

REPORT OF RADIOACTIVE EFFLUENTS

DOCKET NOS: 50-295 and 50-304

YEAR: 1980

FACILITY: Zion

UNITS	JANUARY	FEBRUARY	MARCH	FIRST QUARTER	APRIL	MAY	JUNE	SECOND QUARTER	SIX MO TOTAL	TECH SPEC	
I. Airborne Effluents											
1. Gross Radioactivity Releases											
a) Total Release	Curies	123.36	501.00	156.00	780.36	168.37	107.54	32.96	308.87	1099.23	6.643E1a1
b) Maximum Release Rate (1)	uci/sec	1362.00	18175.00	7740.00	18175.00	2153.00	1629.80	1520.00	2153.00	18175.00	6.643E1a2
c) Isotopes Released											
Xe-131m	Curies	N.D.	263.06	N.D.	263.06	N.D.	N.D.	N.D.	N.D.	263.06	6.643E1a3
Xe-133m		9.87	N.D.	N.D.	9.87	N.D.	2.61E-1	N.D.	2.61E-1	10.13	
Kr-83		71.35	14.42	N.D.	85.77	N.D.	N.D.	N.D.	N.D.	85.77	
Kr-85m		11.55	N.D.	N.D.	11.55	N.D.	N.D.	N.D.	N.D.	11.55	
Xe-135		4.92	82.61	15.36	102.89	16.62	6.81	3.07	26.50	129.32	
Xe-133		25.67	140.91	140.64	307.22	151.75	100.10	29.89	281.74	588.96	
Ar-41		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Kr-85		N.D.	N.D.	N.D.	N.D.	N.D.	3.70E-1	N.D.	3.70E-1	3.70E-1	
											3.12.1.A.
d) Percent of quarterly caseous activity limit (6000 uci/sec)	%	0.16	0.66	0.21	1.03	0.22	0.14	0.04	0.40	1.43	6.643E1a4 3.12.1.A
E. Iodine Releases											
a) Isotopes Released	Curies										6.643E1b
I-131		N.D.	6.46E-6	1.76E-6	8.22E-6	1.71E-6	3.30E-5	5.12E-6	3.96E-5	4.81E-5	
I-133		N.D.	6.71E-6	6.72E-6	1.34E-5	9.64E-7	6.54E-7	N.D.	1.62E-6	1.50E-5	
I-125		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
b) Percent of Iodine 131 Limit	%(2)	--	--	--	--	--	--	--	--	--	6.643E1c 3.12.1.B

1. Gross Caseous Radioactivity Release Maximum Release Rate 60,000 uc/sec.
2. Iodine and Particulate Limits are Total Limit - See Item 14 of this report.

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: ZION

Docket Nos: 50-295 and 50-304

YEAR: 1980

I. Airborne Effluents	UNITS	JANUARY	FEB.	MARCH	FIRST QUARTER	APRIL	MAY	JUNE	SECOND QUARTER	Mo. Total	TECH SPEC REF.
3. Particulate Releases											
a) Gross Radioactivity	Curies	6.39E-5	1.23E-4	9.19E-5	2.79E-4	2.43E-4	1.61E-4	2.90E-4	6.94E-4	9.73E-4	6.6A3f1c1
b) Gross Alpha Radioactivity	Curies	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	6.6A3f1c2
c) Isotopes Released	Curies										6.6A3f1c3
Sr-89		--	--	--	*	--	--	--	*	*	
Sr-90		--	--	--	*	--	--	--	*	*	
Co-58		6.20E-7	1.57E-10	N.D.	6.21E-7	N.D.	1.56E-5	3.24E-7	1.59E-5	1.66E-5	
Co-60		8.18E-6	1.62E-5	3.12E-6	2.75E-5	N.D.	1.24E-5	7.06E-5	8.30E-5	1.11E-4	
Cs-134		2.15E-6	2.30E-5	2.73E-8	2.52E-5	1.10E-7	N.D.	N.D.	1.10E-7	2.53E-5	
Cs-137		4.79E-6	8.30E-5	7.77E-6	9.56E-5	2.72E-9	N.D.	N.D.	2.72E-9	9.56E-5	
Mn-54		N.D.	N.D.	N.D.	N.D.	N.D.	2.75E-7	1.64E-6	1.92E-6	1.92E-6	
I-131		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
I-133		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
I-132		N.D.	N.D.	8.63E-6	8.63E-6	N.D.	N.D.	N.D.	N.D.	8.63E-6	
Nb-95		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Zr-95		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Cr-51		N.D.	N.D.	N.D.	N.D.	N.D.	3.11E-6	N.D.	3.11E-6	3.11E-6	
Ba-La 140		N.D.	N.D.	N.D.	N.D.	N.D.	6.06E-6	N.D.	6.06E-6	6.06E-6	
Ce-138		N.D.	N.D.	N.D.	N.D.	1.11E-9	N.D.	N.D.	1.11E-9	1.11E-9	
Tc-99m		N.D.	N.D.	N.D.	N.D.	N.D.	5.93E-7	N.D.	5.93E-7	5.93E-7	
Rb-88		N.D.	N.D.	N.D.	N.D.	1.75E-9	N.D.	N.D.	1.75E-9	1.75E-9	
Na 24		N.D.	N.D.	N.D.	N.D.	3.91E-8	N.D.	N.D.	3.91E-8	3.91E-8	
Sr 124		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Fe 59		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Ag-110		N.D.	5.32E-8	3.93E-7	4.46E-7	N.D.	N.D.	N.D.	N.D.	4.46E-7	
W-187		N.D.	3.13E-7	N.D.	3.13E-7	N.D.	N.D.	N.D.	N.D.	3.13E-7	
Percent of Particulate with half lives greater than 2 days	(1) %	--	--	--	--	--	--	--	--	--	6.6A3f1c4
											3.12.1.B

N.D. = No detectable activity above background

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

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

REPORT OF RADIOACTIVE EFFLUENTS

Unit I Discharge

FACILITY: ZION

Docket Nos: 50-295 and 50-304

YEP: 1980

II. Liquid Effluents		IMITS	January	February	March	First Quarter	April	May	June	Second Quarter	7mo. Total	Total 9mo.
1. Gross Radioactivity*			No Liquid Waste	No Liquid Waste			No Liquid Waste					
a) Total Release	Curies				4.24 E-4	4.24 E-4		9.74 E-2	3.91 E-2	1.37 E-1	1.37 E-1	6.63E-1
b) Average Concentration Released	ucl/ml		Discharged	Discharged	3.20 E-12	1.07 E-12	Discharged	7.35 E-10	3.18 E-10	3.51 E-10	1.76 E-10	6.67E-10
c) Maximum Concentration Released	ucl/ml				1.70 E-10	1.70 E-10		3.60 E-9	3.08 E-9	3.60 E-9	3.60 E-9	6.63E-9
d) Percent of Tech Spec Limit (5 curies)	%				8.48 E-3	8.48 E-3		1.95	7.82 E-1	2.73	2.74	6.67E-1
2. Tritium (1)												
a) Total Release	Curies				2.83	2.83		4.72 E+1	4.86 E+1	9.58 E+1	9.86 E+1	6.63E+1
b) Average Concentration Released	ucl/ml				2.14 E-8	7.13 E-9		3.56 E-7	3.95 E-7	2.50 E-7	1.29 E-7	6.67E-7
c) Percent of Tech Spec Limit (5 X 10 ⁻⁵ ucl/ml)	%				7.13 E-4	7.13 E-4		1.19 E-2	1.32 E-2	2.51 E-2	2.58 E-2	6.67E-2
3. Dissolved Noble Gases												
a) Total Release	Curies				N.D.	N.D.		5.01 E-3	N.D.	5.01 E-3	5.01 E-3	6.67E-3
b) Average Concentration Released	ucl/ml		↘	↘	N.D.	N.D.	↘	3.78 E-11	N.D.	3.78 E-11	3.78 E-11	6.67E-11

