

N.D. = No detectable activity above background

LOW GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Page 1 of 3

Month January

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-001	OB	19,750	6.03E-6	1.16E-2	47	534,000	5.31E-10	1.02E-6	4.51E-1	8.67E+2	4.51E-1	8.67E+2
2	R-82-003	OB	20,000	8.84E-6	9.92E-3	50	534,000	8.28E-10	9.29E-7	6.69E-1	7.51E+2	1.12E0	1.62E+3
3	R-82-005	OB	20,000	5.25E-6	1.04E-2	48	534,000	4.72E-10	9.35E-7	3.97E-1	7.87E+2	1.52E0	2.41E+3
4	R-82-007	OB	20,000	1.10E-5	8.84E-3	49	534,000	1.01E-9	8.11E-7	8.33E-1	6.69E+2	2.35E0	3.07E+3
5	R-82-009	OB	20,201	1.17E-5	8.43E-3	50	534,000	1.10E-9	7.89E-7	8.95E-1	6.45E+2	3.25E0	3.72E+3
6	R-82-011	OB	20,000	2.51E-6	6.70E-3	48	534,000	2.26E-10	6.02E-7	1.90E-1	5.07E+2	3.44E0	4.23E+3
7	R-82-013	OB	19,500	1.28E-5	8.37E-3	50	534,000	1.20E-9	7.84E-7	9.45E-1	6.18E+2	4.38E0	4.84E+3
8	R-82-016	OB	19,593	1.23E-5	3.23E-3	50	534,000	1.15E-9	3.02E-7	9.12E-1	2.40E+2	5.29E0	5.08E+3
10	R-82-018	OB	24,900	1.03E-4	5.32E-3	49	534,000	9.45E-9	4.88E-7	9.71E0	5.01E+2	1.50E+1	5.59E+3
11	R-82-020	OB	19,500	7.54E-5	1.02E-2	48	534,000	6.78E-9	9.17E-7	5.57E0	7.53E+2	2.06E+1	6.34E+3
12	R-82-022	OB	19,859	4.87E-5	8.67E-3	50	534,000	4.56E-9	8.12E-7	3.66E0	6.52E+2	2.42E+1	6.99E+3
13	R-82-024	OB	19,500	2.97E-5	1.57E-2	50	534,000	2.78E-9	1.46E-6	2.19E0	1.66E+3	2.64E+1	8.65E+3
14	R-82-026	OB	20,250	2.14E-5	1.93E-2	48	534,000	1.92E-9	1.73E-6	1.64E0	1.48E+3	2.81E+1	1.01E+4
15	R-82-028	OB	18,750	1.89E-5	1.35E-2	48	534,000	1.70E-9	1.21E-6	1.34E0	9.58E+2	2.94E+1	1.11E+4
16	R-82-030	OB	21,000	2.12E-5	1.59E-2	150	625,000	5.09E-9	3.82E-6	1.69E0	1.26E+3	3.11E+1	1.24E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Month January

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
17	R-82-033	OB	20,000	2.92E-5	1.26E-2	126	625,000	5.89E-9	2.54E-6	2.21E0	9.54E+2	3.33E+1	1.34E+4
17	R-82-035	OB	20,939	1.65E-5	1.67E-2	140	625,000	3.70E-9	3.74E-6	1.31E0	1.32E+3	3.46E+1	1.47E+4
18	R-82-037	OB	19,000	2.41E-5	1.25E-2	150	625,000	5.78E-9	3.00E-6	1.54E0	8.99E+2	3.62E+1	1.56E+4
19	R-82-039	OB	25,500	2.49E-5	1.21E-2	145	625,000	5.78E-9	2.81E-6	2.40E0	1.17E+3	3.86E+1	1.67E+4
20	R-82-041	OB	19,500	1.22E-5	9.67E-3	140	625,000	2.73E-10	2.17E-7	9.00E-1	7.14E+2	3.95E+1	1.75E+4
21	R-82-045	OB	20,923	1.56E-5	5.31E-3	150	625,000	3.74E-9	1.27E-6	1.24E0	4.21E+2	4.07E+1	1.79E+4
22	R-82-043	OB	21,141	1.53E-5	5.44E-3	150	625,000	3.67E-9	1.31E-6	1.22E0	4.35E+2	4.19E+1	1.83E+4
22	R-82-047	OB	20,976	2.25E-5	6.93E-3	140	625,000	5.04E-9	1.55E-6	1.79E0	5.50E+2	4.37E+1	1.89E+4
23	R-82-049	OB	17,000	1.12E-5	9.71E-3	149	625,000	2.67E-9	2.31E-6	7.21E-1	6.25E+2	4.44E+1	1.95E+4
24	R-82-051	OB	19,500	8.27E-6	7.21E-3	149	625,000	1.97E-9	1.72E-6	6.10E-1	5.32E+2	4.50E+1	2.00E+4
25	R-82-053	OB	19,500	1.46E-5	8.18E-3	148	625,000	3.46E-9	1.94E-6	1.08E0	6.04E+2	4.61E+1	2.06E+4
26	R-82-055	OB	20,000	1.28E-5	6.81E-3	148	625,000	3.33E-9	1.61E-6	9.69E-1	5.16E+2	4.71E+1	2.11E+4
27	R-82-057	OB	19,500	6.55E-6	9.62E-3	147	625,000	1.54E-9	2.26E-6	4.83E-1	7.10E+2	4.76E+1	2.19E+4
27	R-82-058	OA	19,500	1.41E-5	1.30E-2	150	625,000	3.38E-9	3.12E-6	1.04E0	9.59E+2	4.86E+1	2.28E+4
28	R-82-059	OB	19,500	3.82E-5	9.35E-3	150	625,000	9.17E-9	2.24E-6	2.82E0	6.90E+2	5.14E+1	2.35E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 * All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1
Month January
Year 1982

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Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				+Gross	Tritium I			+Gross	Tritium I	+Gross	Tritium I	+Gross	Tritium I
28	R-82-060	OA	10,500	3.52E-5	8.53E-3	150	625,000	8.45E-9	2.05E-6	1.16E0	6.30E+2	5.26E+1	2.41E+4
29	R-82-061	OB	21,148	2.34E-5	9.31E-3	148	625,000	5.54E-9	2.20E-6	1.89E0	7.45E+2	5.45E+1	2.49E+4
29	R-82-062	OA	18,829	1.21E-5	9.54E-3	148	625,000	2.87E-9	2.26E-6	8.62E-1	6.80E+2	5.53E+1	2.56E+4
29	R-82-063	OB	20,208	5.70E-5	8.75E-3	150	625,000	1.37E-8	2.10E-6	4.32E0	6.69E+2	5.96E+1	2.62E+4
30	R-82-064	OA	19,379	2.21E-5	9.61E-3	150	625,000	5.30E-9	2.31E-6	7.62E0	7.05E+2	6.13E+1	2.69E+4
30	R-82-065	OB	20,000	1.91E-5	9.85E-3	148	625,000	4.52E-9	2.33E-6	1.45E0	7.46E+2	6.27E+1	2.77E+4
30	R-82-066	OA	19,150	8.44E-6	1.09E-2	150	625,000	2.03E-9	2.62E-6	6.31E-1	8.15E+2	6.33E+1	2.85E+4
31	R-82-067	OB	21,048	3.52E-5	7.11E-3	148	625,000	8.34E-9	1.68E-6	2.80E0	5.66E+2	6.61E+1	2.91E+4
31	R-82-068	OA	18,783	7.64E-6	1.06E-2	148	625,000	1.81E-9	2.51E-6	5.43E-1	7.54E+2	6.67E+1	2.98E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
+ All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit #1
Year 1982

Month January

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
1-3	Fire		4.38E+5	2.84E-6	4.78E-4	150	625,000	6.82E-7	1.15E-7	4.71E0	7.92E+2	4.71E0	7.92E+2
4-10	Surp		1.53E+6	1.73E-6	1.29E-4	150	625,000	4.15E-10	3.10E-8	1.00E+1	7.47E+2	1.47E+1	1.54E+3
11-17	Continous		9.10E+5	1.06E-6	9.39E-4	150	625,000	2.54E-10	2.25E-7	3.65E0	3.23E+3	1.84E+1	1.86E+3
18-24	Discharge		1.06E+6	2.06E-6	1.03E-4	150	625,000	4.94E-10	2.47E-8	8.26E0	4.13E+2	2.66E+1	2.28E+3
25-31			1.04E+6	2.03E-6	1.83E-4	150	625,000	4.87E-10	4.39E-8	7.99E0	7.20E+2	3.46E+1	3.00E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Month February

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-069	OB	20,585	3.51E-5	5.79E-3	137	625,000	7.69E-9	1.27E-6	2.73E0	4.51E+2	2.73E0	4.51E+2
1	R-82-071	OB	19,500	1.41E-5	9.18E-3	150	625,000	3.38E-9	2.20E-6	8.41E-1	6.78E+2	3.54E0	1.13E+3
2	R-82-073	OB	20,614	1.26E-5	6.78E-3	150	625,000	3.02E-9	1.61E-6	9.83E-1	5.29E+2	4.53E0	1.66E+3
3	R-82-074	OA	19,500	1.77E-5	7.13E-3	150	625,000	4.25E-9	1.71E-6	1.31E0	5.26E+2	5.84E0	2.18E+3
3	R-82-075	OB	19,500	2.11E-5	8.38E-3	150	625,000	5.06E-9	2.01E-6	1.56E0	6.19E+2	7.40E0	2.80E+3
3	R-82-077	OB	20,585	1.10E-5	1.07E-2	150	625,000	2.64E-9	2.57E-6	8.57E-1	8.34E+2	8.25E0	3.64E+3
4	R-82-078	OB	19,500	1.23E-5	8.89E-3	150	625,000	2.95E-9	2.13E-6	9.08E-1	6.56E+2	9.16E0	4.29E+3
5	R-82-080	OB	20,885	1.04E-5	5.23E-3	135	625,000	2.25E-9	1.13E-6	8.22E-1	4.13E+2	9.98E0	4.71E+3
5	R-82-082	OB	21,000	4.14E-6	5.22E-3	140	625,000	9.27E-10	1.17E-6	3.26E-1	4.11E+2	1.03E+1	5.12E+3
6	R-82-084	OB	19,500	1.15E-5	4.02E-3	150	625,000	2.76E-9	9.65E-7	8.49E-1	2.97E+2	1.12E+1	5.41E+3
6	R-82-086	OB	20,332	1.87E-5	5.54E-3	140	625,000	4.19E-9	1.24E-6	1.44E0	4.26E+2	1.26E+1	5.84E+3
7	R-82-087	OA	19,500	7.23E-6	7.07E-3	150	625,000	1.74E-9	1.70E-6	5.34E-1	5.22E+2	1.31E+1	6.36E+3
7	R-82-088	OB	19,500	9.50E-6	5.65E-3	150	625,000	2.28E-9	1.36E-6	7.01E-1	4.17E+2	1.38E+1	6.78E+3
8	R-82-090	OB	20,821	6.99E-6	5.18E-3	148	625,000	1.66E-9	1.23E-6	5.51E-1	4.08E+2	1.44E+1	7.19E+3
8	R-82-092	OB	20,095	8.11E-6	6.60E-3	148	625,000	1.92E-9	1.56E-6	6.17E-1	5.02E+2	1.50E+1	7.69E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Page 2 of 4

