

1977

Facility: San Geronimo Docket No: 50-206
 Type: PWR Licensed Power (MWT): 1217.0
 Location: 2.5 MI S San Clemente, CA Initial Criticality: 6/19/67
 Cooling Water Source: Pacific Ocean

Operation

Gross Thermal Generation (MWT): 7.29E+06
 Net Electrical (MWE): 2.33E+05
 Thermal Capacity Factor (1977)
 (During Commercial Operation): 61.8

Summary of Effluents (Curies)

Airborne:

- a) Total Noble Gases 1.54E+02
- b) Total I-131 1.81E-04
- c) Total Halogens (Including I-131) 1.81E-04
- d) Total Particulates ($T_{1/2} > 8$ day) 4.81E-05
- e) Total Tritium 7.57E+01

Liquid:

- a) Total Mixed Fission & Activation Products 9.84E+00
- b) Total Tritium 1.79E+03
- c) Dissolved Noble Gases 4.81E+00
- d) Volume of Liquid Waste Released (Liters) 1.59E+07
- e) Volume of Dilution Water (Liters) 4.00E+11

Solid Waste:

- a) Volume (Cubic Meters) 3.65E+02
- b) Activity (Curies) 6.02E+01
- c) Number of Shipments 14

NOTE: 1.81E-07 = 1.66 x 10⁷
 ND = Non Detectable
 NR = Not Reported

A-11

SUMMARY OF EFFLUENTS (CURIES)

Airborne

AR-41	2.65E-03
KR-85	1.52E+00
KR-85M	4.95E-02
KR-89	3.67E-03
XE-131M	5.01E-01
XE-133	1.33E+02
XE-133M	1.34E+00
XE-135	1.16E+01
XE-135M	3.54E-03

I-131	1.81E-04
I-133	ND
I-135	NC

CO-60	4.83E-06
SR-89	ND
SR-90	ND

Liquid

C-14	1.70E-02
CR-51	3.94E-02
MY-54	4.65E-02
FE-59	3.09E-02
CO-58	8.57E-01
CO-57	4.16E-03
CO-60	7.45E-01
SR-89	2.15E-04
SR-90	6.55E-04
RB-95	2.90E-02
TC-99M	2.40E-02
AG-110M	1.66E-01
I-131	1.44E-02
XE-133	1.13E+00
XE-135	3.68E+00
CS-134	8.75E-01
CS-137	2.17E+00
LA-140	9.66E-03