N.D. = No detectable activity above background * Excluding tritium

(1) Minimum detectable tritium is 2 X 10⁻⁵ uc/cc Page 1 of 3

REPORT OF RADIOACTIVE EFFLUENTS

Docket Nos: 50-295 and 50-304

Unit 1 Discharge
 YEAR: 1980

FACILITY: ZION

II. Liquid Effluents		(PITS)	January	February	March	First Quarter	April	May	June	Second Quarter	Gr. Total	TECH CONC
4. Gross Alpha Radioactivity			No Liquid Waste	No Liquid Waste			No Liquid Waste					
a) Total Release		Curies			1.91 E-6	1.91 E-6		1.64 E-4	8.39 E-5	2.48 E-4	2.50 E-4	6.63E-6
b) Average Concentration Released		ucl/ml	Discharged	Discharged		1.44 E-14	4.90 E-15	1.24 E-12	6.82 E-13	6.41 E-13	3.23 E-13	6.63E-6
5. Volume of Liquid Waste to Discharge		Liters			1.04 E+5	1.04 E+5		1.28 E+7	1.05 E+7	2.33 E+7	2.34 E+7	6.63E-6
5. Volume of Dilution Water		Liters			1.33 E+11	1.33 E+11		1.33 E+11	1.23 E+11	2.56 E+11	3.89 E+11	6.63E-6
7. Isotopes Released		Curies										
Cs-134					7.53 E-7	7.53 E-7		8.99 E-4	N.D.	8.99 E-4	9.00 E-4	6.63E-6
Ba-La-140					N.D.	N.D.		N.D.	N.D.	N.D.	N.D.	
I-131					N.D.	N.D.		N.D.	N.D.	N.D.	N.D.	
Cs-137					4.34 E-6	4.34 E-6		3.22 E-3	N.D.	3.22 E-3	3.22 E-4	
Co-58					N.D.	N.D.		3.87 E-2	9.58 E-3	4.83 E-2	4.83 E-2	
Co-60					9.45 E-5	9.45 E-5		3.75 E-2	2.90 E-2	6.65 E-2	6.66 E-2	
Cr-51					N.D.	N.D.		1.17 E-2	N.D.	1.17 E-2	1.17 E-2	
Mn-54					N.D.	N.D.		N.D.	4.78 E-4	4.78 E-4	4.78 E-4	
Zn-55					N.D.	N.D.		N.D.	N.D.	N.D.	N.D.	
Sr-89					--	*		--	--	*	*	
Sr-90					--	*		--	--	*	*	
Cu-64					N.D.	N.D.		N.D.	N.D.	N.D.	N.D.	
I-132			✓	✓	1.73 E-5	1.73 E-5	✓	N.D.	N.D.	N.D.	1.73 E-5	

* See U2 Liquid Effluent for combined analysis result

FACILITY: ZION

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

Unit 1 Discharge
YEAR: 1980

II. Liquid Effluents	UNITS	January		February		March		First Quarter		April		May		June		Second Quarter		50-295 50-304		TECH SPEC REF.
		No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	No Liquid Waste	Discharged	
Sb 124																				
I 133																				
Ac 110m																				
Na 24																				
W 187																				
Co 57																				
Mo 99																				
Zr 95																				
Nb 95																				
Fe 59																				
Np 239																				
Am 241																				
Am 243																				
Am 244																				

N.D. = No detectable activity above background

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 1

Month May

Year 1980

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
4	R-80-122	OALDT	18,000	2.88 E-5	4.17 E-2	49.0	784,000	1.80E-9	2.61 E-6	1.96	2.84 E+3	1.96	2.84 E+3
5	R-80-123	OBLDT	15,500	3.55 E-6	4.20 E-2	48.0	784,000	2.17E-10	2.57 E-6	2.08 E-1	2.46 E+3	2.17	2.30 E+3
7	R-80-124	OBLDT	15,500	3.44 E-6	4.22 E-2	50.0	784,000	2.19E-10	2.69 E-6	2.02 E-1	2.48 E+3	2.37	7.78 E+3
9	R-80-125	OALDT	18,000	5.65 E-5	2.75 E-2	50.0	784,000	3.60E-9	1.75 E-6	3.85	1.87 E+3	6.22	9.65 E+3
11	R-80-126	OALDT	16,500	5.30 E-6	3.21 E-2	49.0	784,000	3.31E-10	2.01 E-6	3.31 E-1	2.01 E+3	6.55	1.17 E+4
13	R-80-127	OBLDT	19,500	4.51 E-6	3.04 E-2	49.0	784,000	2.82E-10	1.90 E-6	3.33 E-1	2.24 E+3	6.88	1.39 E+4
12	R-80-128	OALDT	19,250	4.56 E-6	3.11 E-2	49.0	784,000	2.85E-10	1.94 E-6	3.32 E-1	2.27 E+3	7.21	1.62 E+4
14	R-80-129	OALDT	17,500	1.73 E-5	3.35 E-2	48.0	784,000	1.06E-9	2.05 E-6	1.15	2.22 E+3	8.36	1.84 E+4
16	R-80-130	OALDT	18,500	7.31 E-6	3.08 E-2	49.0	784,000	4.57E-10	1.93 E-6	5.12 E-1	2.16 E+3	8.87	2.06 E+4
17	R-80-131	OBLDT	18,000	3.94 E-6	3.58 E-2	41.7	784,000	2.10E-10	1.90 E-6	2.68 E-1	2.44 E+3	9.14	2.30 E+4
18	R-80-132	OALDT	17,500	4.64 E-6	4.02 E-2	49.0	784,000	2.90E-10	2.51 E-6	3.07 E-1	2.66 E+3	9.45	2.57 E+4
20	R-80-133	OBLDT	19,500	3.31 E-6	3.76 E-2	49.0	784,000	2.07E-10	2.35 E-6	2.44 E-1	2.78 E+3	9.69	2.85 E+4
19	R-80-134	OALDT	13,500	3.65 E-6	3.44 E-2	49.0	784,000	2.28E-10	2.15 E-6	1.87 E-1	1.76 E+3	9.88	3.03 E+4
22	R-80-135	OALDT	19,500	4.08 E-5	2.84 E-2	48.0	784,000	2.50E-10	1.74 E-6	3.01	2.10 E+3	12.89	3.24 E+4
24	R-80-136	OBLDT	16,500	6.57 E-6	2.67 E-2	49.0	784,000	4.10E-10	1.67 E-6	4.10 E-1	1.67 E+3	13.30	3.41 E+4

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

* All gross-activity numbers exclude Tritium.

NUCLEAR GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Unit 1

Month May

Year 1980

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
24	R-80-137	OALDT	16,000	2.27 E-5	2.68 E-2	49.0	784,000	1.42 E-9	1.68 E-6	1.38	1.62 E+3	14.68	3.57 E+4
25	R-80-138	OBLDT	15,500	2.04 E-5	2.57 E-2	50.0	784,000	1.30 E-9	1.64 E-6	1.20	1.51 E+3	15.88	3.72 E+4
26	R-80-139	OALDT	15,500	2.80 E-6	2.43 E-2	49.0	784,000	1.75 E-10	1.52 E-6	1.64E-1	1.43 E+3	16.04	3.86 E+4
26	R-80-140	OBLDT	17,000	5.90 E-5	2.90 E-2	50.0	784,000	3.76 E-10	1.85 E-6	3.80	1.87 E+3	19.84	4.05 E+4
27	R-80-141	OBLDT	14,000	1.36 E-5	3.60 E-2	49.0	784,000	8.50 E-10	2.25 E-6	7.21 E-1	1.91 E+3	20.56	4.24 E+4
29	R-80-142	OBLDT	17,050	3.07 E-5	2.58 E-2	50.0	784,000	1.96 E-9	1.65 E-6	1.98	1.67 E+3	22.54	4.41 E+4
30	R-80-143	OALDT	18,500	2.34 E-5	2.46 E-2	49.0	784,000	1.46 E-9	1.54 E-6	1.64	1.72 E+3	24.18	4.58 E+4
31	R-80-144	OBLDT	13,800	2.12 E-5	2.42 E-2	49.0	784,000	1.33 E-9	1.51 E-6	1.11	1.26 E+3	25.29	4.71 E+4
1-7	Fire		8.63 E+5	2.02E-7	4.25 E-6	50.0	784,000	1.29 E-11	2.71 E-10	6.60 E-1	13.88	25.95	4.71 E+4
8-14	Sump		7.12 E+5	1.09E-7	7.08 E-6	50.0	784,000	6.95 E-12	4.52 E-10	2.94 E-1	19.08	26.24	4.71 E+4
15-21	Continuous		6.71 E+5	1.35E-7	7.98 E-6	50.0	784,000	8.61 E-12	5.09 E-10	3.43 E-1	20.27	26.59	4.72 E+4
22-31	Discharge		7.43 E+5	5.00E-7	8.00 E-6	50.0	784,000	3.19 E-11	5.16 E-10	1.41	22.75	28.00	4.72 E+4