Month February

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
8	R-82-093	OA	19,396	8.90E-6	7.96E-3	148	625,000	2.13E-9	1.88E-6	6.59E-1	5.84E+2	1.57E+1	8.27E+3
9	R-82-094	OB	21,936	2.25E-5	7.08E-3	140	625,000	5.04E-9	1.59E-6	1.87E0	5.88E+2	1.75E+1	8.86E+3
9	R-82-096	OB	22,282	1.73E-5	6.93E-3	150	625,000	4.15E-9	1.66E-6	1.45E0	5.79E+2	1.90E+1	8.44E+3
10	R-82-097	OA	19,375	8.04E-6	3.44E-3	150	625,000	1.93E-9	8.26E-7	5.90E-1	2.52E+2	1.96E+1	8.69E+3
10	R-82-098	OB	19,500	8.58E-6	5.41E-3	150	625,000	2.06E-9	1.30E-6	6.33E-1	3.99E+2	2.02E+1	1.01E+4
10	R-82-099	OA	20,500	1.36E-5	3.18E-2	140	625,000	3.05E-9	7.12E-6	1.06E0	2.47E+3	2.13E+1	1.26E+4
11	R-82-100	OB	19,500	2.16E-5	1.04E-2	150	625,000	5.18E-9	2.50E-6	1.59E0	7.68E+2	2.29E+1	1.33E+4
11	R-82-101	OA	19,500	1.70E-5	7.97E-3	150	625,000	4.08E-9	1.91E-6	1.25E0	5.88E+2	2.41E+1	1.39E+4
11	R-82-102	OR	20,641	2.62E-5	1.57E-2	145	625,000	6.08E-9	3.64E-6	2.05E0	1.23E+3	2.62E+1	1.52E+4
11	R-82-103	OA	5,000	1.12E-5	1.21E-2	150	625,000	2.69E-9	2.90E-6	2.12E-1	2.28E+2	2.64E+1	1.54E+4
12	R-82-104	OB	22,013	1.25E-5	7.63E-3	140	625,000	2.80E-9	1.71E-6	1.04E0	6.36E+2	2.74E+1	1.60E+4
12	R-82-105	OA	20,000	1.02E-5	7.18E-3	140	625,000	2.28E-9	1.61E-6	7.72E-1	5.44E+2	2.82E+1	1.66E+4
12	R-82-106	OB	20,000	1.23E-5	6.48E-3	148	625,000	2.91E-9	1.53E-6	9.31E-1	4.91E+2	2.91E+1	1.71E+4
12	R-82-107	OA	19,715	9.26E-6	4.64E-3	148	625,000	2.19E-9	1.10E-6	6.91E-1	3.46E+2	2.98E+1	1.74E+4
13	R-82-108	OB	20,790	1.39E-5	3.09E-3	150	625,000	3.34E-9	7.42E-7	1.09E0	2.43E+2	3.09E+1	1.76E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Month February

Year 1992

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Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
13	R-82-109	OA	20,000	7.32E-6	6.92E-2	148	625,000	1.73E-9	1.64E-5	5.54E-1	5.24E+3	3.14E+1	2.29E+4
14	R-82-110	OB	21,030	1.27E-5	3.29E-3	150	625,000	3.05E-9	7.90E-7	1.01E0	2.62E+2	3.25E+1	2.31E+4
14	R-82-111	OA	19,551	6.04E-6	3.76E-3	150	625,000	1.45E-9	9.02E-7	4.47E-1	2.78E+2	3.29E+1	2.34E+4
14	R-82-112	OB	19,500	1.07E-5	5.58E-3	148	625,000	2.53E-9	1.32E-6	7.90E-1	4.12E+2	3.37E+1	2.38E+4
14	R-82-113	OA	19,443	6.63E-6	7.09E-3	148	625,000	1.57E-9	1.68E-6	4.88E-1	5.22E+2	3.42E+1	2.43E+4
15	R-82-114	OB	20,000	8.71E-6	7.15E-3	148	625,000	2.06E-9	1.69E-6	6.59E-1	5.41E+2	3.48E+1	2.49E+4
15	R-82-115	OA	19,500	7.44E-6	7.77E-3	150	625,000	1.79E-9	1.86E-6	5.49E-1	5.73E+2	3.54E+1	2.55E+4
15	R-82-116	OB	19,250	7.04E-6	5.57E-3	150	625,000	1.69E-9	1.34E-6	5.13E-1	4.06E+2	3.59E+1	2.59E+4
16	R-82-117	OA	20,000	9.57E-6	7.78E-3	150	625,000	2.30E-9	1.87E-6	7.24E-1	5.89E+2	3.66E+1	2.65E+4
16	R-82-118	OB	20,052	5.93E-6	5.18E-3	140	625,000	1.33E-9	1.16E-6	4.50E-1	3.93E+2	3.71E+1	2.69E+4
16	R-82-119	OA	20,500	8.66E-6	5.28E-3	145	625,000	2.01E-9	1.22E-6	6.72E-1	4.10E+2	3.77E+1	2.73E+4
17	R-82-120	OB	19,500	6.95E-6	4.39E-3	150	625,000	1.67E-9	1.05E-6	5.13E-1	3.24E+2	3.83E+1	2.76E+4
17	R-82-121	OA	20,000	1.39E-5	3.54E-3	147	625,000	3.27E-9	8.33E-7	1.05E0	2.68E+2	3.93E+1	2.79E+4
17	R-82-122	OB	19,500	1.21E-5	4.31E-3	150	625,000	2.90E-9	1.03E-6	8.93E-1	3.18E+2	4.02E+1	2.82E+4
18	R-82-123	OA	19,422	9.74E-6	4.70E-3	150	625,000	2.34E-9	1.13E-6	7.16E-1	3.46E+2	4.09E+1	2.85E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #1

Month February Year 1982

Page 4 of 4

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I		
18	R-82-124	OB	20,000	1.33E-5	4.65E-3	148	625,000	3.15E-9	1.10E-6	1.01E0	3.52E+2	4.19E+1	2.89E+4
18	R-82-125	OA	17,500	1.48E-5	1.99E-2	148	625,000	3.50E-9	4.71E-6	9.80E-1	1.32E+3	4.29E+1	3.02E+4
19	R-82-126	OB	20,693	1.05E-5	5.38E-3	150	625,000	2.52E-9	1.20E-6	8.22E-1	4.21E+2	4.37E+1	3.06E+4
19	R-82-127	OA	20,000	1.13E-5	5.07E-3	150	625,000	2.71E-9	1.22E-6	8.55E-1	3.84E+2	4.46E+1	3.10E+4
19	R-82-128	OB	19,000	1.50E-5	5.91E-3	140	625,000	3.36E-9	1.32E-6	1.08E0	4.25E+2	4.57E+1	3.15E+4
19	R-82-129	OA	20,000	2.80E-5	6.87E-3	140	625,000	6.27E-9	1.54E-6	2.12E0	5.20E+2	4.78E+1	3.20E+4
20	R-82-130	OB	20,000	2.74E-5	8.47E-3	144	625,000	6.31E-9	1.95E-6	2.07E0	6.41E+2	4.99E+1	3.26E+4
21	R-82-133	OB	21,058	3.80E-5	1.03E-2	140	625,000	8.51E-9	2.31E-6	3.03E0	8.21E+2	5.29E+1	3.35E+4
22	R-82-135	OB	21,185	7.43E-5	1.10E-2	145	625,000	1.72E-8	2.55E-6	5.96E0	8.82E+2*	5.88E+1	3.43E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month February

Year 1962

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium l			*Gross	Tritium l	*Gross	Tritium l	*Gross	Tritium l
1-7	Fire		1.36E+6	9.50E-6	7.35E-4	150	625,000	2.28E-9	1.76E-7	4.89E+1	3.78E+3	4.89E+1	3.78E+3
8-14	Sump		7.84E+5	8.11E-6	1.02E-3	150	625,000	1.95E-9	2.45E-7	2.41E+1	3.03E+3	7.30E+1	1.11E+4
15-21	Continuous		2.82E+5	3.03E-6	9.36E-4	150	625,000	7.27E-10	2.25E-7	3.23E0	9.99E+2	7.62E+1	1.21E+4
22-28	Discharge		9.15E+4	2.22E-6	1.77E-3	150	625,000	5.33E-10	4.25E-7	7.69E-1	6.13E+2	7.70E+1	1.27E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 † All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 1
Year 1982

Month March

Page 1 of 1

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
1	R-82-141	OB	20,000	3.11E-5	7.57E-3	145	625,000	7.22E-9	1.76E-6	2.35EO	5.73E+2	2.35EO	5.73E+2
3	R-82-142	OA	20,000	1.88E-5	5.87E-3	147	625,000	4.42E-9	1.38E-6	1.42EO	4.44E+2	3.77EO	1.02E+3
3	R-82-143	OB	20,959	1.62E-5	4.90E-3	147	625,000	3.81E-9	1.15E-6	1.29EO	3.89E+2	5.06EO	1.41E+3
4	R-82-144	OA	18,313	1.21E-5	3.36E-3	150	625,000	2.90E-9	8.06E-7	8.39E-1	2.33E+2	5.90EO	1.64E+3
5	R-82-145	OB	20,500	1.85E-5	7.01E-3	150	625,000	4.44E-9	1.68E-6	1.44EO	5.44E+2	7.34EO	2.18E+3
5	R-82-146	CA	20,000	9.17E-6	3.62E-3	150	625,000	2.20E-9	8.69E-7	6.94E-1	2.74E+2	8.03EO	2.46E+3
7	R-82-147	OB	20,731	1.57E-5	4.03E-3	145	625,000	3.64E-9	9.35E-7	1.23EO	3.16E+2	9.26EO	2.77E+3
9	R-82-148	OB	20,094	1.07E-5	2.95E-3	150	625,000	2.57E-9	7.09E-7	8.14E-1	2.24E+2	1.01E+3	3.00E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

6409 GARDNERVILLE, CALIFORNIA
 DISCHARGE RECORD
 LIQUID RADIOACTIVE WASTE

Unit #1
 Year 1982

Month March

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
1-7	Fire		6.29E+5	6.35E-7	2.37E-4	150	625,000	1.52E-10	5.69E-8	1.51E0	5.64E+2	1.51E0	5.64E+2
8-14	Sump		5.61E+5	5.13E-7	4.71E-5	150	625,000	1.23E-10	1.13E-8	1.09E0	1.00E+2	2.60E0	6.64E+2
15-21	Continuous		6.88E+5	1.27E-6	1.84E-4	150	625,000	3.05E-10	4.42E-8	3.33E0	4.79E+2	5.91E0	1.14E+3
21-28	Discharge		6.18E+5	4.81E-7	6.51E-5	150	625,000	1.15E-10	1.56E-8	1.13E0	1.52E+2	7.04E0	1.30E+3
29-31			9.55E+4	1.47E-7	1.60E-5	150	625,000	3.53E-11	3.84E-9	5.31E-2	5.78E0	7.09E0	1.31E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 * All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month June