REPORT OF RADIOACTIVE EFFLUENTS

SUMMARY, 1976

Facility: San Onofre Nuclear Generating Station

Document: SO - 206

Year: 1976

II. LIQUID RELEASES

	UNITS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1. Gross Radioactivity (Bq)														
a) Total Release	Curies	1.80E-2	1.26E-2	7.6E-3	6.25E-3	12.27E-3	11.65E-3	11.22E-3	18.75E-3	2.10E-2	2.35E-2	0	1.65E-2	1.00E-1
b) Avg. Concentration Released	uCi/ml	3.70E-10	2.87E-10	2.72E-10	1.00E-10	6.71E-10	12.87E-10	12.65E-10	11.62E-10	8.28E-10	7.91E-10	-	1.07E-10	1.57E-09
c) Max. Concentration Released	uCi/ml	9.37E-9	1.00E-8	1.15E-8	17.03E-9	6.16E-8	10.77E-8	4.12E-8	11.88E-8	1.33E-7	5.17E-7	-	8.72E-8	1.25E-6
2. Tritium														
a) Total Release	Curies	6.91E-2	6.18E-2	2.09E-2	14.56E-2	1.04E-2	10.11E-2	5.91E-2	1.25E-2	1.25E-2	1.93E-2	0	6.94E-2	1.00E-1
b) Avg. Concentration Released	uCi/ml	9.88E-8	1.21E-7	6.19E-8	1.03E-7	1.79E-8	1.92E-8	1.11E-8	17.55E-9	2.33E-8	1.677E-8	-	1.61E-8	2.27E-7
3. Dissolved Noble Gases														
a) Total Release	Curies	7.48E-2	1.45E-2	0.120	12.34E-2	1.31E-2	11.27E-2	11.06E-2	1.25E-2	6.57E-2	2.47E-2	0	0	1.00E-1
b) Avg. Concentration Released	uCi/ml	6.92E-10	6.18E-11	-	1.94E-10	1.09E-10	1.05E-10	1.09E-10	1.01E-10	2.32E-10	2.82E-10	-	-	1.72E-09
4. Gross Alpha Radioactivity														
a) Total Release	Curies	0.000	2.0E-6	0.120	0.120	0.120	0.120	0.120	0.120	0.120	2.25E-3	0	0.120	1.00E-1
b) Avg. Concentration Released	uCi/ml	0.0E-12	5.7E-12	-	-	-	-	-	-	-	6.83E-10	-	-	1.17E-11
5. Volume of liquid waste to discharge canal	Liters	5.58E+3	5.98E+3	5.77E+3	12.08E+3	5.32E+3	3.25E+3	1.34E+3	2.77E+3	4.78E+3	5.49E+3	0	0	1.00E+4
6. Volume of Dilution Water	Liters	6.97E+10	6.86E+10	6.79E+10	14.30E+10	5.61E+10	6.87E+10	5.95E+10	6.61E+10	4.81E+10	1.08E+10	0	0	1.00E+11
7. Isotopes Released	Curies													
C-14		3E-6	2E-6	1E-6	1.2E-6	2E-6	8E-6	1E-5	1E-5	8E-6	0.000	0	0	1.00E-5
Cr-51									1.01E-5	2.53E-7	0	0	0	1.00E-5
Mn-54				2.32E-6	1.78E-6			2.28E-7	1.13E-7	3.12E-7	0	0	0	1.00E-5
Fe-59								1.40E-3	2.03E-7	2.03E-7	0	0	0	1.00E-5
Co-58					6.11E-3			3.67E-2	4.24E-7	12.10E-1	0	0	0	1.00E+1
Co-60				6.76E-3	14.03E-3	1.1E-4	1.32E-3	1.34E-3	1.22E-3	2.32E-7	0	0	0	1.00E+1
Co-65														
Sr-90		0.120	0.120	0.120	1.2E-6	0.120	0.120	0.120	1.02E-6	0.120	6.17E-3	0	0	1.00E+1
Sr-90		7.8E-9	0.120	1.2E-3	1.32E-4	1.1E-2	1.6E-6	0.120	0.120	2.7E-6	2.2E-6	0	0	1.00E+1
Ag-110m											1.15E-7	0	0	1.00E-7
Sb-124											2.52E-3	0	0	1.00E-3
Co-131								6.86E-3		1.25E-2	0	0	0	1.00E-2
I-131														
Zn-131m					7.35E-3									1.00E-3
Mo-99		1.11E-7	1.95E-7		1.08E-3	3.61E-7	1.87E-2	6.82E-3	1.00E-6	6.57E-9	7.82E-1	0	0	1.00E+1
Mo-133m								1.15E-3						1.00E-3
Yb-135		1.18E-7			7.66E-3			6.01E-7	3.02E-2					1.00E+1
Ce-136		2.67E-7		6.82E-1	6.00E-1	1.27E-6	4.4E-6	1.71E-7	1.07E-6	5.16E-7	1.11E-7			1.00E+1
Ce-137		1.33E-7	1.10E-7	1.10E-7	1.24E-1	1.62E-1	4.82E-1	1.47E-7	1.06E-6	1.19E-7	1.04E-7			1.00E+1
Ba-140								2.01E-3						1.00E-3
La-140														1.00E-3
Ce-144									6.35E-2		1.07E-2	0	0	1.00E-1
Tc-99m											1.05E-4	0	0	1.00E-4
Ce-138											1.22E-6	0	0	1.00E-6
Pu-239														1.00E-11
Others (Specify)														1.00E-11
8. Percent of Tech. Spcs. Limit for Total Activity Released	%	3.31E-1	4.24E-1	5.84E-1	9.07E-1	1.49E-1	4.80E-1	3.89E-1	1.99E-1	1.17E-1	0.03E-1	0	4.66E-1	3.37E-2

LLD = Lower Limit of Detection

IA = Independent Analyst

(A-12)

(2)

1. AIRBORNE RELEASES

- 1. Total Noble Gases
- 2. Total Halogens
- 3. Total Particulate Gross Radioactivity (R.v)
- 4. Total Tritium
- 5. Total Particulate Gross Alpha Radioactivity
- 6. Max. Noble Gas Release Rate