(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 1980

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-80-145	OBLDT	16,500	1.50E-5	2.67E-2	49.0	754,000	9.38E-10	1.67E-6	9.37E-1	1.67E+3	9.37E-1	1.67E+3
2	R-80-146	OALDT	19,550	1.72E-5	2.28E-2	49.0	764,000	1.08E-9	1.43E-6	1.27	1.69E+3	2.21	3.36E+3
3	R-80-147	OBLDT	16,500	1.25E-5	3.31E-2	48.0	534,000	1.12E-9	2.98E-6	7.81E-1	2.07E+3	2.99	5.43E+3
4	R-80-148	OALDT	16,500	3.43E-5	3.24E-2	48.0	534,000	3.08E-9	2.91E-6	2.14	2.02E+3	5.13	7.45E+3
8	R-80-149	OALDT	17,500	2.34E-5	4.53E-2	49.0	784,000	1.46E-9	2.83E-6	1.55	3.00E+3	6.68	1.05E+4
8	R-80-150	OBLDT	18,500	9.80E-6	3.36E-2	50.0	784,000	6.25E-10	2.14E-6	6.86E-1	2.35E+3	7.37	1.29E+4
9	R-80-151	OBLDT	15,050	5.57E-6	7.87E-2	49.0	784,000	4.11E-10	4.92E-6	3.74E-1	4.48E+3	7.74	1.74E+4
10	R-80-152	OBLDT	14,500	4.00E-6	6.50E-2	50.0	784,000	2.55E-10	4.15E-6	2.20E-1	3.57E+3	7.96	2.10E+4
11	R-80-153	OBLDT	14,500	5.30E-6	7.20E-2	49.0	784,000	3.94E-10	4.50E-6	3.46E-1	3.95E+3	8.31	2.50E+4
12	R-80-154	OBLDT	15,000	5.32E-6	6.38E-2	49.0	784,000	3.95E-10	3.99E-6	3.59E-1	3.62E+3	8.67	2.86E+4
12	R-80-155	OALDT	119	4.03E-5	7.26E-2	50.0	784,000	2.57E-9	4.63E-6	1.82E-2	3.27E+1	8.69	2.86E+4
13	R-80-156	OALDT	TANK NOT	RELEASED	DUE TO HIGH	ACTIVITY						8.69	2.86E+4
13	R-80-157	OBLDT	20	9.67E-6	5.18E-2	50.0	784,000	2.34E-10	3.30E-6	2.78E-4	3.92	8.69	2.86E+4
15	R-80-158	OBLDT	15,000	2.25E-6	5.65E-2	49.0	784,000	1.41E-10	3.53E-6	1.28E-1	3.21E+3	8.82	3.18E+4
16	R-80-159	OBLDT	16,000	3.03E-6	4.13E-2	49.0	784,000	1.89E-10	2.58E-6	1.84E-1	2.50E+3	9.00	3.43E+4

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

* All gross-activity numbers exclude Tritium.

LOW GENERATING SYSTEM
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month June Year 1980

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
18	R-80-160	OBLDT	16,500	5.34E-6	3.89E-2	49.0	784,000	3.34E-10	2.43E-6	3.34E-1	2.43E+3	9.33	3.67E+4
20	R-80-161	OBLDT	16,500	3.05E-6	4.11E-2	49.0	784,000	1.91E-10	2.57E-6	1.91E-1	2.57E+3	9.52	3.93E+4
21	R-80-162	OBLDT	15,500	7.89E-6	3.61E-2	49.0	784,000	4.93E-10	2.26E-6	4.63E-1	2.12E+3	9.98	4.14E+4
22	R-80-163	OBLDT	15,250	3.02E-6	3.18E-2	48.0	784,000	1.85E-10	1.95E-6	1.74E-1	1.84E+3	10.15	4.32E+4
24	R-80-164	OBLDT	16,000	2.47E-6	2.77E-2	49.0	784,000	1.54E-10	1.73E-6	1.50E-1	1.68E+3	10.30	4.49E+4
28	R-80-166	OALDT	14,500	8.11E-6	2.96E-2	48.0	784,000	4.97E-10	1.81E-6	4.45E-1	1.63E+3	10.75	4.65E+4
29	R-80-167	OALDT	18,000	4.87E-5	2.88E-2	49.0	784,000	3.04E-9	1.80E-6	3.32	1.96E+3	14.07	4.85E+4
1-7	Flare		4.34E+5	6.14E-9	6.04E-6	50.0	784,000	3.92E-13	3.85E-10	1.01E-2	9.92	14.08	4.85E+4
8-14	Sump		8.85E+5	BKGD	1.58E-5	50.0	784,000	N.D.	1.01E-9	N.D.	52.93	14.08	4.86E+4
15-21	Continuous		4.87E+5	4.81E-8	1.57E-5	50.0	784,000	3.07E-12	1.00E-9	8.87E-2	28.94	14.17	4.86E+4
22-30	Discharge		6.48E+5	1.06E-6	1.35E-5	50.0	784,000	6.76E-11	8.61E-10	2.60	33.11	16.77	4.86E+4

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

FACILITY: ZION

REPORT OF RADIOACTIVE EFFLUENTS
Docket Nos: 50-295 and 50-504

Unit: II
YEAR: 1980
Discharge

II. Liquid Effluents		UNIT	January	February	March	First Quarter	April	May	June	Second Quarter	Total	Permitted
1. Gross Radioactivity*												
a) Total Release	Curies	1.72 E-2	7.18 E-2	5.67 E-3	1.11 E-1	1.04 E-2	6.66 E-4	6.81 E-4	1.17 E-2	1.23 E-1		
b) Average Concentration Released	ucl/ml	2.56 E-10	5.79 E-10	4.28 E-11	2.93 E-10	7.96 E-11	5.20 E-11	5.68 E-9	1.93 E-9	7.43 E-10		
c) Maximum Concentration Released	ucl/ml	9.92 E-9	1.38 E-8	2.73 E-10	1.38 E-8	1.04 E-9	9.88 E-10	1.84 E-8	1.84 E-8	1.84 E-8		
d) Percent of Tech Spec Limit (5 curies)	%	3.44 E-1	1.44	1.13 E-1	1.90	2.04 E-1	1.33 E-2	1.36 E-2	2.31 E-1	2.13		
2. Tritium (1)												
a) Total Release	Curies	4.48 E+1	7.14 E+1	4.04 E+1	1.57 E+2	4.93 E+1	7.73	4.48 E-1	5.75 E+1	2.14 E+2		
b) Average Concentration Released	ucl/ml	6.78 E-7	5.76 E-7	3.05 E-7	5.20 E-7	3.85 E-7	6.03 E-7	3.74 E-6	1.58 E-6	1.05 E-6		
c) Percent of Tech Spec Limit (3 X 10 ⁻⁵ ucl/ml)	%	2.26 E-2	1.92 E-2	1.02 E-2	5.20 E-2	1.28 E-2	2.01 E-2	1.25 E-1	1.58 E-1	2.10 E-1		
3. Dissolved Noble Gases												
a) Total Release	Curies	2.39 E-5	2.51 E-3	3.08 E-4	2.84 E-3	1.94 E-4	N.D.	N.D.	1.94 E-4	3.03 E-3		
b) Average Concentration Released	ucl/ml	2.56 E-13	2.05 E-11	2.33 E-12	7.73 E-12	1.51 E-12	N.D.	N.D.	5.03 E-13	4.12 E-12		