Unit 1
Year 1982

Page 1 of 1

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
21	R-82-347	OA	20,000	1.21E-4	9.75E-4	150	625,000	2.90E-8	2.34E-7	9.16E0	7.38E+1	9.16E0	7.38E+1
24	R-82-351	OB	20,000	2.70E-5	3.09E-3	148	625,000	6.39E-9	7.32E-7	2.04E0	2.34E+2	1.12E+1	3.08E+2
25	R-82-353	OB	20,491	2.03E-5	2.75E-3	145	625,000	4.71E-9	6.38E-7	1.57E0	2.13E+2	1.28E+1	5.21E+2
25	R-82-354	O	20,000	1.32E-5	2.56E-3	150	625,000	3.17E-9	6.14E-7	9.99E-1	1.94E+2	1.38E+1	7.15E+2
26	R-82-355	OB	20,500	1.84E-5	2.03E-3	145	625,000	4.27E-9	4.71E-7	1.43E0	1.58E+2	1.52E+1	8.73E+2
26	R-82-356	OA	19,425	1.42E-5	2.68E-3	150	625,000	3.41E-9	6.43E-7	1.04E0	1.97E+2	1.62E+1	1.07E+3
27	R-82-357	OB	21,500	1.17E-5	2.85E-3	150	625,000	2.81E-9	6.84E-7	9.52E-1	2.32E+2	1.72E+1	1.30E+3
27	R-82-358	OA	19,214	1.18E-5	6.77 E-3	150	625,000	2.83E-9	1.62E-5	8.58E-1	4.92E+3	1.80E+1	6.22E+3
28	R-82-359	OA	18,265	1.10E-5	3.99E-3	148	625,000	2.60E-9	9.45E-7	7.60E-1	2.76E+2	1.88E+1	6.50E+3
29	R-82-360	OB	21,000	9.77E-6	3.42E-3	150	625,000	2.34E-9	8.21E-7	7.77E-1	2.72E+2	1.96E+1	6.77E+3
29	R-82-361	OA	19,500	1.75E-5	2.99E-3	148	625,000	4.14E-9	7.08E-7	1.29E0	2.71E+2	2.09E+1	6.99E+3
30	R-82-362	OB	21,048	9.95E-6	3.05E-3	145	625,000	2.31E-9	7.08E-7	7.93E-1	2.43E+2	2.17E+1	7.23E+3
30	R-82-363	OA	20,000	1.20E-5	3.83E-3	150	625,000	2.88E-9	9.19E-7	9.08E-1	2.90E+2	2.26E+1	7.52E+3
30	R-82-364	OB	21,557	7.43E-6	4.80E-3	150	625,000	1.78E-9	1.15E-6	6.06E-1	3.92E+2	2.32E+1	7.92E+3
30	R-82-365	OA	19,453	1.25E-5	3.82E-3	150	625,000	3.00E-9	9.17E-7	9.20E-1	2.81E+2	2.41E+1	8.20E+3

301,953

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit #1

Month June

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium l			*Gross	Tritium l	*Gross	Tritium l	*Gross	Tritium l
1-6	Fire		6.46E+5	5.34E-7	4.05E-6	150	625,000	1.28E-10	9.72E-10	1.31E0	9.90E0	1.31E0	9.90E0
7-13	Sump		8.22E+3	2.75E-7	2.79E-6	150	625,000	6.60E-11	6.70E-10	8.56E-3	8.68E-2	1.32E0	9.99E0
14-20	Continuous		6.81E+5	7.35E-7	1.35E-6	150	625,000	1.76E-10	3.24E-10	1.89E0	3.48E0	3.21E0	1.35E+1
21-27	Discharge		8.27E+5	1.02E-4	6.12E-6	150	625,000	2.45E-8	1.47E-9	3.19E+2	1.92E+1	3.22E+2	3.27E+1
28-30			2.87E+5	8.28E-8	1.71E-6	150	625,000	1.99E-11	4.10E-10	8.99E-2	1.86E0	3.22E+2	3.45E+1

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

FACILITY: ZION

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-104

Unit 2 Discharge

YEAR: 1982

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
1. Gross Radioactivity*											
a) Total Release	Curies	6.47E-2	4.02E-2	2.60E-2	1.31E-1	3.62E-1	3.43E-1	3.78E-1	1.08E0	1.21E0	6.6A3f2a
b) Average Concentration Released	uci/ml	6.59E-11	6.94E-10	4.02E-10	3.87E-10	3.70E-9	6.58E-11	4.30E-9	2.69E-9	1.54E-9	6.6A3f2a
c) Maximum Concentration Released	uci/ml	4.93E-9	1.21E-8	1.37E-8	1.37E-8	2.67E-8	3.80E-8	4.03E-8	4.03E-8	4.03E-8	6.6A3f2f
d) Percent of Tech Spec Limit (5 curies)	%	1.29E0	8.04E-1	5.20E-1	2.61E0	7.24E0	6.86E0	7.56E0	2.17E+1	2.43E+1	6.6A3f2f
2. Tritium											
a) Total Release	Curies	1.81E+1	1.06E+1	3.32E+1	6.19E+1	3.87E+1	2.46E+2	1.33E+1	2.98E+2	3.60E+2	6.6A3f2b
b) Average Concentration Released	uci/ml	1.84E-7	1.83E-7	5.13E-7	2.93E-7	3.96E-7	4.72E-8	1.51E-7	1.98E-7	2.46E-7	6.6A3f2b
c) Percent of Tech Spec Limit (3x10 ⁻³ uci/ml)	%	6.13E-3	6.10E-3	1.71E-2	2.93E-2	1.32E-2	1.57E-5	5.05E-5	1.33E-2	4.26E-2	6.6A3f2h
3. Dissolved Noble Gases											
a) Total Release	Curies	1.13E0	8.28E-1	4.43E-2	2.00E0	5.53E-1	7.48E-1	1.40E0	2.70E0	4.70E0	6.6A3f2c
b) Average Concentration Released	uci/ml	1.32E-8	1.43E-8	6.84E-10	9.39E-9	5.65E-9	1.44E-10	1.59E-8	7.25E-9	8.32E-9	6.6A3f2c

N.D. = No detectable activity above background *Excluding Tritium, Alpha, & Dissolved Noble Gases

REPORT OF RADIOACTIVE EFFLUENTS
 Docket Nos: 50-295 and 50-304

FACILITY: ZION

UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
II. Liquid Effluents										
4. Gross Alpha Radioactivity										
a) Total Release	1.64E-4	8.46E-5	2.15E-4	4.64E-4	6.65E-4	9.95E-4	1.37E-3	3.03E-3	3.49E-3	6.6A3f2c
b) Average Concentration Released	1.67E-12	1.46E-12	3.32E-12	2.15E-12	6.80E-12	1.91E-13	1.56E-11	7.53E-12	4.84E-12	6.6A3f2c
5. Volume of Liquid Waste to Discharge										
Liters	2.05E+6	3.24E+5	3.48E+6	3.79E+7	6.49E+6	1.38E+7	3.54E+6	2.30E+7	6.09E+7	6.6A3f2c
6. Volume of Dilution Water										
Liters	8.55E+10	5.79E+10	6.47E+10	2.08E+11	9.78E+10	5.21E+12	8.79E+10	5.40E+12	5.60E+12	6.6A3f2e
7. Isotopes Released										
Cs-134	7.51E-5	3.63E-4	3.78E-4	8.16E-4	6.69E-3	6.05E-3	2.33E-3	1.51E-2	1.59E-2	6.6A3f2g
Pa-La-140	ND	ND	ND	ND	ND	ND	ND	ND	ND	
I-131	1.06E-4	ND	ND	1.06E-4	ND	ND	1.98E-4	1.98E-4	3.04E-4	
Cs-137	1.57E-3	1.26E-3	3.51E-3	6.34E-3	1.74E-2	1.39E-2	7.03E-3	3.83E-2	4.47E-2	
Co-58	3.06E-2	2.37E-2	1.35E-2	6.78E-2	5.91E-2	1.29E-1	1.36E-1	3.24E-1	3.92E-1	
Co-60	1.28E-2	9.33E-3	ND	2.21E-2	2.01E-1	9.63E-2	1.17E-1	4.14E-1	4.36E-1	
Cr-51	ND	ND	ND	ND	3.91E-2	6.00E-2	6.94E-2	1.69E-1	1.69E-1	
Mn-54	ND	ND	ND	ND	ND	5.13E-4	1.32E-3	1.83E-3	1.83E-3	
Zn-65	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Sr-89	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Sr-90	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cu-64	ND	ND	ND	ND	ND	ND	ND	ND	ND	
I-132	ND	ND	ND	ND	ND	ND	ND	ND	ND	

N.D. = No detectable activity above background

FACILITY: ZION

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

Unit 2 Discharge

YEAR: 1982

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	6 Mo. Total	TECH. SPEC. REF.
Sb 124		4.30E-3	1.75E-3	1.26E-3	7.31E-3	2.35E-2	1.10E-2	4.42E-3	3.89E-2	4.62E-2	
I 133		2.16E-4	ND	ND	2.16E-4	ND	ND	ND	ND	2.16E-4	
Ag 110m		9.48E-3	2.91E-3	7.02E-3	1.94E-2	8.02E-3	1.10E-2	1.71E-2	3.61E-2	5.55E-2	
Na 24		ND	ND	ND	ND	ND	ND	ND	ND	ND	
W 187		5.08E-3	8.80E-4	2.68E-4	6.23E-3	ND	1.54E-3	6.68E-3	8.22E-3	1.45E-2	
Co 57		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Mo 99		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zr 95		ND	ND	ND	ND	1.30E-3	1.49E-3	3.85E-4	3.18E-3	3.18E-3	
Nb 95		8.28E-5	ND	ND	8.25E-5	5.37E-3	1.14E-2	1.51E-2	3.19E-2	3.20E-2	
Fe 59		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Np 239		ND	ND	ND	ND	ND	ND	ND	ND	ND	
Xe 133		1.13E0	8.25E-1	4.43E-2	2.00E0	5.52E-1	7.46E-1	1.37E0	2.67E0	4.67E0	
Xe 135		1.35E-3	1.42E-3	ND	2.77E-3	ND	2.80E-4	1.29E-3	1.57E-3	4.34E-3	
Sr 92		6.20E-4	ND	6.01E-5	6.80E-4	2.41E-4	7.59E-4	1.03E-3	2.03E-3	2.71E-3	
Xe 133m		3.32E-3	1.93E-3	ND	5.25E-3	9.54E-4	1.71E-3	2.67E-3	5.33E-3	1.06E-2	
Kr 85		ND	ND	ND	ND	ND	ND	2.35E-2	2.35E-2	2.35E-2	
Cs 136		ND	ND	ND	ND	ND	ND	1.79E-5	1.79E-5	1.79E-5	