UNITS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
Curies	1.88E-1	2.93E-1	6.44E-1	1.77E-1	2.98E-1	1.96E-1	9.99E-1	7.71E-1	6.29E-1	1.28E-1	4.19	2.92E-1	1.17E-1
Curies	4.11D	1.10D	4.11D	2.87E-2	4.11D	4.11D	4.11D	1.21E-1	4.11D	8.02E-1	4.11D	4.11D	9.37E-1
Curies	4.11D	1.10D	4.11D	4.11D	4.11D	4.11D	4.11D	1.11E0	4.11D	4.11D	4.11D	4.11D	1.07E-1
Curies	4.11D	1.10D	4.11D	1.11E-1	4.11D	4.11D	6.33E-1	3.21E-1	4.11D	2.11E-1	8.84E-1	8.95E-1	1.77E-1
Curies	4.11D	1.10D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	1.10
psi/sec	2.12E-2	1.62E-2	2.17E-1	1.87E-2	7.92E-2	6.97E-2	1.21E-1	4.81E-2	3.88E-2	2.63E-2	-	1.61E-2	7.00E-2
Percent of Applicable Limit For:													
a. Noble Gases	1.48E-2	1.24E-2	1.90E-2	1.81E-2	2.46E-2	1.66E-2	7.71E-2	1.06E-1	1.17E-2	9.76E-2	-	1.26E-2	1.74E-2
b. Halogens	-	-	-	8.87E-2	-	-	-	7.67E-2	-	7.33E-2	-	-	1.14E-2
c. Particulates	-	-	-	-	-	-	-	7.22E-1	-	-	-	-	9.01E-1
8. Isotope Released:													
Particulates													
Co-137	-	-	-	-	-	-	-	-	-	-	-	-	1.87E-1
Ni-63	-	-	-	-	-	-	-	-	-	-	-	-	1.07E-1
Sr-90	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
Co-138	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
Co-60	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
Halogens													
I-131	4.11D	1.10D	4.11D	2.87E-2	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	4.11D	1.10E-1
I-133	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
I-135	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
I-137	-	-	-	-	-	-	-	-	-	-	-	-	1.10E-1
Gases													
Ar-41	-	-	-	1.48E-2	-	-	2.21E-1	-	2.21E-2	-	-	-	2.21E-1
Kr-87	-	1.24E-2	-	-	1.66E-2	-	-	1.06E-1	1.06E-2	-	-	-	2.02E-1
Kr-81m	-	1.24E-2	1.14E-2	1.93E-2	1.66E-2	-	2.07E-1	-	2.22E-2	1.33E-2	-	-	1.33E-2
Kr-87	-	-	-	-	-	-	1.21E-1	-	-	-	-	-	1.21E-1
Kr-88	-	1.48E-2	-	1.81E-2	1.66E-2	-	1.21E-1	-	1.17E-2	-	-	-	1.21E-1
Xe-131m	1.48E-2	1.24E-2	1.93E-2	1.81E-2	2.46E-2	-	7.71E-2	-	1.06E-2	-	-	-	2.46E-2
Xe-133	1.67E-1	1.24E-1	1.69E-1	2.09E-1	1.66E-1	1.97E-1	1.21E-1	1.21E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1
Xe-135m	1.67E-1	1.24E-1	1.69E-1	1.24E-1	1.66E-1	1.97E-1	1.21E-1	1.21E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1
Xe-135	1.67E-1	1.24E-1	1.69E-1	1.24E-1	1.66E-1	1.97E-1	1.21E-1	1.21E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1	1.24E-1
Xe-135m	-	-	-	-	-	-	1.21E-1	-	-	-	-	-	1.21E-1

LLO = Lower Limit of Detection

TABLE 7.1

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. Solid Waste Shipped Offsite for Burial or Disposal (not irradiated fuel)

<u>TYPE OF WASTE</u>	<u>Units: m³ + Ci</u>		<u>Date Shipped</u>
A. Spent Resins, Filter Sludges, Evap Bottoms, etc.			
1) Resin Shipment	6.09m ³	0.12 Ci	6-16-76
2) 2 Resins	12.18m ³	0.55 Ci	12-10-76
3) Resin shipment	6.09m ³	0.009Ci	12-16-76
B. Dry Compressible Waste, Contaminated Equip. etc.			
1) Solid Waste (drums)	34.35m ³	0.207Ci	10-28-76
2) Solid Waste (drums)	27.62m ³	0.408Ci	12-16-76
C. Irradiated Components, Control Rods, etc.			
1) Burnable Poison Pins	.32m ³	155 Ci	9-4-76
D. Other			
1) None			

2. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
4	Sole Use Vehicle	Chem Nuclear Savannah, S.C.
1	Sole Use Vehicle	Battelle-Columbus Laboratories Columbus, Ohio