N.D. = No detectable activity above background * Excluding tritium

(1) Minimum detectable tritium is 1 X 10⁻⁵ ucl/cc Page 1 of 3

REPORT OF RADIOACTIVE EFFLUENTS

Unit II Discharge

FACILITY: ZION

Docket Nos: 50-295 and 50-304

YF/R:1980

II. Liquid Effluents	UNITS	January	February	March	First Quarter	April	May	June	Second Quarter	Geo. Total	TECH SPEC REQ.
4. Gross Alpha Radioactivity											
a) Total Release	Curies	3.24 E-4	3.88 E-4	3.42 E-4	1.05 E-3	1.25 E-4	4.92 E-7	N.D.	1.25 E-4	1.18 E-3	6.6A7E2c
b) Average Concentration Released	uci/ml	4.83 E-12	3.13 E-12	2.58 E-12	3.51 E-12	9.75 E-13	3.84 E-14	N.D.	5.07 E-13	2.01 E-12	6.6A7E2c
5. Volume of Liquid Waste to Discharge	Liters	1.13 E+7	1.67 E+7	1.62 E+7	4.42 E+7	1.88 E+7	2.18 E+5	1.51 E+4	1.90 E+7	6.32 E+7	6.6A7E2c
6. Volume of Dilution Water	Liters	6.72 E+10	1.24 E+11	1.33 E+11	3.24 E+11	1.28 E+11	1.28 E+10	1.20 E+8	1.41 E+11	4.65 E+11	6.6A7E2c
7. Isotopes Released	Curies										6.6A7E2c
Cs-134		1.53 E-3	4.61 E-3	4.65 E-4	6.61 E-3	6.31 E-4	N.D.	N.D.	6.31 E-4	7.24 E-3	
Pa-La-140		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
I-131		N.D.	5.37 E-5	N.D.	5.37 E-5	N.D.	N.D.	N.D.	N.D.	5.37 E-5	
Cs-137		1.60 E-3	4.76 E-3	2.67 E-3	9.03 E-3	1.92 E-3	N.D.	N.D.	1.92 E-3	1.10 E-2	
Co-58		5.35 E-3	1.98 E-2	4.04 E-4	2.56 E-2	6.05 E-4	N.D.	N.D.	6.05 E-4	2.62 E-2	
Co-60		6.77 E-3	3.29 E-2	9.18 E-4	4.06 E-2	6.76 E-3	6.66 E-4	6.81 E-4	8.11 E-3	4.87 E-2	
Cr-51		3.88 E-4	1.71 E-3	N.D.	2.10 E-3	N.D.	N.D.	N.D.	N.D.	2.10 E-3	
Pb-54		3.88 E-4	1.07 E-3	N.D.	1.46 E-3	N.D.	N.D.	N.D.	N.D.	1.46 E-3	
Zn-65		N.D.	3.64 E-5	N.D.	3.64 E-5	N.D.	N.D.	N.D.	N.D.	3.64 E-5	
Sr-89		--	--	--	6.71 E-3	--	--	--	*	*	
Sr-90		--	--	--	6.71 E-3	--	--	--	*	*	
Cu-64		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
I-132		N.D.	N.D.	3.73 E-4	3.73 E-4	N.D.	N.D.	N.D.	N.D.	3.73 E-4	

N.D. = No detectable activity above background

* = Waiting for Analysis Results -- Data will be Presented in an Errata to the Annual Report

REPORT OF RADIOACTIVE EFFLUENTS

Unit II Discharge

FACILITY: ZION

Docket Nos: 50-295 and 50-304

YEAR: 1980

II. Liquid Effluents	UNITS	Discharge												TECH SPEC REF.
		January	February	March	First Quarter	April	May	June	Second Quarter	5-9 Total				
Sb 124		4.44 E-4	2.60 E-3	N.D.	3.04 E-3	N.D.	N.D.	N.D.	N.D.	3.04 E-3				
I 133		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.				
Ag 110m		1.70 E-5	2.91 E-4	6.83 E-5	3.76 E-4	N.D.	N.D.	N.D.	N.D.	3.76 E-4				
Na 24		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.				
N 187		N.D.	7.99 E-5	7.10 E-4	7.90 E-4	3.15 E-4	N.D.	N.D.	N.D.	3.15 E-4	1.11 E-3			
Co 57		N.D.	5.89 E-4	3.59 E-5	6.25 E-4	N.D.	N.D.	N.D.	N.D.	N.D.	6.25 E-4			
Mo 99		N.D.	2.48 E-4	N.D.	2.48 E-4	N.D.	N.D.	N.D.	N.D.	N.D.	2.48 E-4			
Zr 95		1.50 E-4	1.42 E-4	N.D.	2.92 E-4	N.D.	N.D.	N.D.	N.D.	N.D.	2.92 E-4			
Nb 95		5.09 E-4	2.90 E-3	N.D.	3.41 E-3	N.D.	N.D.	N.D.	N.D.	N.D.	3.41 E-3			
Fe 59		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.			
Re 219		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.			
9 135		N.D.	1.60 E-4	2.75 E-4	4.35 E-4	1.94 E-4	N.D.	N.D.	N.D.	1.94 E-4	6.29 E-4			
99 135		2.39 E-5	2.35 E-3	3.34 E-5	2.41 E-3	N.D.	N.D.	N.D.	N.D.	N.D.	2.41 E-3			
Cs 136		N.D.	N.D.	2.74 E-5	2.74 E-5	N.D.	N.D.	N.D.	N.D.	N.D.	2.74 E-5			

N.D. = No detectable activity above background

ZION GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT II

Month January

Year 1980

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
4	R-80-001	OALDT	18,500	2.07 E-6	3.76 E-2	48.0	279,000	3.56E-10	6.47 E-6	1.45 E-1	2.63 E+3	1.45E-1	2.63 E+3
5	R-80-002	OBLDT	18,500	8.86 E-6	3.32 E-2	46.0	279,000	1.46 E-9	5.47 E-6	6.20 E-1	2.32 E+3	7.65E-1	4.95 E+3
7	R-80-003	OALDT	17,500	3.12 E-6	4.04 E-2	48.0	279,000	5.37E-10	6.95 E-6	2.07 E-1	2.68 E+3	9.72E-1	7.63 E+3
8	R-80-004	OBLDT	17,000	2.63 E-6	3.16 E-2	47.0	279,000	4.43E-10	5.32 E-6	1.69 E-1	2.03 E+3	1.14	9.66 E+3
10	R-80-005	OBLDT	16,000	3.78 E-6	2.76 E-2	42.0	279,000	5.69E-10	4.16 E-6	2.29 E-1	1.67 E+3	1.37	1.13 E+4
11	R-80-006	OALDT	16,000	5.13 E-6	2.56 E-2	49.0	279,000	9.01E-10	4.50 E-6	3.11 E-1	1.55 E+3	1.68	1.29 E+4
18	R-80-007	OALDT	17,000	5.10 E-5	2.52 E-2	50.0	257,000	9.92 E-9	4.90 E-6	3.28	1.62 E+3	4.96	1.45 E+4
20	R-80-008	OALDT	18,000	1.36 E-5	2.77 E-2	48.0	534,000	1.22 E-9	2.49 E-6	9.27 E-1	1.89 E+3	5.89	1.64 E+4
20	R-80-009	OBLDT	15,500	5.82 E-6	2.30 E-2	48.0	534,000	5.23 E-10	2.07 E-6	3.41 E-1	1.35 E+3	6.23	1.78 E+4
21	R-80-010	OALDT	17,500	5.74 E-6	2.45 E-2	46.0	534,000	4.95 E-10	2.11 E-6	3.80 E-1	1.62 E+3	6.61	1.94 E+4
21	R-80-011	OBLDT	14,500	1.15 E-5	2.63 E-2	44.0	534,000	9.48 E-10	2.17 E-6	6.31 E-1	1.44 E+3	7.24	2.08 E+4
22	R-80-012	OALDT	15,500	5.61 E-6	2.83 E-2	49.0	534,000	5.15 E-10	2.60 E-6	3.29 E-1	1.66 E+3	7.57	2.25 E+4
24	R-80-013	OBLDT	15,250	5.51 E-6	3.68 E-2	48.0	534,000	4.95 E-10	3.31 E-6	3.18 E-1	2.12 E+3	7.89	2.46 E+4
24	R-80-014	OALDT	17,500	1.14 E-5	4.18 E-2	49.0	556,000	1.01 E-9	3.68 E-6	7.55 E-1	2.77 E+3	8.65	2.74 E+4
26	R-80-015	OALDT	16,500	8.27 E-6	4.23 E-2	48.0	556,000	7.14 E-10	3.65 E-6	5.17 E-1	2.64 E+3	9.17	3.00 E+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