N.D. = No detectable activity above background

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month January

Year 1982

Page 1 of 2

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-002	OA	20,000	5.76E-6	1.83E-3	49	534,000	5.29E-10	1.68E-7	4.36E-1	1.39E+2	4.36E-1	1.39E+2
2	R-82-004	OA	19,500	7.57E-6	9.02E-3	48	534,000	6.80E-10	8.11E-7	5.59E-1	6.66E+2	9.95E-1	8.05E+2
3	R-82-006	OA	19,500	5.88E-6	9.61E-3	50	279,000	1.05E-9	1.72E-6	4.34E-1	7.09E+2	1.43E0	1.51E+3
5	R-82-008	OA	16,037	2.01E-5	6.76E-3	49	279,000	3.53E-9	1.19E-6	1.22E0	4.10E+2	2.65E0	1.92E+3
5	R-82-010	OA	16,488	1.20E-5	8.47E-3	44	534,000	9.89E-10	6.98E-7	7.49E-1	5.29E+2	3.40E0	2.45E+3
6	R-82-012	OA	19,500	8.25E-6	6.32E-3	48	534,000	7.42E-10	5.68E-7	6.09E-1	4.66E+2	4.01E0	2.92E+3
7	R-82-014	OA	19,500	8.47E-6	1.01E-2	48	534,000	7.61E-10	9.08E-7	6.25E-1	7.45E+2	4.63E0	3.66E+3
8	R-82-015	OA	16,812	1.17E-5	1.11E-2	50	534,000	1.10E-9	1.04E-6	7.45E-1	7.06E+2	5.38E0	4.37E+3
9	R-82-017	OA	16,667	2.26E-5	1.17E-2	50	534,000	2.12E-9	1.10E-6	1.43E0	7.38E+2	6.81E0	5.11E+3
11	R-82-019	OA	20,000	5.26E-5	9.57E-3	50	534,000	4.93E-9	8.96E-7	3.98E0	7.24E+2	1.08E+1	5.83E+3
12	R-82-021	OA	20,000	3.86E-5	5.89E-3	50	534,000	3.61E-9	5.43E-7	2.92E0	4.46E+2	1.37E+1	6.28E+3
13	R-82-023	OA	20,000	5.27E-5	8.25E-3	44	534,000	4.34E-9	6.80E-7	3.99E0	6.25E+2	1.77E+1	6.90E+3
14	R-82-025	OA	16,351	3.75E-5	1.06E-2	50	534,000	3.51E-9	9.93E-7	2.32E0	6.56E+2	2.50E+2	7.56E+3
15	R-82-027	OA	20,000	2.99E-5	1.51E-2	50	534,000	2.80E-9	1.41E-6	2.26E0	1.14E+3	2.52E+2	8.70E+3
15	R-82-029	OA	17,991	1.12E-5	1.47E-2	140	625,000	2.46E-9	3.29E-6	7.63E-1	1.00E+3	2.53E+2	9.70E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month January

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
16	R-82-031	OA	17,711	1.93E-5	1.36E-2	147	625,000	4.54E-9	3.20E-6	1.29E0	9.12E+2	2.54E+2	1.06E+4
17	R-82-032	OA	18,110	1.25E-5	1.18E-2	140	625,000	2.80E-9	2.64E-6	8.57E-1	8.09E+2	2.55E+2	1.14E+4
18	R-82-034	OA	17,703	1.20E-5	8.89E-3	140	625,000	2.69E-9	1.99E-6	8.04E-1	5.96E+2	2.56E+2	1.20E+4
18	R-82-036	OA	19,750	1.29E-5	8.09E-3	150	625,000	3.10E-9	1.94E-6	9.64E-1	6.05E+2	2.57E+2	1.26E+4
19	R-82-038	OA	19,500	1.46E-5	6.46E-3	150	625,000	3.50E-9	1.55E-6	1.08E0	4.77E+2	2.58E+2	1.31E+4
20	R-82-040	OA	20,000	1.01E-5	6.76E-3	140	625,000	2.26E-9	1.51E-6	7.65E-1	5.12E+2	2.58E+2	1.36E+4
20	R-82-042	OA	18,276	7.70E-6	5.59E-3	150	625,000	1.85E-9	1.34E-6	5.33E-1	3.87E+2	2.59E+2	1.40E+4
21	R-82-044	OA	21,500	7.95E-6	3.93E-3	145	625,000	1.84E-9	9.12E-7	6.47E-1	3.20E+2	2.60E+2	1.43E+4
22	R-82-046	OA	14,844	1.61E-5	3.96E-3	148	625,000	3.81E-9	9.38E-7	9.05E-1	2.22E+2	2.61E+2	1.45E+4
23	R-82-048	OA	19,500	1.15E-5	6.84E-3	149	625,000	2.74E-9	1.63E-6	8.49E-1	5.05E+2	2.61E+2	1.50E+4
24	R-82-050	OA	19,750	1.19E-5	1.02E-2	149	625,000	2.84E-9	2.43E-6	8.90E-1	7.62E+2	2.62E+2	1.58E+4
25	R-82-052	OA	20,000	8.61E-6	1.05E-2	148	625,000	2.04E-9	2.49E-6	6.52E-1	7.95E+2	2.63E+2	1.66E+4
26	R-82-054	OA	19,500	1.38E-5	1.24E-2	148	625,000	3.27E-9	2.94E-6	1.02E0	9.15E+2	2.64E+2	1.75E+4
27	R-82-056	OA	18,341	9.19E-6	8.36E-3	148	625,000	2.18E-9	1.98E-6	6.38E-1	5.80E+2	2.65E+2	1.81E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #2

Month February

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-070	OA	17,917	8.45 E-6	9.80E-3	148	625,000	2.00E-9	2.32E-6	5.73E-1	6.65E+2	5.73E-1	6.65E+2
2	R-82-072	OA	17,994	1.99E-5	8.38E-3	140	625,000	4.46E-9	1.88E-6	1.36E0	5.71E+2	1.93E0	1.24E+3
3	R-82-073	OA	18,111	1.50E-5	5.70E-3	150	625,000	3.60E-9	1.37E-6	1.03E0	3.91E+2	2.96E0	1.63E+3
4	R-82-079	OA	19,000	1.05E-5	6.63E-3	148	625,000	2.49E-9	1.57E-6	7.55E-1	4.77E+2	3.72E0	2.10E+3
5	R-82-081	OA	18,744	1.00E-5	5.69E-3	140	625,000	2.24E-9	1.27E-6	7.09E-1	4.04E+2	4.43E0	2.51E+3
5	R-82-083	OA	20,000	7.47E-6	8.57E-3	144	625,000	1.72E-9	1.97E-6	5.65E-1	6.49E+2	4.99E0	3.16E+3
6	R-82-085	OA	20,000	7.79E-6	6.24E-3	150	625,000	1.87E-9	1.50E-6	5.90E-1	4.72E+2	5.58E0	3.63E+3
7	R-82-089	OA	20,680	1.01E-5	9.32E-3	150	625,000	2.42E-9	2.24E-6	7.91E-1	7.29E+2	6.37E0	4.36E+3
8	R-82-091	OA	19,000	1.22E-5	7.74E-3	145	625,000	2.83E-9	1.80E-6	8.77E-1	5.57E+2	7.25E0	4.92E+3
9	R-82-095	OA	17,716	8.94E-6	5.23E-3	150	625,000	2.15E-9	1.26E-6	5.99E-1	3.49E+2	7.85E0	5.26E+3
20	R-82-131	OA	17,750	2.19E-5	1.05E-2	146	625,000	5.12E-9	2.45E-6	1.47E0	7.05E+2	9.32E0	5.97E+3
20	R-82-132	OA	18,713	1.56E-5	8.95E-3	145	625,000	3.62E-9	2.08E-6	1.16E0	6.34E+2	1.04E+1	6.60E+3
21	R-82-134	OA	21,138	2.07E-5	1.07E-2	140	625,000	4.64E-9	2.40E-6	1.66E0	8.56E+2	1.21E+1	7.46E+3
26	R-82-136	OB	19,517	5.03E-5	1.24E-2	150	625,000	1.21E-8	2.98E-6	3.72E0	9.16E+2	1.58E+1	8.37E+3
27	R-82-137	OA	18,497	3.67E-5	1.21E-2	149	625,000	8.75E-9	2.88E-6	2.57E0	8.47E+2	1.84E+1	9.22E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 * All cross-activity numbers exclude Tritium.

UNIT # 2
 Month February Year 1982
 DISCHARGE RECORD
 LIQUID RADIOACTIVE WASTE

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
28	R-82-138	OB	19,500	3.68E-5	8.58E-3	145	625,000	8.54E-9	1.99E-6	2.72E0	6.33E+2	2.11E+1	9.85E+3
28	R-82-149	OB	19,800	3.03E-5	9.36E-3	150	625,000	7.27E-9	2.25E-6	2.27E0	7.01E+3	2.34E+1	1.06E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 * All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Page 1 of 4

Month March

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-140	OA	18,416	2.60E-5	8.06E-3	150	625,000	6.24E-9	1.93E-6	1.81E0	5.62E+2	1.81E0	5.62E+2
13	R-82-149	OB	19,365	2.15E-5	2.30E-3	150	625,000	5.16E-9	5.52E-7	1.58E0	1.69E+2	1.39E0	7.31E+2
15	R-82-150	OA	15,070	5.77E-5	4.03E-3	148	625,000	1.37E-8	9.54E-7	3.29E0	2.30E+2	6.68E0	9.61E+2
16	R-82-151	OA	18,303	1.98E-5	1.04E-2	149	625,000	4.72E-9	2.48E-6	1.37E0	7.20E+2	8.05E0	1.68E+3
16	R-82-152	OB	19,565	1.15E-5	8.41E-3	150	625,000	2.76E-9	2.02E-6	8.52E-1	6.23E+2	8.90E0	2.30E+3
17	R-82-153	OB	19,535	7.27E-6	1.25E-2	150	625,000	1.74E-9	3.00E-6	5.38E-1	9.24E+2	9.44E0	3.23E+3
17	R-82-154	OA	19,000	1.41E-5	3.41E-2	149	625,000	3.36E-9	8.13E-6	1.01E0	2.45E+3	1.05E+1	5.68E+3
18	R-82-155	OB	18,600	4.89E-6	7.39E-3	149	625,000	1.17E-9	1.76E-6	3.44E-1	5.20E+2	1.08E+1	6.20E+3
18	R-82-156	OA	18,140	6.42E-6	8.21E-3	150	625,000	1.54E-9	1.97E-6	4.41E-1	5.64E+2	1.12E+1	6.76E+3
18	R-82-157	OB	19,500	6.00E-6	1.18E-2	150	625,000	1.44E-9	2.83E-6	4.43E-1	8.71E+2	1.17E+1	7.64E+3
18	R-82-158	OA	20,000	6.32E-6	1.64E-2	149	625,000	1.51E-9	3.91E-6	4.78E-1	1.24E+3	1.22E+1	8.88E+3
19	R-82-159	OB	19,000	4.17E-6	1.22E-2	148	625,000	9.87E-10	2.89E-6	3.00E-1	8.77E+2	1.25E+1	9.75E+3
19	R-82-160	OA	19,500	5.00E-6	1.44E-2	145	625,000	1.16E-9	3.34E-6	3.69E-1	1.06E+3	1.28E+1	1.08E+4
20	R-82-161	OB	24,500	7.41E-6	1.26E-2	145	625,000	1.72E-9	2.92E-6	6.87E-1	1.17E+3	1.35E+1	1.20E+4
20	R-82-162	OA	20,000	4.75E-6	1.31E-2	145	625,000	1.10E-9	3.04E-6	3.60E-1	9.92E+2	1.39E+1	1.30E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc

* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Month March

Year 1982

Page 2 of 4

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
21	R-82-163	OB	19,500	5.66E-6	1.45E-2	150	625,000	1.36E-9	3.48E-6	4.18E-1	1.07E+3	1.43E+1	1.40E+4
21	R-82-164	OA	20,000	4.21E-6	1.25E-2	149	625,000	1.00E-9	2.98E-6	3.19E-1	9.46E+2	1.46E+1	1.50E+4
21	R-82-165	OB	20,500	4.73E-6	1.74E-2	149	625,000	1.13E-9	4.15E-6	3.67E-1	1.35E+3	1.50E+1	1.63E+4
21	R-82-166	OA	18,338	3.32E-6	3.49E-3	148	625,000	7.86E-10	8.27E-7	2.27E-1	2.38E+2	1.52E+1	1.66E+4
22	R-82-167	OB	20,000	4.04E-6	8.26E-3	148	625,000	9.57E-10	1.96E-6	3.06E-1	6.25E+2	1.55E+1	1.72E+4
23	R-82-168	OA	18,419	2.42E-6	9.33E-3	150	625,000	5.81E-10	2.24E-6	1.69E-1	6.50E+2	1.57E+1	1.79E+4
23	R-82-169	OB	19,500	3.61E-6	1.18E-2	140	625,000	8.09E-10	2.64E-6	2.66E-1	8.71E+2	1.59E+1	1.87E+4
23	R-82-170	OA	18,153	2.87E-6	7.66E-3	140	625,000	6.43E-10	1.72E-6	1.97E-1	5.26E+2	1.61E+1	1.93E+4
24	R-82-171	OB	19,700	3.11E-6	1.15E-2	148	625,000	7.36E-10	2.72E-6	2.32E-1	8.57E+2	1.64E+1	2.01E+4
24	R-82-172	OA	19,205	3.09E-6	1.02E-2	145	625,000	7.17E-10	2.37E-6	2.25E-1	7.41E+2	1.66E+1	2.08E+4
24	R-82-173	OB	19,444	3.57E-6	1.21E-2	150	625,000	8.57E-10	2.90E-6	2.63E-1	8.91E+2	1.69E+1	2.17E+4
25	R-82-174	OA	18,500	5.21E-6	1.16E-2	150	625,000	1.25E-9	2.78E-6	3.65E-1	8.12E+2	1.72E+1	2.26E+4
25	R-82-175	OB	19,500	5.58E-6	1.26E-2	140	625,000	1.25E-9	2.82E-6	4.12E-1	9.30E+2	1.76E+1	2.35E+4
25	R-82-176	OA	20,700	3.80E-6	1.18E-2	147	625,000	8.94E-10	2.78E-6	2.98E-1	9.25E+2	1.79E+1	2.44E+4
26	R-82-177	OA	20,000	4.78E-6	1.04E-2	130	625,000	9.94E-10	2.16E-6	3.62E-1	1.10E+1	1.83E+1	2.44E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Page 3 of 4

Month March

Unit 2
Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
26	R-82-178	OB	19,690	5.71E-6	1.12E-2	130	740,000	1.19E-9	2.33E-6	4.26E-1	8.35E+2	1.87E+1	2.53E+4
26	R-82-179	OA	20,000	1.01E-5	1.10E-2	147	625,000	2.38E-9	2.59E-6	7.65E-1	8.33E+2	1.95E+1	2.61E+4
27	R-82-180	OA	20,000	6.44E-8	4.78E-3	150	625,000	1.55E-11	1.15E-6	4.88E-3	3.62E+2	1.95E+1	2.64E+4
27	R-82-181	OB	20,000	7.40E-6	8.91E-3	149	625,000	1.76E-9	2.12E-6	5.60E-1	6.74E+2	2.01E+1	2.71E+4
27	R-82-182	OA	20,000	1.25E-5	1.00E-2	140	625,000	2.80E-9	2.24E-6	9.46E-1	7.57E+2	2.10E+1	2.79E+4
28	R-82-183	OB	19,500	5.38E-6	9.23E-3	140	625,000	1.21E-9	2.07E-6	3.97E-1	6.81E+2	2.14E+1	2.85E+4
28	R-82-184	OA	18,002	7.66E-6	8.20E-3	140	625,000	1.72E-9	1.84E-6	5.22E-1	5.59E+2	2.19E+1	2.91E+4
28	R-82-185	OB	20,900	7.80E-6	9.18E-3	120	625,000	1.50E-9	1.76E-6	6.17E-1	7.26E+2	2.25E+1	2.98E+4
29	R-82-186	OB	19,500	1.14E-5	4.42E-3	149	625,000	2.72E-9	1.05E-6	8.41E-1	3.26E+2	2.34E+1	3.01E+4
29	R-82-187	OA	19,029	7.80E-6	6.53E-3	148	625,000	1.85E-9	1.55E-6	5.62E-1	4.70E+2	2.39E+1	3.06E+4
29	R-82-188	OB	19,537	6.98E-6	4.32E-3	145	625,000	1.60E-9	1.00E-6	5.09E-1	3.19E+2	2.44E+1	3.09E+4
30	R-82-189	OA	18,311	5.39E-5	4.30E-3	148	625,000	1.28E-9	1.02E-6	3.74E-1	2.98E+2	2.48E+1	3.12E+4
30	R-82-190	OB	20,000	7.25E-6	4.33E-3	150	625,000	1.74E-9	1.04E-6	5.49E-1	3.28E+2	2.54E+1	3.15E+4
30	R-82-191	OA	20,000	8.48E-6	4.59E-3	148	625,000	2.01E-9	1.09E-6	6.42E-1	3.47E+2	2.60E+1	3.19E+4
31	R-82-192	OB	19,647	9.75E-6	3.81E-3	145	625,000	2.26E-9	8.84E-7	7.25E-1	2.83E+2	2.67E+1	3.22E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2
Year 1982

Month March

Page 4 of 4

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I		
31	R-82-193	OA	17,823	9.41E-6	4.42E-3	145	625,000	2.18E-9	1.03E-6	6.35E-1	2.29E+2	2.74E+1	3.25E+4
31	R-82-194	OB	19,638	1.51E-5	4.96E-3	150	625,000	3.62E-9	1.19E-6	1.12E0	3.69E+2	2.85E+1	3.28E+4
31	R-82-195	OA	18,272	7.43E-6	5.38E-3	150	625,000	1.78E-9	1.29E-6	5.14E-1	3.72E+2	2.90E+1	3.32E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #2

Month April

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-196	OB	19,500	1.53E-5	8.59E-3	147	625,000	3.60E-9	2.02E-6	1.13E0	6.34E+2	1.13E0	6.34E+2
1	R-82-197	OA	20,000	6.26E-6	6.94E-3	150	625,000	1.50E-9	1.67E-6	4.74E-1	5.25E+2	1.60E0	1.16E+3
2	R-82-198	OB	19,500	1.38E-5	7.20E-3	146	625,000	3.22E-9	1.68E-6	1.02E0	5.31E+2	2.62E0	1.69E+3
2	R-82-199	OA	18,153	8.41E-6	6.96E-3	145	625,000	1.95E-9	1.61E-6	5.78E-1	4.78E+2	3.20E0	2.17E+3
2	R-82-200	OB	20,000	8.17E-6	8.07E-3	140	625,000	1.83E-9	1.81E-6	6.18E-1	6.11E+2	3.82E0	2.78E+3
3	R-82-201	OA	18,185	7.72E-6	2.35E-3	150	625,000	1.85E-9	1.4E-7	5.31E-1	1.62E+2	4.35E0	2.94E+3
3	R-82-202	OA	20,000	9.20E-6	5.88E-3	115	625,000	1.69E-9	1.08E-6	6.96E-1	4.45E+2	5.04E0	3.39E+3
3	R-82-203	OB	20,000	1.70E-5	5.84E-3	127	625,000	3.45E-9	1.19E-6	1.29E0	4.42E+2	6.33E0	3.83E+3
4	R-82-204	OA	17,570	3.47E-5	6.97E-3	135	564,000	8.31E-9	1.67E-6	2.31E0	4.64E+2	8.64E0	4.30E+3
4	R-82-205	OB	19,500	8.97E-6	9.15E-3	135	564,000	2.15E-9	2.19E-6	6.62E-1	6.75E+2	9.31E0	4.97E+3
5	R-82-206	OA	21,000	2.43E-5	7.23E-3	130	550,000	5.74E-9	1.71E-6	1.93E0	5.75E+2	1.12E+1	5.55E+3
5	R-82-207	OB	21,014	1.20E-5	5.34E-3	150	625,000	2.88E-9	1.28E-6	9.54E-1	4.25E+2	1.22E+1	5.97E+3
5	R-82-208	OA	20,000	1.54E-5	6.22E-3	120	540,000	3.42E-9	1.38E-6	1.17E0	4.71E+2	1.34E+1	6.44E+3
5	R-82-209	OB	19,387	8.40E-6	5.14E-3	127	546,000	1.95E-9	1.20E-6	6.16E-1	3.77E+2	1.40E+1	6.82E+3
6	R-82-210	OA	20,000	1.28E-5	7.31E-3	138	625,000	2.83E-9	1.61E-6	9.69E-1	5.53E+2	1.50E+1	7.37E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month April

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
6	R-82-211	OB	19,500	8.52E-6	6.24E-3	148	625,000	2.02E-9	1.48E-6	6.29E-1	4.61E+2	1.56E+1	7.83E+0
7	R-82-212	OA	18,326	7.12E-6	5.66E-3	145	625,000	1.65E-9	1.31E-6	4.94E-1	3.93E+2	1.61E+1	8.23E+0
7	R-82-213	OB	19,446	1.05E-5	6.41E-3	145	625,000	2.44E-9	1.40E-6	7.73E-1	4.72E+2	1.69E+1	8.70E+0
7	R-82-214	OA	22,500	8.43E-6	3.01E-2	147	625,000	1.98E-9	7.08E-6	7.18E-1	2.56E+3	1.76E+1	1.13E+1
7	R-82-215	OB	20,525	8.93E-6	6.35E-3	148	625,000	2.11E-9	1.50E-6	6.94E-1	4.93E+2	1.83E+1	1.18E+1
9	R-82-216	OA	20,000	1.38E-5	2.75E-3	149	625,000	3.29E-9	6.57E-7	1.04E0	2.08E+2	1.93E+1	1.20E+1
10	R-82-217	OB	19,250	2.82E-5	4.01E-3	150	625,000	6.77E-9	9.62E-7	2.05E0	2.92E+2	2.14E+1	1.23E+1
11	R-82-218	OA	20,000	6.18E-5	3.04E-3	150	625,000	1.48E-8	7.30E-7	4.68E0	2.30E+2	2.60E+1	1.25E+1
12	R-82-219	OB	19,500	2.24E-5	2.08E-3	148	625,000	5.30E-9	4.93E-7	1.65E0	1.54E+2	2.77E+1	1.27E+1
12	R-82-220	OB	18,000	1.24E-5	1.91E-2	150	625,000	2.98E-9	4.58E-6	8.45E-1	1.30E+3	2.85E+1	1.40E+1
13	R-82-221	OA	20,000	2.73E-5	8.87E-3	150	625,000	6.55E-9	2.13E-6	2.07E0	6.71E+2	3.06E+1	1.46E+1
14	R-82-222	OB	20,500	1.55E-5	5.94E-3	150	625,000	3.72E-9	1.43E-6	1.20E0	4.61E+2	3.18E+1	1.51E+1
14	R-82-223	OA	20,000	1.53E-5	3.33E-3	145	625,000	3.55E-9	7.73E-7	1.16E0	2.52E+2	3.30E+1	1.54E+1
14	R-82-224	OB	20,021	1.16E-5	3.11E-3	148	625,000	2.75E-9	7.36E-7	8.79E-1	2.36E+2	3.38E+1	1.56E+1
15	R-82-225	OA	20,000	9.42E-6	7.01E-3	148	625,000	2.23E-9	1.66E-6	7.13E-1	5.31E+2	3.46E+1	1.61E+1