B. Irradiated Fuel Shipments

None

TOTAL CURIES SHIPPED OFFSITE FROM
6/1/76 - 1/1/77
Ci = 156.594

REPORT OF - RADIOACTIVE EFFLUENTS

Docket: 58-204

III. SOLID WASTE

1. Total solid waste packaged
2. Total est. radioactivity
3. Dates of shipment and Disposition if shipped offsite.

UNITS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
Pkts	1.77E+3	0	0	0	0	0	0	9.72E+2	0	7.39E+2	1.67E+3	0	3.81E+3
Curies	1.84E+3	0	0	0	0	0	0	2.82E+2	0	8.73E+2	1.27E+3	0	6.74E+2

JANUARY 14, 19, 20, 21, 23

So. W. Eng. Co. BARRY, Nev.

FEBRUARY

NO SHIPMENTS

MARCH

No shipments

APRIL

NO SHIPMENTS

MAY

No shipments

JUNE

NO SHIPMENTS

JULY

NO SHIPMENTS

AUGUST

EMERSON ENGINEERING, BARRY, Nev.

SEPTEMBER

No shipments

OCTOBER 4

So. W. Eng. Co. BARRY, Nev.

NOVEMBER 12, 22

So. W. Eng. Co. BARRY, Nev.

DECEMBER

NO SHIPMENTS

PRIMARY COOLANT CHEMISTRY
1976

	Gross Degassed Activity ($\mu\text{Ci}/\text{ml} @ 4\text{hrs}$) $\pm 1 \text{ E}0\%$	Suspended Solids (Crud) (mg/l) $\pm 5 \text{ E}-2$	Tritium ($\mu\text{Ci}/\text{ml}$) $\pm 1 \text{ E}0\%$	Iodine- ¹³¹ ($\mu\text{Ci}/\text{ml}$) $\pm 2 \text{ E}0\%$	Atomic I- ¹³¹ , I- ¹³³ Ratio	Hydrogen (cc/kg) $\pm 2 \text{ E}0$	Lithium (ppm) $\pm 5 \text{ E}-2$	Boron (ppm) $\pm 2 \text{ E}0$	Dissolved Oxygen (ppb) $\pm 1 \text{ E}0$	Chlorides (ppm) $\pm 5 \text{ E}-2$	pH @25C° $\pm 2 \text{ E}-2$	Conductivity ($\mu\text{mhos}/\text{cm}$) $\pm 2 \text{ E}0\%$
Max.	5.54 E-2	2.85E-1	2.53E0	2.11E-3	2.21E0	4.54E+1	9.9E-1	5.09E+2	<1E0	<5E-2	6.38E0	9.28E0
Jan. Ave.	4.49E-2	1.37E-1	1.49E0	1.58E-3	1.39E0	4.02E+1	7.1E-1	4.52E+2	<1E0	<5E-2	6.29E0	7.89E0
Min.	3.37E-2	2.5E-2	4.74E-1	1.17E-3	8.40E-1	3.11E+1	6.2E-1	3.71E+2	2E0	<5E-2	6.20E0	5.48E0
Max.	5.10E-2	8.00E-2	1.38E0	6.52E-3	1.08E0	4.00E+1	8.3E-1	5.19E+2	5E0	<5E-2	6.54E0	7.75E0
Feb. Ave.	4.45E-2	5.40E-2	1.18E0	2.77E-3	8.80E-1	3.37E+1	6.1E-1	3.49E+2	<1E0	<5E-2	6.36E0	6.42E0
Min.	3.82E-2	3.60E-2	8.90E-1	8.84E-4	6.80E-1	2.91E+1	4.0E-1	2.94E+2	<1E0	<5E-2	6.20E0	5.20E0
Max.	5.16E-2	1.50E-1	1.60E0	2.35E-3	2.39E0	3.41E+1	6.6E-1	2.95E+2	3E0	<5E-2	6.63E0	9.54E0
Mar. Ave.	4.88E-2	1.15E-1	1.32E0	1.59E-3	1.45E0	2.84E+1	5.3E-1	2.55E+2	2E0	<5E-2	6.47E0	7.59E0
Min.	2.99E-2	8.00E-2	1.07E0	1.21E-3	9.54E-1	2.10E+1	4.3E-1	2.21E+2	<1E0	<5E-2	6.26E0	6.58E0
Max.	6.08E-2	9.50E-2	3.17E0	5.47E-3	1.47E0	3.69E+1	2.2E0	1.099E+3	<1E0	1.6E-1	6.84E0	3.78E+1
Apr. Ave.	4.81E-2	5.4E-2	1.92E0	2.36E-3	1.19E0	2.84E+1	6.4E-1	4.32E+2	<1E0	<5E-2	6.70E0	1.15E+1
Min.	4.26E-2	<1E-2	6.60E-1	1.20E-3	9.20E-1	1.03E+1	4.6E-1	1.64E+2	<1E0	<5E-2	6.53E0	7.40E0
Max.	5.00E-2	1.90E-1	1.49E0	1.61E-3	2.45E0	4.16E+1	3.6E-1	1.83E+2	2E0	5E-2	6.88E0	7.20E0
May Ave.	4.08E-2	1.10E-1	1.22E0	1.32E-3	1.63E0	3.65E+1	3.1E-1	1.25E+2	1E0	<5E-2	6.70E0	6.67E0
Min.	3.00E-2	<1E-2	5.80E-1	1.11E-3	1.15E0	2.52E+1	2.8E-1	9.1E+1	<1E0	<5E-2	6.42E0	5.90E0
Max.	5.70E-2	8.80E-2	1.47E0	1.37E-3	1.22E0	3.61E+1	2.2E-1	1.24E+2	3E0	<5E-2	7.28E0	4.95E0
June Ave.	4.46E-2	5.20E-2	1.14E0	1.13E-3	1.11E0	3.26E+1	1.5E-1	5.2E+1	1.8E0	<5E-2	6.84E0	3.87E0
Min.	2.12E-2	<1E-2	8.40E-1	9.87E-4	9.40E-1	2.94E+1	5.0E-2	1.2E+1	<1E0	<5E-2	6.20E0	1.93E0