Month January

UNIT II
Year 1980

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		
28	R-80-016	OBLDT	15,500	1.71 E-5	3.83 E-2	49.0	556,000	1.51 E-9	3.38 E-6	1.00	2.25 E+3	10.17	3.23 E+4
27	R-80-017	CALDT	15,000	5.32 E-6	3.66 E-2	49.0	556,000	4.69 E-10	3.23 E-6	3.02 E-1	2.08 E+3	10.47	3.44 E+4
29	R-80-018	OALDT	16,500	4.83 E-6	5.05 E-2	48.0	534,000	4.34 E-10	4.54 E-6	3.02 E-1	3.15 E+3	10.77	3.76 E+4
30	R-80-019	OBLDT	16,000	5.57 E-6	4.08 E-2	42.0	534,000	4.38 E-10	3.21 E-6	3.37 E-1	2.47 E+3	11.11	4.01 E+4
31	R-80-020	OALDT	17,000	6.74 E-6	3.96 E-2	50.0	784,000	4.30 E-10	2.53 E-6	4.34 E-1	2.55 E+3	11.54	4.27 E+4
31	R-80-021	OBLDT	17,500	6.43 E-5	3.22 E-2	49.0	784,000	4.02 E-9	2.01 E-6	4.26	2.13 E+3	15.80	4.48 E+4
1-7	Flre		0	1.03 E-7	1.65 E-4	50.0	279,000	No Activity Released				15.80	4.48 E+4
8-14	Sump		3.78 E+5	2.32 E-6	1.12 E-4	50.0	279,000	4.16E-10	2.01 E-8	3.32	1.60 E+2	19.12	4.50 E+4
15-21	Continuous		1.02 E+6	3.48 E-7	8.69 E-5	50.0	388,286	4.48E-11	1.12 E-8	1.34	3.36 E+2	20.46	4.53 E+4
22-31	Discharge		1.234 E+6	4.53 E-8	3.53 E-5	50.0	570,000	3.97E-12	3.10 E-9	2.17 E-1	1.65 E+2	20.68	4.55 E+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 II

Month February Year 1980

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-80-022	OBLDT	16,500	1.75 E-6	2.57 E-2	50.0	784,000	1.12E-10	1.64 E-6	1.09 E-1	1.61 E+3	1.09E-1	1.61 E+3
2	R-80-023	OALDT	18,000	1.29 E-5	3.51 E-2	48.0	784,000	7.90E-10	2.15 E-6	8.79 E-1	2.39 E+3	9.88E-1	4.00 E+3
3	R-80-024	OBLDT	12,000	8.04 E-6	2.67 E-2	35.2	784,000	3.61E-10	1.20 E-6	3.65 E-1	1.21 E+3	1.35	5.21 E+3
3	R-80-025	OALDT	15,500	4.05 E-6	2.61 E-2	48.0	784,000	2.49E-10	1.60 E-6	2.38 E-1	1.53 E+3	1.59	6.74 E+3
4	R-80-026	OBLDT	16,000	3.73 E-6	2.46 E-2	49.0	784,000	2.33E-10	1.54 E-6	2.26 E-1	1.49 E+3	1.82	8.23 E+3
5	R-80-027	OALDT	17,500	3.46 E-6	2.39 E-2	39.0	784,000	1.72E-10	1.19 E-6	2.29 E-1	1.58 E+3	2.05	9.81 E+3
6	R-80-028	OBLDT	15,500	2.53 E-6	2.39 E-2	50.0	784,000	1.61E-10	1.52 E-6	1.48 E-1	1.40 E+3	2.20	1.12 E+4
6	R-80-029	OALDT	15,500	4.15 E-6	2.26 E-2	49.0	784,000	2.59E-10	1.41 E-6	2.44 E-1	1.33 E+3	2.44	1.25 E+4
7	R-80-030	OBLDT	16,000	4.37 E-6	2.21 E-2	49.0	784,000	2.73E-10	1.38 E-6	2.65 E-1	1.34 E+3	2.71	1.38 E+4
7	R-80-031	OALDT	15,500	1.30 E-6	2.74 E-2	49.0	784,000	8.13 E-11	1.71 E-6	7.63 E-2	1.61 E+3	2.79	1.54 E+4
8	R-80-032	OBLDT	14,000	2.51 E-6	2.89 E-2	49.0	784,000	1.57 E-10	1.81 E-6	1.33 E-1	1.53 E+3	2.92	1.69 E+4
9	R-80-033	OBLDT	16,500	4.37 E-6	3.52 E-2	48.0	784,000	2.68 E-10	2.16 E-6	2.73 E-1	2.20 E+3	3.19	1.91 E+4
10	R-80-034	OALDT	18,000	1.46 E-6	2.99 E-2	48.0	784,000	8.94 E-11	1.83 E-6	9.95 E-2	2.04 E+3	3.29	2.11 E+4
10	R-80-035	OBLDT	16,500	2.02 E-6	3.52 E-2	48.0	784,000	1.24 E-10	2.16 E-6	1.26 E-1	2.20 E+3	3.42	2.33 E+4
11	R-80-036	OALDT	16,000	4.27 E-6	3.47 E-2	48.0	784,000	2.61 E-10	2.12 E-6	2.59 E-1	2.10 E+3	3.68	2.54 E+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 II
Year 1980