(1) Minimum detectable tritium is 1×10^{-5} uc/cc

* All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #2

Month April

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
15	R-82-226	OB	19,500	5.18E-6	1.48E-2	145	625,000	1.20E-9	3.43E-6	3.82E-1	1.09E+3	3.49E+1	1.72E+4
15	R-82-227	OA	17,875	8.44E-6	1.85E-2	145	625,000	1.96E-9	4.29E-6	5.71E-1	1.25E+3	3.55E+1	1.85E+4
15	R-82-228	OB	19,706	6.53E-6	1.25E-2	150	625,000	1.57E-9	3.00E-6	4.87E-1	9.32E+2	3.60E+1	1.94E+4
16	R-82-229	OA	20,250	1.08E-5	1.12E-2	145	625,000	2.51E-9	2.60E-6	8.28E-1	8.58E+2	3.68E+1	2.03E+4
16	R-82-230	OB	20,168	8.18E-6	1.77E-2	147	625,000	1.92E-9	4.16E-6	6.24E-1	1.35E+3	3.74E+1	2.17E+4
17	R-82-231	OA	20,000	2.91E-5	9.68E-3	148	625,000	6.89E-9	2.29E-6	2.20E0	7.33E+2	3.96E+1	2.24E+4
17	R-82-232	OB	19,512	3.34E-5	6.71E-3	148	625,000	7.91E-9	1.59E-6	2.47E0	4.96E+2	4.21E+1	2.29E+4
18	R-82-233	OA	18,056	4.13E-5	1.67E-2	120	625,000	7.93E-9	3.21E-6	2.82E0	1.14E+3	4.49E+1	2.40E+4
19	R-82-234	OB	19,740	3.27E-5	8.53E-3	146	625,000	7.64E-9	1.99E-6	2.44E0	6.37E+2	4.74E+1	2.47E+4
19	R-82-235	OA	17,943	6.51E-5	1.15E-2	140	625,000	1.46E-8	2.58E-6	4.42E0	7.81E+2	5.18E+1	2.54E+4
20	R-82-236	OB	19,026	3.55E-5	1.76E-2	150	625,000	8.52E-9	4.22E-6	2.56E0	1.27E+3	5.43E+1	2.67E+4
20	R-82-237	OA	20,700	6.25E-5	2.03E-2	150	625,000	1.50E-8	4.87E-6	4.90E0	1.59E+3	5.92E+1	2.83E+4
21	R-82-238	OA	17,935	3.16E-5	2.45E-2	148	625,000	7.48E-9	5.80E-6	2.15E0	1.66E+3	6.14E+1	3.00E+4
21	R-82-239	OB	19,320	4.66E-5	1.12E-2	130	625,000	9.69E-9	2.33E-6	3.41E0	8.19E+2	6.48E+1	3.08E+4
23	R-82-240	OA	21,000	1.12E-4	8.62E-3	149	625,000	2.67E-8	2.06E-6	8.90E0	6.85E+2	7.37E+1	3.15E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT #2

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Month April

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
24	R-82-241	OB	19,500	6.80E-5	3.89E-3	140	625,000	1.52E-8	8.71E-7	5.02E0	2.87E+2	7.87E+1	3.17E+4
24	R-82-242	OA	20,000	5.79E-5	3.02E-3	150	625,000	1.39E-8	7.25E-7	4.38E0	2.29E+2	8.31E+1	3.20E+4
25	R-82-243	OB	19,000	8.51E-5	2.12E-3	145	625,000	1.91E-8	4.92E-7	6.12E0	1.52E+2	8.92E+1	3.21E+4
26	R-82-244	OA	18,127	7.01E-5	7.52E-3	150	625,000	1.68E-8	1.80E-6	4.81E0	5.16E+2	9.40E+1	3.26E+4
26	R-82-245	OB	19,850	9.71E-5	7.72E-3	150	625,000	2.33E-8	1.85E-6	7.30E0	5.80E+2	1.01E+2	3.32E+4
26	R-82-246	OA	18,162	3.86E-5	1.40E-2	147	625,000	9.08E-9	3.29E-6	2.65E0	9.62E+2	1.04E+2	3.42E+4
27	R-82-247	OB	19,627	3.90E-5	1.11E-2	146	625,000	9.11E-9	2.59E-6	2.90E0	8.25E+2	1.07E+2	3.50E+4
27	R-82-248	OA	18,630	9.40E-5	9.98E-3	147	625,000	2.21E-8	2.35E-6	6.63E0	7.04E+2	1.14E+2	3.57E+4
28	R-82-249	OB	19,309	5.55E-5	1.02E-2	150	625,000	1.33E-8	2.45E-6	4.06E0	7.45E+2	1.18E+2	3.65E+4
28	R-82-250	OA	16,943	4.27E-5	8.94E-3	145	625,000	9.91E-9	2.07E-6	2.74E0	5.73E+2	1.21E+2	3.71E+4
28	R-82-251	OB	19,500	4.33E-5	7.82E-4	150	625,000	1.04E-8	1.88E-6	3.20E0	5.77E+2	1.24E+2	3.77E+4
29	R-82-252	OA	20,000	2.43E-5	3.82E-3	148	625,000	5.75E-9	9.05E-7	1.84E0	2.89E+2	1.26E+2	3.79E+4
29	R-82-253	OB	19,582	2.18E-5	1.01E-2	150	625,000	5.23E-9	2.42E-6	1.62E0	7.49E+2	1.27E+2	3.87E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit #2

Month April

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium l			*Gross	Tritium l	*Gross	Tritium l	*Gross	Tritium l
1-4	Fire		1.27E+5	2.12E-7	1.82E-5	150	625,000	5.09E-11	4.37E-9	1.02E-1	8.75E0	1.02E-1	8.75E0
5-11	Sump		5.54E+5	2.34E-6	3.79E-5	150	625,000	5.62E-10	9.10E-9	4.91E0	7.95E+1	5.01E0	8.83E+1
12-18	Continuous		1.03E+6	4.88E-7	6.93E-6	150	625,000	1.17E-10	1.66E-9	1.90E0	2.70E+1	6.91E0	1.15E+2
19-25	Discharge		3.49E+5	2.30E-7	4.50E-6	150	625,000	5.52E-11	1.08E-9	3.04E-1	5.94E0	7.22E0	1.21E+2
26-30			2.06E+5	9.08E-7	1.83E-6	150	625,000	2.18E-10	4.39E-10	7.08E-1	1.43E0	7.92E0	1.23E+2

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

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Month May

Unit 2

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
1	R-82-254	OA	19,500	3.31E-5	6.98E-3	140	625,000	7.41E-9	1.56E-6	2.44EO	5.15E+2	2.44EO	5.15E+2
1	R-82-255	OB	19,680	2.32E-5	5.32E-3	150	625,000	5.57E-9	1.28E-6	1.73EO	3.96E+2	4.17EO	9.21E+2
2	R-82-256	OA	18,400	2.63E-5	4.04E-3	148	625,000	6.23E-9	9.57E-7	1.63EO	2.81E+2	6.00EO	1.20E+3
3	R-82-257	OB	21,282	1.82E-5	3.37E-3	150	625,000	4.37E-9	8.06E-7	1.47EO	2.71E+2	7.47EO	1.47E+3
4	R-82-258	OA	18,168	2.58E-5	5.25E-3	150	625,000	6.19E-9	1.26E-6	1.77EO	3.61E+2	9.24EO	1.83E+3
5	R-82-259	OB	19,739	2.71E-5	3.42E-3	147	625,000	6.37E-9	8.04E-7	2.02EO	2.56E+2	1.13E+1	2.09E+3
6	R-82-260	OA	19,213	2.29E-5	3.56E-3	148	625,000	5.42E-9	8.43E-7	1.67EO	2.59E+2	1.29E+1	2.35E+3
6	R-82-261	OB	19,500	1.90E-4	3.75E-4	148	740,000	3.80E-8	7.50E-7	1.40E+1	2.77E+2	2.69E+1	2.63E+3
7	R-82-262	OA	17,820	4.00E-5	4.06E-3	150	740,000	8.11E-9	8.23E-7	2.70EO	2.74E+2	2.96E+1	2.90E+3
8	R-82-263	OB	17,027	4.54E-5	4.39E-3	148	625,000	1.08E-8	1.04E-6	2.93EO	2.83E+2	3.26E+1	3.18E+3
9	R-82-264	OA	20,000	4.90E-5	4.84E-3	148	625,000	1.16E-8	1.15E-6	3.71EO	3.66E+2	3.63E+1	3.55E+3
10	R-82-265	OB	19,845	4.29E-5	4.47E-3	147	625,000	1.01E-8	1.05E-6	3.22EO	3.36E+2	3.95E+1	3.89E+3
11	R-82-266	OA	18,296	3.20E-5	4.35E-3	149	740,000	6.44E-9	8.66E-7	2.22EO	3.01E+2	4.17E+1	4.19E+3
12	R-82-267	OB	19,900	4.98E-6	4.26E-3	150	740,000	1.01E-9	8.64E-7	3.75E-1	3.21E+2	4.21E+1	4.51E+3
13	R-82-268	OA	20,000	6.09E-5	4.49E-3	150	740,000	1.23E-8	9.10E-7	4.61EO	3.40E+2	4.67E+1	4.85E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Month May