CRITICAL MASS ENERGY PROJECT

July 2, 1981

Joseph M. Felton
Director Division of
Rules and Records
Office of Administration
Nuclear Regulatory Commission

FREEDOM OF INFORMATION
ACT REQUEST
FOIA-81-255
Rec'd 7-7-81

Dear Mr. Felton,

On behalf of the Nuclear Information Resource Service, Environmental Action and the Union of Concerned Scientists, the Critical Mass Energy Project respectfully submits the following Freedom of Information Act request.

Pursuant to the Freedom of Information Act, 5 U.S.C. § 552, and the Regulations at 10 C.F.R. § 9 (Subpart A), the Critical Mass Energy Project hereby requests copies of, and otherwise access to the information detailed as follows:

- 1) any and all documents containing the status of compliance with the July 1 deadline for installation and operability of the 15 minute alert notification systems for each operating nuclear plant and for each near term license plant (NTOL) as set forth in 10 C.F.R. Part 50, Appendix E, IV, D, 3 (45 FR 55402, 55412, August 19, 1980).
- 2) documents containing information and descriptions of each alert and notification system.
- 3) correspondence between the Nuclear Regulatory Commission and utilities with operating plants or near term operating license (NTOL) plants pertaining to the installation of 15 minute alert notification systems.
- 4) any and all requests for extensions, waivers and/or exemptions of the July 1 deadline filed with the Nuclear Regulatory Commission.
- 5) documents which indicated that such extensions, waivers or exemptions of the July 1 deadline have been granted or denied by the Nuclear Regulatory Commission.

We would like to respectfully ask that if it is not possible to furnish us with copies of the information requested above, then it be made available to us at the NRC's public document room (1717 H St., N.W.). In addition, we request a complete waiver of all costs you might incur in processing this information or providing us access to it under provisions at 10 C.F.R. § 9, 14a, as the information will be used in the general public interest.

Nothing in this request should be interpreted as a request for the private records of any specific individual. Hence, no provisions of the Privacy Act should be deemed applicable.

A Branch of Public Citizen, Inc. ■ P.O. Box 1538 ■ Washington, D.C. 20013 ■ (202) 546-4790

Dupe PDR 314917055

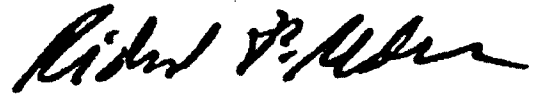
FOIA/July 2, 1981

If all or any part of this request is denied, please cite the specific exemption(s) which you think justifies your refusal to release the information and inform us of the appeal procedures available to us under law.

We expect a substantive reply to this request within ten (10) working days, as required by the Freedom of Information Act.

Thank you for your attention to this matter.

Sincerely,



Richard A. Udell
Critical Mass
Energy Project

cc: Paulette Meier
Nuclear Information Resource
Service

Steve Scholly
Union of Concerned Scientists

Clifford Stanton
Environmental Action