Month February

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
11	R-80-037	OBLDT	19,500	1.89 E-5	3.53 E-2	46.0	784,000	1.11 E-9	2.07 E-6	1.40	2.61 E+3	5.08	2.80 E+4
12	R-80-038	OALDT	17,000	1.64 E-4	3.03 E-2	48.0	784,000	1.00 E-8	1.86 E-6	10.55	1.95 E+3	15.63	3.00 E+4
14	R-80-039	OBLDT	19,500	2.37 E-4	2.82 E-2	45.0	784,000	1.36 E-8	1.62 E-6	17.49	2.08 E+3	33.12	3.21 E+4
14	R-80-040	OALDT	17,000	6.98 E-5	3.13 E-2	49.0	784,000	4.36 E-9	1.96 E-6	4.49	2.01 E+3	37.61	3.41 E+4
15	R-80-041	OBLDT	15,500	8.67 E-5	2.94 E-2	49.0	784,000	5.42 E-9	1.84 E-6	5.09	1.73 E+3	42.70	3.58 E+4
15	R-80-042	OALDT	18,000	4.98 E-5	2.94 E-2	48.0	784,000	3.05 E-9	1.80 E-6	3.39	2.00 E+3	46.09	3.78 E+4
16	R-80-043	OALDT	16,500	2.36 E-5	2.78 E-2	49.0	784,000	1.48 E-9	1.74 E-6	1.47	1.74 E+3	47.56	3.95 E+4
17	R-80-044	OBLDT	17,500	2.26 E-5	2.87 E-2	48.0	784,000	1.38 E-9	1.76 E-6	1.50	1.90 E+3	49.06	4.14 E+4
18	R-80-045	OALDT	17,500	1.20 E-5	3.32 E-2	49.0	784,000	7.50 E-10	2.08 E-6	7.95E-1	2.20 E+3	49.86	4.36 E+4
18	R-80-046	OBLDT	15,500	4.92 E-6	3.32 E-2	49.0	784,000	3.08 E-10	2.08 E-6	2.89E-1	1.95 E+3	50.15	4.56 E+4
19	R-80-047	OALDT	15,500	5.59 E-6	3.33 E-2	49.0	784,000	3.49 E-10	2.08 E-6	3.28E-1	1.95 E+3	50.48	4.76 E+4
20	R-80-048	OBLDT	15,500	4.06 E-6	3.11 E-2	49.0	784,000	2.54 E-10	1.94 E-6	2.38E-1	1.83 E+3	50.72	4.94 E+4
21	R-80-049	OALDT	18,500	2.77 E-6	2.70 E-2	49.0	784,000	1.73 E-10	1.69 E-6	1.94E-1	1.89 E+3	50.91	5.13 E+4
22	R-80-050	OBLDT	15,500	2.41 E-6	2.50 E-2	49.0	784,000	1.51 E-10	1.56 E-6	1.41E-1	1.47 E+3	51.05	5.28 E+4
22	R-80-051	OALDT	17,000	1.84 E-6	2.69 E-2	48.0	784,000	1.13 E-10	1.65 E-6	1.18E-1	1.73 E+3	51.17	5.45 E+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 II

Month February

Year 1980

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
22	R-80-052	OALDT		Not Released - Released as R-80-054								51.17	5.45 E+4
23	R-80-053	OBLDT	16,500	3.17 E-6	2.53 E-2	49.0	784,000	1.98 E-10	1.58 E-6	1.98 E-1	1.58 E+3	51.37	5.61 E+4
24	R-80-054	OALDT	16,500	1.69 E-6	2.76 E-2	49.0	784,000	1.06 E-10	1.73 E-6	1.06 E-1	1.72 E+3	51.48	5.78 E+4
25	R-80-055	OBLDT	16,000	4.92 E-6	2.23 E-2	49.0	784,000	3.08 E-10	1.39 E-6	2.98 E-1	1.35 E+3	51.78	5.92 E+4
25	R-80-056	OALDT	15,500	1.71 E-6	2.58 E-2	50.0	784,000	1.09 E-10	1.65 E-6	1.00 E-1	1.51 E+3	51.88	6.07 E+4
26	R-80-057	OBLDT	19,500	1.64 E-6	2.71 E-2	50.0	784,000	1.05 E-10	1.73 E-6	1.21 E-1	2.00 E+3	52.00	6.27 E+4
27	R-80-058	OALDT	20,500	1.26 E-6	3.46 E-2	48.0	784,000	7.71 E-11	2.12 E-6	9.78 E-2	2.68 E+3	52.10	6.54 E+4
28	R-80-059	OALDT	17,090	2.55 E-6	3.10 E-2	48.0	784,000	1.56 E-10	1.90 E-6	1.64 E-1	2.00 E+3	52.26	6.74 E+4
28	R-80-060	OBLDT	14,500	4.76 E-6	2.88 E-2	49.0	784,000	2.98 E-10	1.80 E-6	2.61 E-1	1.58 E+3	52.52	6.90 E+4
29	R-80-061	OALDT	21,500	1.38 E-6	2.49 E-2	49.0	784,000	8.63 E-11	1.56 E-6	1.12 E-1	2.03 E+3	52.63	7.10 E+4
1 - 7	Fire		9.73 E+5	3.45 E-7	8.39 E-5	50.0	784,000	2.20 E-11	5.35 E-9	1.27	3.09 E+2	53.90	7.13 E+4
8 - 14	Sump		8.49 E+5	7.90 E-8	8.79 E-6	50.0	784,000	5.04 E-12	5.61 E-10	2.54 E-1	2.83 E+1	54.15	7.13 E+4
15-21	Continuous		1.21 E+6	BKGD	5.34 E-6	50.0	784,000	N.D.	3.41 E-10	N.D.	2.45 E+1	54.15	7.14 E+4
22-29	Discharge		7.27 E+5	BKGD	1.80 E-6	50.0	784,000	N.D.	1.15 E-10	N.D.	4.95	54.15	7.14 E+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 II

Month March Year 1980

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-80-062	OBLDT	18,500	3.62 E-6	2.50 E-2	48.0	784,000	2.22 E-10	1.53 E-6	2.54 E-1	1.75 E+3	2.54 E-1	1.75 E+3
2	R-80-063	OALDT	20,000	1.27 E-6	2.21 E-2	49.0	784,000	7.94 E-11	1.38 E-6	9.61 E-2	1.67 E+3	1.50 E-1	3.42 E+3
2	R-80-064	OBLDT	19,500	1.27 E-7	2.31 E-2	50.0	784,000	2.09 E-11	1.47 E-6	2.41 E-2	1.71 E+3	1.74 E-1	5.13 E+3
3	R-80-065	OALDT	17,000	1.14 E-6	7.38 E-3	48.0	784,000	6.98 E-11	4.52 E-7	7.34 E-2	4.75 E+2	4.47 E-1	5.61 E+3
4	R-80-066	OBLDT	14,500	5.15 E-7	1.92 E-2	49.0	784,000	2.22 E-11	1.20 E-6	2.83 E-2	1.05 E+3	4.75 E-1	6.66 E+3
12	R-80-067	OBLDT	18,500	1.89 E-6	7.24 E-3	50.0	784,000	1.21 E-10	4.62 E-7	1.32 E-1	5.07 E+2	6.07 E-1	7.17 E+3
13	R-80-068	OALDT	19,000	3.23 E-6	1.96 E-2	49.0	784,000	2.02 E-10	1.23 E-6	2.32 E-1	1.41 E+3	6.39 E-1	8.58 E+3
13	R-80-069	OBLDT	14,500	1.59 E-6	2.22 E-2	50.0	784,000	2.01 E-10	1.42 E-6	8.73 E-2	1.22 E+3	9.26 E-1	9.80 E+3
14	R-80-070	OALDT	17,000	2.34 E-6	2.64 E-2	49.0	784,000	1.46 E-10	1.65 E-6	1.51 E-1	1.70 E+3	1.08	1.15 E+4
16	R-80-072	OALDT	19,000	3.57 E-6	2.09 E-2	50.0	784,000	2.28 E-10	1.33 E-6	2.57 E-1	1.50 E+3	1.34	1.30 E+4
18	R-80-074	OALDT	17,000	3.79 E-6	2.74 E-2	49.0	784,000	2.37 E-10	1.71 E-6	2.44 E-1	1.76 E+3	1.58	1.48 E+4
21	R-80-075	OALDT	18,500	3.92 E-6	2.41 E-2	49.0	784,000	2.45 E-10	1.51 E-6	2.75 E-1	1.69 E+3	1.86	1.65 E+4
21	R-80-076	OBLDT	16,500	3.96 E-6	2.37 E-2	49.0	784,000	2.48 E-10	1.48 E-6	2.47 E-1	1.48 E+3	2.11	1.80 E+4
22	R-80-077	OALDT	17,000	3.50 E-6	2.67 E-2	49.0	784,000	2.19 E-10	1.67 E-6	2.25 E-1	1.72 E+3	2.34	1.97 E+4
23	R-80-078	OBLDT	16,500	2.80 E-7	2.78 E-2	48.0	784,000	1.71 E-11	1.70 E-6	1.75 E-2	1.74 E+3	2.36	2.14 E+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 II
Month March Year 1980