Year 1982

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Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium l			*Gross	Tritium l	*Gross	Tritium l	*Gross	Tritium
14	R-82-269	OB	19,500	6.13E-5	2.01E-2	146	625,000	1.43E-8	4.70E-7	4.53E0	1.48E+3	5.12E+1	6.33E+3
15	R-82-270	OA	18,026	6.98E-5	8.27E-3	150	740,000	1.41E-8	1.68E-6	4.77E0	5.65E+2	5.60E+1	6.89E+3
16	R-82-271	OB	19,299	3.65E-5	5.97E-3	148	740,000	7.30E-9	1.19E-6	2.67E0	4.37E+2	5.87E+1	7.31E+3
16	R-82-272	OA	16,629	9.68E-5	7.55E-3	148	740,000	1.94E-8	1.51E-6	6.10E0	4.76E+2	6.48E+1	7.81E+3
17	R-82-273	OB	18,158	7.29E-5	1.19E-2	148	740,000	1.46E-8	2.38E-6	5.02E0	8.19E+2	6.98E+1	8.62E+3
17	R-82-274	OA	18,303	6.26E-5	7.84E-3	147	740,000	1.24E-8	1.56E-6	4.34E0	5.43E+2	7.41E+1	9.17E+3
18	R-82-275	OB	19,500	7.96E-5	7.13E-3	145	625,000	1.85E-8	1.65E-6	5.88E0	5.26E+2	8.00E+1	9.69E+3
19	R-82-276	OA	17,748	8.12E-5	3.61E-2	150	740,000	1.65E-8	7.32E-6	5.45E0	2.43E+3	8.55E+1	1.21E+4
19	R-32-277	OB	14,836	1.07E-4	3.89E-2	148	740,000	2.14E-8	7.78E-6	6.01E0	2.18E+3	9.15E+1	1.43E+4
22	R-82-278	OB	19,500	4.58E-5	7.96E-3	148	740,000	9.16E-9	1.59E-6	3.38E0	5.88E+2	9.49E+1	1.49E+4
22	R-82-279	OA	18,000	3.18E-5	6.88E-3	146	740,000	6.27E-9	1.36E-6	2.17E0	4.69E+2	9.71E+1	1.54E+4
23	R-82-280	OB	18,841	1.72E-5	6.76E-3	150	740,000	3.49E-9	1.37E-6	1.23E0	4.82E+2	9.83E+1	1.58E+4
23	R-82-281	OB	19,443	8.74E-6	5.88E-3	147	740,000	1.74E-9	1.17E-6	6.43E-1	1.33E+2	9.89E+1	1.63E+4
24	R-82-282	OA	19,000	1.67E-5	6.29E-3	150	740,000	3.39E-9	1.28E-6	1.20E0	4.52E+2	1.00E+2	1.67E+4
25	R-82-283	OA	19,000	1.98E-5	3.44E-3	148	740,000	3.96E-9	6.88E-7	1.42E0	2.47E+2	1.02E+2	1.70E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Page 3 of 3

Month May

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
26	R-82-284	OB	19, 538	3.80E-5	3.02E-3	148	740,000	7.60E-9	6.04E-7	2.81E0	2.23E+2	1.04E+3	1.72E+4
26	R-82-285	OA	18,090	1.80E-5	2.48E-3	147	740,000	3.58E-9	4.93E-7	1.23E0	1.70E+2	1.06E+3	1.74E+4
27	R-82-286	OB	19,150	3.75E-5	2.88E-3	148	740,000	7.50E-9	5.76E-7	2.71E0	2.08E+2	1.08E+3	1.76E+4
27	R-82-287	OA	20,000	4.40E-5	3.03E-3	148	625,000	1.04E-8	7.18E-7	3.33E0	2.29E+2	1.12E+3	1.78E+4
28	R-82-288	OB	18,828	7.51E-5	1.42E-3	149	740,000	7.51E-8	2.86E-7	5.35E0	1.01E+2	1.17E+3	1.79E+4
29	R-82-289	OA	20,000	1.01E-4	8.20E-2	55	625,000	8.89E-9	7.22E-6	7.65E0	6.21E+3	1.25E+3	2.41E+4
29	R-82-290	OB	20,249	7.72E-5	7.57E-4	150	625,000	1.85E-8	1.82E-7	5.92E0	5.80E+1	1.31E+3	2.42E+4
29	R-82-291	OA	19,279	7.84E-5	1.15E-3	147	740,000	1.56E-8	2.28E-7	5.72E0	8.39E+1	1.36E+3	2.43E+4
29	R-82-292	OB	10,861	1.35E-4	6.23E-4	150	740,000	2.74E-8	1.26E-7	5.55E0	2.56E+1	1.42E+3	2.43E+4
30	R-82-293	OA	20,000	8.21E-5	8.18E-4	150	740,000	1.66E-8	1.66E-7	6.21E0	6.19E+1	1.48E+3	2.44E+4
30	R-82-294	OB	19,500	8.45E-5	4.01E-4	150	740,000	1.71E-8	8.13E-8	6.24E0	2.96E+1	1.54E+3	2.44E+4
30	R-82-295	OB	19,391	7.97E-5	5.47E-4	148	740,000	1.59E-8	1.09E-7	5.85E0	4.01E+1	1.60E+3	2.45E+4
31	R-82-296	OA	20,000	7.22E-5	6.07E-4	150	740,000	1.46E-8	1.23E-7	5.47E0	4.59E+1	1.66E+3	2.45E+4
31	R-82-297	OB	19,500	8.87E-5	9.32E-4	148	740,000	1.77E-8	1.86E-7	6.55E0	6.89E+1	1.72E+3	2.46E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
1-2	Fire		8.26E+4	5.52E-7	7.20E-6	150	625,000	1.26E-10	1.73E-9	1.73E-1	2.25E0	1.73E-1	2.25E0
3-9	Sump		9.39E+5	3.04E-7	2.34E-6	150	625,000	7.30E-11	5.62E-10	1.08E0	8.32E0	1.25E0	1.06E+1
10-16	Continuous		6.08E+5	7.66E-5	4.14E-6	150	625,000	1.84E-8	9.94E-10	1.76E+2	9.53E0	1.77E+2	2.01E+1
17-23	Discharge		1.02E+6	1.51E-5	2.43E-6	150	625,000	3.62E-9	5.83E-10	5.83E+1	9.38E0	2.36E+2	2.95E+1
24-31			2.62E+5	5.48E-7	2.91E-6	150	625,000	1.32E-10	6.98E-10	5.44E-1	2.89E0	2.36E+2	3.24E+1

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
 † All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

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Month June

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
1	R-82-298	OA	17,669	9.32E-5	1.23E-3	150	740,000	1.90E-8	2.49E-7	6.29EO	8.23E+1	6.28EO	8.23E+1
1	R-82-299	OB	18,679	6.50E-5	1.24E-3	100	740,000	8.78E-9	1.68E-7	4.60EO	8.77E+1	1.09E+1	1.70E+2
1	R-82-300	OA	20,000	7.14E-5	1.48E-3	150	740,000	1.45E-8	3.00E-7	5.40EO	1.12E+2	1.63E+1	2.82E+2
2	R-82-301	OA	17,344	9.31E-5	1.11E-3	100	740,000	1.26E-8	1.50E-7	6.11EO	7.29E+1	2.24E+1	3.55E+2
2	R-82-302	OA	19,249	6.80E-5	1.67E-3	147	740,000	1.35E-8	3.32E-7	4.95EO	1.22E+2	2.73E+1	4.77E+2
3	R-82-303	OA	2,000	6.95E-5	1.14E-3	130	740,000	1.22E-8	2.00E-7	5.26E-1	8.63EO	2.79E+1	4.86E+2
4	R-82-304	OB	19,500	7.02E-5	1.30E-3	147	625,000	1.65E-8	3.06E-7	5.18EO	9.59E+1	3.30E+1	5.81E+2
4	R-82-305	OB	19,500	5.25E-5	3.03E-3	140	625,000	1.23E-8	7.08E-7	3.87EO	2.24E+2	3.69E+1	8.05E+2
5	R-82-306	OA	20,500	3.65E-5	3.07E-3	148	625,000	8.64E-9	7.27E-7	2.83EO	2.38E+2	3.97E+1	1.04E+3
6	R-82-307	OB	19,045	3.50E-5	3.97E-3	149	625,000	8.34E-9	9.46E-7	2.52EO	2.86E+2	4.23E+1	1.33E+3
6	R-82-308	OA	20,000	2.68E-5	4.59E-3	145	625,000	6.22E-9	1.06E-6	2.03EO	3.47E+2	4.43E+1	1.68E+3
6	R-82-309	OB	18,770	2.92E-5	3.54E-3	148	625,000	6.91E-9	8.38E-7	2.07EO	2.51E+2	4.64E+1	1.93E+3
6	R-82-310	OA	19,000	1.86E-5	5.61E-3	148	625,000	4.40E-9	1.33E-6	1.34EO	4.03E+2	4.77E+1	2.33E+3
7	R-82-311	OB	17,937	5.13E-5	1.21E-2	150	625,000	1.23E-8	2.90E-6	3.48EO	8.21E+2	5.12E+1	3.15E+3
7	R-82-312	OA	17,766	4.09E-5	1.49E-2	150	625,000	9.82E-9	3.58E-6	2.75EO	1.00E+3	5.39E+1	4.15E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2
Year 1982

Page 2 of 4

Month June

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate CPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
8	R-82-313	OB	19,027	6.44E-5	9.84E-4	149	625,000	1.54E-8	2.35E-7	4.64EO	7.09E+1	5.86E+1	4.22E+3
8	R-82-314	OA	18,417	6.12E-5	1.03E-2	150	625,000	1.47E-8	2.47E-6	4.27EO	7.18E+2	6.28E+1	4.94E+3
8	R-82-315	OB	18,000	7.75E-5	1.42E-3	150	625,000	1.86E-8	3.41E-7	5.28EO	9.67E+1	6.81E+1	5.04E+3
9	R-82-316	OA	17,591	7.71E-5	1.54E-3	150	625,000	1.85E-8	3.70E-7	5.13EO	1.03E+2	7.33E+1	5.14E+3
9	R-82-317	OB	19,500	9.06E-5	8.41E-3	148	625,000	2.15E-8	1.99E-6	6.69EO	6.21E+2	7.99E+1	5.76E+3
9	R-82-318	OA	20,000	7.74E-5	1.56E-2	149	625,000	1.85E-8	3.72E-6	5.86EO	1.18E+3	8.58E+1	6.94E+3
10	R-82-319	OB	20,000	5.21E-5	1.29E-3	150	625,000	1.25E-8	3.10E-7	3.94EO	9.77E+1	8.97E+1	7.04E+3
10	R-82-320	OA	20,000	6.11E-5	1.46E-3	149	625,000	1.46E-8	3.48E-7	4.63EO	1.06E+2	9.44E+1	7.14E+3
10	R-82-321	OB	17,820	4.20E-5	1.59E-3	140	625,000	9.41E-9	3.56E-7	2.83EO	1.07E+2	9.72E+1	7.25E+3
11	R-82-322	OA	20,000	6.19E-5	1.44E-3	148	625,000	1.47E-8	3.41E-7	4.69EO	1.09E+2	1.02E+2	7.36E+3
12	R-82-323	OB	20,000	5.12E-5	1.52E-3	150	625,000	1.23E-8	3.65E-7	3.88EO	1.15E+2	1.06E+2	7.48E+3
13	R-82-324	OB	19,312	5.66E-5	2.81E-3	140	625,000	1.27E-8	6.29E-7	4.14EO	2.05E+2	1.10E+2	7.68E+3
13	R-82-325	OA	18,193	8.44E-5	3.10E-3	135	625,000	1.82E-8	6.70E-7	5.81EO	2.13E+2	1.16E+2	7.89E+3
13	R-82-326	OB	20,137	5.37E-5	5.58E-3	130	625,000	1.12E-8	1.16E-6	4.09EO	4.25E+2	1.20E+2	8.32E+3
13	R-82-327	OA	20,000	7.93E-5	4.19E-3	142	625,000	1.80E-8	9.52E-7	6.00EO	3.17E+2	1.26E+2	8.64E+3