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
23	R-80-079	OALDT	18,500	4.37 E-6	3.17 E-2	49.0	784,000	2.73 E-10	1.98 E-6	3.06 E-1	2.22 E+3	2.67	2.36 E+4
25	R-80-080	OBLDT	15,500	3.52 E-6	3.37 E-2	48.0	784,000	2.16 E-10	2.06 E-6	2.07 E-1	1.98 E+3	2.88	2.56 E+4
24	R-80-081	OALDT	17,000	3.86 E-6	3.39 E-2	49.0	784,000	2.41 E-10	2.12 E-6	2.48 E-1	2.18 E+3	3.13	2.78 E+4
26	R-80-082	OALDT	18,500	3.09 E-6	3.64 E-2	48.0	784,000	1.89 E-10	2.23 E-6	2.16 E-1	2.55 E+3	3.35	3.04 E+4
27	R-80-083	OBLDT	16,250	2.62 E-6	3.36 E-2	41.0	784,000	1.37 E-10	1.76 E-6	1.61 E-1	2.07 E+3	3.51	3.25 E+4
30	R-80-084	OALDT	18,000	3.74 E-6	2.59 E-2	48.0	784,000	2.29 E-10	1.59 E-6	2.55 E-1	1.77 E+3	3.77	3.43 E+4
30	R-80-085	OBLDT	18,500	1.96 E-6	2.87 E-2	48.0	784,000	1.20 E-10	1.76 E-6	1.37 E-1	2.01 E+3	3.91	3.63 E+4
30	R-80-086	OALDT	16,000	3.35 E-6	3.46 E-2	49.0	784,000	2.09 E-10	2.16 E-6	2.03 E-1	2.10 E+3	4.11	3.84 E+4
31	R-80-087	OBLDT	15,000	1.08 E-6	3.26 E-2	48.0	784,000	6.61 E-11	2.00 E-6	6.13 E-2	1.85 E+3	4.17	4.03 E+4
1-7	Fire		1.04 E+6	1.35 E-7	8.69 E-6	50.0	784,000	6.61 E-12	5.54 E-10	5.31 E-1	3.42 E+1	4.70	4.03 E+4
8-14	Sump		9.26 E+5	2.11 E-7	2.06 E-6	50.0	784,000	1.35 E-11	1.31 E-10	7.40 E-1	7.22	5.44	4.03 E+4
15-21	Continuous		8.40 E+5	1.82 E-7	2.64 E-6	50.0	784,000	1.16 E-11	1.68 E-10	5.79 E-1	8.39	6.02	4.04 E+4
22-29	Discharge		1.05 E+6	8.40 E-7	2.84 E-6	50.0	784,000	1.36 E-11	1.81 E-10	3.34	11.29	9.36	4.04 E+4

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

DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT II
Year 1980

Month APRIL

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-80-088	OALDT	17,000	2.10 E-6	6.63 E-3	48.0	784,000	1.29 E-10	4.06 E-7	1.35 E-1	4.27 E+2	1.35 E-1	4.27 E+2
5	R-80-089	OBLDT	19,500	2.88 E-6	1.82 E-2	49.0	534,000	2.64 E-10	1.67 E-6	2.13 E-1	1.34 E+3	3.48 E-1	1.77 E+3
5	R-80-090	OALDT	19,500	2.17 E-6	2.92 E-2	48.0	784,000	1.33 E-10	1.79 E-6	1.60 E-1	2.16 E+3	5.08 E-1	3.93 E+3
6	R-80-091	OBLDT	18,500	1.70 E-6	2.73 E-2	49.0	784,000	1.06 E-10	1.71 E-6	1.19 E-1	1.91 E+3	6.27 E-1	5.84 E+3
7	R-80-092	OBLDT	13,750	1.28 E-6	3.70 E-2	48.0	784,000	7.84 E-11	2.27 E-6	6.66 E-2	1.93 E+3	6.94 E-1	7.77 E+3
8	R-80-093	OALDT	16,000	1.76 E-6	2.95 E-2	49.0	784,000	1.10 E-10	1.84 E-6	1.07 E-1	1.79 E+3	8.01 E-1	9.56 E+3
9	R-80-094	OBLDT	17,500	1.19 E-6	2.90 E-2	40.0	784,000	6.07 E-11	1.48 E-6	7.88 E-2	1.92 E+3	8.80 E-1	1.15 E+4
10	R-80-095	OALDT	18,500	1.03 E-6	3.18 E-2	49.0	784,000	6.44 E-11	1.99 E-6	7.21 E-2	2.23 E+3	9.52 E-1	1.37 E+4
10	R-80-096	OBLDT	14,500	1.73 E-6	2.91 E-2	41.5	784,000	9.16 E-11	1.54 E-6	9.50 E-2	1.60 E+3	1.05	1.53 E+4
11	R-80-097	OALDT	16,500	2.86 E-6	2.94 E-2	49.0	784,000	1.79 E-10	1.84 E-6	1.79 E-1	1.84 E+3	1.23	1.71 E+4
11	R-80-098	OBLDT	15,500	1.30 E-6	3.03 E-2	46.0	784,000	7.63 E-11	1.78 E-6	7.63 E-2	1.78 E+3	1.31	1.89 E+4
12	R-80-099	OALDT	17,500	4.72 E-6	2.62 E-2	49.0	784,000	2.95 E-10	1.64 E-6	3.13 E-1	1.74 E+3	1.62	2.06 E+4
13	R-80-100	OBLDT	14,500	1.63 E-5	2.84 E-2	50.0	784,000	1.04 E-9	1.81 E-6	8.95 E-1	1.56 E+3	2.52	2.22 E+4
13	R-80-101	OALDT	19,500	3.36 E-6	2.34 E-2	48.0	784,000	2.06 E-10	1.43 E-6	2.48 E-1	1.73 E+3	2.77	2.39 E+4
15	R-80-102	OBLDT	16,000	4.91 E-6	1.93 E-2	48.0	784,000	3.01 E-10	1.18 E-6	2.97 E-1	1.17 E+3	3.07	2.51 E+4

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

NUCLEAR GENERATING STATION
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

UNIT II

Month APRIL

Year 1980

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
16	R-80-103	OALDT	17,500	6.03 E-6	1.47 E-2	49.0	784,000	9.77 E-10	9.19 E-7	3.99 E-1	9.74 E+2	3.47	2.61 E+4
17	R-80-104	OBLDT	19,500	3.10 E-6	1.60 E-2	49.0	784,000	1.94 E-10	1.00 E-6	2.29 E-1	1.18 E+3	3.70	2.73 E+4
17	R-80-105	OALDT	14,500	3.51 E-6	1.42 E-2	48.0	784,000	2.15 E-10	8.69 E-10	1.93 E-1	7.72 E+2	3.89	2.81 E+4
18	R-80-106	OBLDT	14,500	3.80 E-6	1.57 E-2	49.0	784,000	2.38 E-10	9.81 E-7	2.09 E-1	8.62 E+2	4.10	2.90 E+4
19	R-80-107	OALDT	18,000	2.74 E-6	3.87 E-2	48.0	784,000	1.68 E-10	2.37 E-6	1.87 E-1	2.64 E+3	4.29	3.16 E+4
20	R-80-108	OBLDT	15,000	1.70 E-5	2.72 E-2	48.0	784,000	1.04 E-9	1.67 E-6	9.65 E-1	1.54 E+3	5.25	3.32 E+4
22	R-80-109	OALDT	16,500	5.58 E-6	2.46 E-2	49.0	784,000	3.49 E-10	1.54 E-6	3.49 E-1	1.54 E+3	5.60	3.47 E+4
23	R-80-110	OBLDT	19,500	5.14 E-6	2.21 E-2	50.0	784,000	3.28 E-10	1.41 E-6	3.79 E-1	1.63 E+3	5.98	3.63 E+4
24	R-80-111	OALDT	19,500	4.32 E-6	2.08 E-2	48.0	784,000	2.65 E-10	1.27 E-6	3.19 E-1	1.54 E+3	6.30	3.78 E+4
24	R-80-112	OBLDT	19,500	2.47 E-6	2.12 E-2	48.0	784,000	1.51 E-10	1.30 E-6	1.82 E-1	1.57 E+3	6.48	3.94 E+4
24	R-80-113	OALDT	20,100	6.05 E-6	2.19 E-2	48.0	784,000	3.70 E-10	1.34 E-6	4.60 E-1	1.67 E+3	6.94	4.11 E+4
25	R-80-114	OBLDT	14,500	1.79 E-6	2.05 E-2	50.0	784,000	1.14 E-10	1.31 E-6	9.82 E-2	1.13 E+3	7.04	4.22 E+4
26	R-80-115	OALDT	18,000	4.30 E-6	2.16 E-2	49.0	784,000	2.69 E-10	1.35 E-6	2.93 E-1	1.42 E+3	7.33	4.37 E+4
29	R-80-116	OBLDT	15,500	1.85 E-6	2.75 E-2	48.0	784,000	1.13 E-10	1.68 E-6	1.09 E-1	1.61 E+3	7.44	4.53 E+4
29	R-80-117	OALDT	16,000	3.69 E-6	3.23 E-2	49.0	784,000	2.31 E-10	2.02 E-6	2.24 E-1	1.96 E+3	7.66	4.73 E+4

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

GAUSS OPERATIONAL STATUS
DISCHARGE RECORD
LIQUID RADIOACTIVE WASTE

Month APRIL

UNIT II
Year 1980

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
30	R-80-118	OBLDT	15,500	1.91 E-6	3.16 E-2	48.0	784,000	1.17 E-10	1.94 E-6	1.12 E-1	1.85 E+3	7.77	4.92 E+4
1-7	Fire		8.80 E+5	4.77 E-7	3.86 E-6	50.0	784,000	3.04 E-11	2.46 E-10	1.59	12.86	9.36	4.92 E+4
8-14	Sump		1.22 E+6	8.14 E-7	2.70 E-6	50.0	784,000	5.19 E-11	1.72 E-10	3.76	12.47	13.12	4.92 E+4
15-21	Continuous		9.76 E+5	4.32 E-7	4.89 E-6	50.0	784,000	2.76 E-11	3.12 E-10	1.60	18.06	14.72	4.92 E+4
22-30	Discharge		1.35 E+6	1.65 E-7	4.81 E-6	50.0	784,000	1.05 E-11	3.07 E-10	8.43 E-1	24.58	15.56	4.93 E+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 1980

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
01	1-7-80	CEMENTED DRUMS	90.00	90.00	2977.00	2977.00
02	1-12-80	CEMENTED DRUMS	90.00	180.00	2124.00	5101.00
03	1-13-80	CEMENTED DRUMS	135.00	315.00	1488.00	6589.00
04	1-19-80	CEMENTED DRUMS	90.00	405.00	816.90	7405.90
05	1-21-80	CEMENTED DRUMS	52.50	457.50	7049.00	14,454.90
06	1-25-80	CEMENTED DRUMS	525.00	982.50	91.76	14,546.66
07	1-26-80	CEMENTED CASK	170.00	1152.50	1210.00	15,756.66
08	1-27-80	CEMENTED DRUMS	135.00	1287.50	1237.00	16,993.66
09	1-30-80	CEMENTED DRUMS	90.00	1377.50	477.00	17,470.66
10	1-30-80	CEMENTED DRUMS	135.00	1512.50	1056.00	18,526.66

MONTH TOTAL

1512.50

18,526.66

ZION GENERATING STATION UNIT 1/2

Month February Year 1980

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
#11 2/2/80	Cemented Drums	525.00	525.00	307.70	307.70
#12 2/4/80	Cemented Drums	90.00	615.00	414.00	721.70
#13 2/5/80	Cemented Drums	135.00	750.00	444.00	1165.70
#14 2/7/80	Cemented Drums	525.00	1275.00	238.30	1404.00
#15 2/11/80	Cemented Drums	90.00	1365.00	490.00	1894.00
#16 2/14/80	Cemented Cask	170.00	1535.00	33,000.00	34,894.00
#17 2/17/80	Cemented Drums	525.00	2050.00	415.40	35,309.40
#18 2/17/80	Cemented Cask	170.00	2230.00	32,100.00	67,409.40
#19 2/17/80	Cemented Drums	90.00	2320.00	477.10	67,886.50
#20 2/20/80	Cemented Drums	525.00	2845.00	177.70	68,064.20
MONTH TOTAL			<u>2845.00</u>		<u>68,064.20</u>

ZION GENERATING STATION UNIT 1/2

Month March Year 1980

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
21	3-12-80	Cemented Drums	525.00	525.00	280.40	280.40
22	3-18-80	Cemented Cask	170.00	695.00	7500.00	7780.40
23	3-20-80	Cemented Cask	80.00	775.00	108,000.00	115,780.40
24	3-28-80	Cemented Drums	525.00	1300.00	177.62	115,958.02
25	3-27-80	Cemented Cask	170.00	1470.00	7,500.00	123,458.02
26	3-27-80	Cemented Cask	170.00	1640.00	43,900.00	167,358.02

MONTH TOTAL

1640.00

167,358.02

ZION GENERATING STATION UNIT 1/2

Month APRIL Year 1980

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
27	4-9-80	Cemented Drums	57.50	57.50	1748.00	1748.00
28	4-8-80	Cemented Casks (2)	340.00	397.50	15.14	1763.14
29	4-11-80	Cemented Drums	525.00	922.50	75.02	1838.16
30	4-15-80	Cemented Cask	83.00	1005.50	1200.00	3038.16
31	4-18-80	Cemented Casks (2)	340.00	1345.50	34.00	3072.16
32	4-20-80	Cemented Drums	57.50	1403.00	961.00	4033.16
33	4-24-80	Cemented Cask	170.00	1573.00	3740.00	7773.16
34	4-25-80	Cemented Drums	57.50	1630.50	1092.00	8865.16
35	4-25-80	Cemented Drums	525.00	2155.50	148.99	9014.15
MONTH TOTAL				<u>2155.50</u>		<u>9014.15</u>

ZION GENERATING STATION UNIT 1/2

Month MAY Year 1980

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
36	5-5-80	Cemented Cask	80.00	80.00	93,500.00	93,500.00
37	5-12-80	Cemented Cask	80.00	160.00	16,300.00	109,800.00
38	5-13-80	Cemented Drums	525.00	685.00	212.35	110,012.35
39	5-14-80	Cemented Cask	170.00	855.00	45,200.00	155,212.35
40	5-20-80	Cemented Cask	80.00	935.00	272,700.00	427,912.35
41	5-21-80	Cemented Drums	135.00	1070.00	657.20	428,569.55
42	5-27-80	Cemented Cask	170.00	1240.00	7670.00	436,239.55
MONTH TOTAL				<u>1240.00</u>		<u>436,239.55</u>

ZION GENERATING STATION UNIT 1/2

Month JUNE Year 1980

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
43	6-2-80	Cemented Cask	80.00	80.00	41,050.00	41,050.00
44	6-3-80	Cemented Drums	525.00	605.00	234.05	41,284.05
45	6-6-80	Cemented Drums	525.00	1130.00	353.09	41,637.14
46	6-9-80	Cemented Cask	80.00	1210.00	8670.00	50,307.14
47	6-10-80	Cemented Cask	170.00	1380.00	8660.00	58,967.14
48	6-11-80	Cemented Drums	103.50	1483.50	3611.00	62,578.14
49	6-16-80	Cemented Drums	103.00	1586.50	1262.10	63,840.24
50	6-17-80	Cemented Drums	549.00	2135.50	199.95	64,040.19
51	6-17-80	Cemented Drums	83.00	2218.50	2946.00	66,986.19
52	6-21-80	Cemented Drums	180.00	2398.50	922.00	67,908.19
53	6-21-80	Cemented Drums	83.00	2481.50	577.00	68,485.19
54	6-23-80	Cemented Cask	170.00	2651.50	20,339.00	88,824.19
55	6-25-80	Cemented Drums	83.00	2734.50	685.00	89,509.19
MONTH TOTAL				<u>2734.50</u>		<u>89,509.19</u>