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Page 3 of 4

Month June

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium 1			*Gross	Tritium 1	*Gross	Tritium 1	*Gross	Tritium 1
14	R-82-328	OB	19,396	5.25E-5	5.14E-3	150	625,000	1.26E-8	1.23E-6	3.85E0	3.77E+2	1.30E+2	9.01E+3
14	R-82-329	OA	20,000	6.24E-5	3.41E-3	148	625,000	1.48E-8	8.07E-7	4.72E0	2.58E+2	1.34E+2	9.27E+3
14	R-82-330	OB	19,500	4.94E-5	3.63E-3	150	625,000	1.19E-8	8.71E-7	3.65E0	2.68E+2	1.38E+2	9.54E+3
15	R-82-331	OA	807	2.10E-4	6.84E-2	120	625,000	4.03E-8	1.31E-5	6.41E-1	2.09E+2	1.39E+2	9.75E+3
16	R-82-332	OB	19,250	2.72E-5	3.66E-3	120	625,000	5.22E-9	7.03E-7	1.98E0	2.67E+2	1.41E+2	1.00E+4
--	R-82-333												
16	R-82-334	OB	19,800	7.11E-5	2.73E-3	147	625,000	1.67E-8	6.42E-7	5.33E0	2.05E+2	1.46E+2	1.02E+4
17	R-82-335	OA	20,300	9.93E-5	1.59E-3	150	625,000	2.38E-8	3.82E-7	7.63E0	1.22E+2	1.54E+2	1.03E+4
17	R-82-336	OB	19,687	5.72E-5	2.35E-3	150	625,000	1.37E-8	5.64E-7	4.26E0	1.75E+2	1.58E+2	1.05E+4
17	R-82-337	OA	18,655	4.60E-5	2.93E-3	147	625,000	1.08E-8	6.89E-7	3.25E0	2.07E+2	1.61E+2	1.07E+4
18	R-82-338	OB	20,000	4.70E-5	1.83E-3	148	625,000	1.11E-8	4.33E-7	3.56E0	1.39E+2	1.55E+2	1.09E+4
18	R-82-339	OA	20,000	5.07E-5	2.22E-3	145	625,000	1.18E-8	5.15E-7	3.84E0	1.68E+2	1.69E+2	1.10E+4
18	R-82-340	OB	19,641	5.07E-5	4.10E-3	148	625,000	1.20E-8	9.71E-7	3.77E0	3.05E+2	1.72E+2	1.13E+4
18	R-82-341	OA	18,230	3.35E-5	1.05E-3	150	625,000	8.04E-9	2.52E-7	2.31E0	7.25E+1	1.75E+2	1.14E+4
19	R-82-342	OB	19,607	4.46E-5	2.23E-3	140	625,000	9.99E-9	5.00E-7	3.31E0	1.65E+2	1.78E+2	1.16E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All cross-activity numbers exclude Tritium.

LOW LEVEL WASTE TREATMENT STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 2

Page 4 of 4

Month June

Year 1982

Date	Batch Number	Tank	Volume Discharged Gallons	Beta Activity uCi/ml		Discharge Rate GPM	Dilution Flow GPM	Final Activity Discharge From Plant uCi/ml		Millicuries Released		Total Millicuries Released This Month	
				*Gross	Tritium I			*Gross	Tritium I	*Gross	Tritium I	*Gross	Tritium I
19	R-82-343	OA	18,200	4.51E-5	3.36E-3	148	625,000	1.07E-8	7.96E-7	3.11E0	2.31E+2	1.81E+2	1.18E+4
20	R-82-344	OB	19,496	4.82E-5	1.48E-3	148	625,000	1.14E-8	3.50E-7	3.56E0	1.09E+2	1.85E+2	1.19E+4
21	R-82-345	OA	18,375	1.10E-4	3.43E-3	120	625,000	2.11E-8	6.59E-7	7.65E0	2.39E+2	1.92E+2	1.21E+4
21	R-82-346	OB	19,500	9.79E-5	1.88E-3	120	625,000	1.88E-8	3.61E-7	7.23E0	1.39E+2	1.99E+2	1.23E+4
22	R-82-348	OB	20,246	6.76E-5	3.35E-3	120	625,000	1.30E-8	6.43E-7	5.18E0	2.57E+2	2.05E+2	1.25E+4
23	R-82-349	OB	19,400	1.83E-5	3.08E-3	148	740,000	3.66E-9	6.16E-7	1.34E0	2.26E+2	2.06E+2	1.28E+4
24	R-82-350	OA	17,988	6.26E-5	1.85E-3	148	740,000	1.25E-8	3.70E-7	4.26E0	1.26E+2	2.10E+2	1.29E+4
24	R-82-352	OA	17,633	3.04E-5	2.24E-3	148	740,000	6.08E-9	4.48E-7	2.03E0	1.49E+2	2.12E+2	1.30E+4
28	R-82-359	OA	18,265	1.10E-5	3.99E-3	148	625,000	2.60E-9	9.47E-7	7.60E-1	2.76E+2	2.13E+2	1.33E+4

(1) Minimum detectable tritium is 1×10^{-5} uc/cc
* All gross-activity numbers exclude Tritium.

ZION GENERATING STATION UNIT 1/2

Month January Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
1/5/82	Compacted & Cemented Drums	95.0	95.0	3,820	3820
1/8/82	Compacted & Cemented Drums	557.8	652.8	263	4083
1/11/82	Cemented Cask	80.0	732.8	168,700	172,783
1/14/82	Cemented Cask	170.0	902.8	3,750	186,533
1/15/82	Cemented Cask	85.0	987.8	43.13	186,576.13
1/20/82	Compacted Drums	104.4	1092.2	1,433	188,009.13
1/21/82	Compacted & Cemented Drums	570.1	1662.3	177	188,186.13
1/28/82	Cemented Cask	80.0	1742.3	173,600	361,786.13

MONTH TOTAL

361,786.13

ZION GENERATING STATION UNIT 1/2

Month February Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
2/3/82	Cemented Cask	170.0	170.0	5,570	5570
2/4/82	Cemented Cask	80.0	250.0	4,960	10,530
2/5/82	Cemented Drums	135.0	385.0	2,300	12,830
2/9/82	Cemented Cask	170.0	555.0	4,350	17,180
2/16/82	Cemented Cask	85.0	640.0	97,940	115,120
2/20/82	Cemented Drums	135.0	775.0	1,210	116,330
2/24/82	Compacted Bins	980.0	1755.0	341	116,671
2/25/82	Cemented Cask	170.0	1925.0	23,000	139,671
2/26/82	Cemented Drums	53.9	1978.9	6,374	146,045
2/26/82	Compacted Drums	548.9	2527.8	93.16	146,138.16

MONTH TOTAL

146,138.16

ZION GENERATING STATION UNIT 1/2

Month March Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
3/8/82	Compacted & Cemented Drums	538.0	538.0	95.94	95.94
3/9/82	Cemented Cask	170.0	708.0	19,010	19,105.94
3/15/82	Compacted Drums	544.8	1252.8	189.3	19,295.24
3/18/82	Cemented Cask	80.0	1332.8	81,800	101,095.24
3/19/82	Cemented Cask	85.0	1417.8	3,050	104,145.24
3/22/82	Cemented Drums	90.0	1507.8	1,321	105,466.24
3/23/82	Cask	170.0	1677.8	117.3	105,583.54
3/24/82	Compacted & Cemented Drums	540.0	2217.8	104.0	105,687.54
3/25/82	Cemented Cask	170.0	2387.8	2,345	108,032.54
3/30/82	Compacted Bins	980.0	3367.8	618	108,650.54

MONTH TOTAL

108,650.54

ZION GENERATING STATION UNIT 1/2

Month April Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
4/3/82	Cemented Cask	80.0	80.0	192,900	192,900
4/7/82	Compacted & Cemented Drums	555.0	635.0	85.5	192,985.5
4/9/82	Cemented Cask	80.0	715.0	13,980	206,965.5
4/14/82	Cemented Liners	340.0	1055.0	91.5	207,057.0
4/14/82	Cemented Cask	170.0	1225.0	675	207,732.0
4/15/82	Compacted & Cemented Drums	525.0	1750.0	158	207,890.0
4/20/82	Cemented Cask	80.0	1830.0	75,300	283,190.0
4/21/82	Cemented Cask	170.0	2000.0	600.6	283,790.6
4/21/82	Cemented Liners	340.0	2340.0	5.48	283,796.08
4/23/82	Cemented Cask	80.0	2420.0	58,900	342,696.08
4/27/82	Cemented Cask	170.0	2590.0	6,293	348,989.08
4/27/82	Compacted Drums	525.0	3115.0	105.09	349,094.17
4/30/82	Cemented Drums	80.0	3195.0	42,500	391,594.17
4/30/82	Compacted Bins	980.0	4175.0	484.9	392,079.07

MONTH TOTAL

392,079.07

ZION GENERATING STATION UNIT 1/2

Month May Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
5/4/82	Compacted & Cemented Drums	559.1	559.1	191.94	191.94
5/6/82	Cemented Cask	80.0	639.1	68,330	68,521.94
5/10/82	Cemented Cask	85.0	724.1	3,416	71,937.94
5/12/82	Compacted & Cemented Drums	585.0	1309.1	117.65	72,055.59
5/12/82	Cemented Cask	80.0	1389.1	62,850	134,905.59
5/14/82	Compacted Bins	980.0	2369.1	384.85	135,290.44
5/17/82	Cemented Cask	80.0	2449.1	55,170	190,460.44
5/19/82	Cemented Cask	170.0	2619.1	308.0	190,768.44
5/20/82	Compacted & Cemented Drums	570.0	3189.1	165.47	190,933.91
5/20/82	Compacted Drums	135.0	3324.1	837.0	191,770.91
5/21/82	Cemented Cask	80.0	3404.1	77,290	269,060.91
5/24/82	Cemented Cask	170.0	3574.1	23,570	292,630.91
5/25/82	Cemented Cask	80.0	3654.1	25,300	317,930.91
5/27/82	Cemented Drums	104.4	3758.5	673.2	318,604.11
5/28/82	Compacted Drums	585.0	4343.5	252.65	318,856.76

MONTH TOTAL

318,856.76

ZION GENERATING STATION UNIT 1/2

Month June Year 1982

SOLID RADIOACTIVE WASTE

(Tech Spec 6.6A3g)

Date	Disposition of Material	Volume (ft ³) Per Shipment	Volume (ft ³) Per Month	Millicuries Per Shipment	Millicuries Per Month
6/1/81	Cemented Cask	80.0	80.0	16,300	16,300
6/3/82	Cemented Cask	170.0	250.0	27,400	43,700
6/8/82	Compacted & Cemented Drums	540.0	790.0	131.23	43,831.23
6/10/82	Cemented Cask	85.0	875.0	23,130	66,961.23
6/12/82	Cemented Cask	170.0	1045.0	3,314	70,275.23
6/14/82	Cemented Cask	80.0	1125.0	144,000	214,275.23
6/16/82	Cask	170.0	1295.0	5.91	214,281.14
6/17/82	Cemented Cask	80.0	1375.0	46,840	261,121.14
6/21/82	Cemented Cask	80.0	1455.0	75,640	336,761.14
6/22/82	Compacted Bins	980.0	2435.0	375.68	337,136.82
6/22/82	Cemented Cask	170.0	2605.0	4,770	341,906.82
6/30/82	Compacted & Cemented Cask	597.3	3202.3	162.56	342,069.38
6/30/82	Cemented Cask	80.0	3282.3	51,130	393,199.38

MONTH TOTAL

393,199.38