

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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March 30, 1981



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Mr. M. R. Beebe
U. S. Nuclear Regulatory Commission
Office of Management and Program Analysis
Licensee Operations Evaluation Branch
Washington, DC 20555

Dear Mr. Beebe:

In response to the letter of February 26, 1981 from R. A. Hartfield, we have reviewed a draft copy of the 1979 summary of radioactive effluents released from Humboldt Bay Power Plant. The draft is an accurate reflection of our submitted reports, provided that the footnotes written on the attached detailed nuclide listing sheets are included.

However, the gaseous effluent summary for I-131, for the first and second quarters, should be divided by 3 to reflect only I-131. The values inadvertently submitted were for the total of I-131, I-133, and I-135.

Also, we have reassessed our solid radwaste shipments made in the second half of 1979, and the adjusted waste composition is as follows:

Total Curies = 1.64 E3

<u>Nuclides in Mixture</u>	<u>§</u>
Cs 137	5.62 E1
Cs 134	1.46 E1
Co 60	1.87 E1
Mn 54	3.37 E0
Ce 144	2.59 E0
Sr 90	4.42 E0
Unidentified Alpha Emitters	3.63 E-2

A007
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ADD: C E
R. BEEBE / /

Sincerely,

Philip A. Crane

Attachment

R

810402044S

INSTALLATION HUMBOLDT BAY

LOCATION 4 MI SW EUREKA CA

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT FOR YEAR 1979
SUPPLEMENTAL INFORMATIONUNIT NUMBER 1
TYPE RWP
DOCKET NO. 50-133
COOLING WATER SOURCE HUMBOLDT BAYLICENSEE PACIFIC GAS & ELECTRIC
LICENSED POWER (MWT) 220.0
INITIAL CRITICALITY 02/16/63NPG LICENSING
LOG NUMBER

0397

MAXIMUM PERMISSIBLE CONCENTRATIONS (MICROCURIES/ML)

IODINES

ALL 3.00E-10

PARTICULATES

HALF-LIVES > 8 DAYS 3.00E-10

MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

FISSION AND ACTIVATION GASES

DURING OPERATION, SAMPLES (OF AIR EJECTOR OFF-GAS) ARE TAKEN AT LEAST MONTHLY FOR SODIUM IODIDE GAMMA SPECTRUM ANALYSIS AND, BASED ON SIX MEASURABLE NUCLIDES (XE138, KR87, KR88, KR89M, XF135, AND XE133), THE REMAINING NUCLIDES IN THE MIXTURE ARE ESTIMATED. THIS ANALYSIS IS USED TO CALIBRATE THE GROSS COUNTING RESULTS OF ROUTINE SAMPLES WHICH ARE THEN USED TO CALIBRATE THE STACK CONTINUOUS MONITORS. DAILY AVERAGE RELEASE RATES DETERMINED FROM THE STACK MONITORS ARE USED TO DERIVE TOTAL QUANTITY OF THE MIXTURES RELEASED, AND INDIVIDUAL NUCLIDES ARE PROPORTIONED ACCORDING TO THE MIXTURE FOUND FROM THE MONTHLY ANALYSIS.

IODINES

CHAROCAL CARTRIDGES ARE REMOVED FROM THE STACK SAMPLING SYSTEM WEEKLY AND AFTER 48 HOUR DECAY ARE GAMMA SPECTRUM COUNTED FOR I-131 AND I-133 (WITH A SODIUM IODIDE DETECTOR).

PARTICULATES

FILTER PAPERS ARE REMOVED FROM THE STACK SAMPLING SYSTEM WEEKLY AND GROSS BETA COUNTED AFTER 48 HOUR DECAY. AFTER 7 DAYS THEY ARE RECOUNTED TO DETERMINE HALOGEN (SODIUM IODIDE DETECTOR). FILTERS FOR EACH QUARTER ARE DECAY COUNTED TO DETERMINE OTHER PARTICULATES (LONG-LIVED), ALPHA EMITTERS, AND THEN ANALYZED FOR SR89 AND SR90.

LIQUID EFFLUENTS

WASTE RECEIVER TANK AND WASTE HOLD TANK HATCH SAMPLES ARE GAMMA SPECTRUM ANALYZED (SODIUM IODIDE DETECTOR) AND GROSS BETA AND GROSS GAMMA COUNTED. IF THE NUCLIDES IDENTIFIED DO NOT ACCOUNT FOR THE GROSS GAMMA COUNT, THE MIXTURE IS PROPORTIONATELY ADJUSTED. IF THE GROSS BETA COUNT INDICATES MORE ACTIVITY THAN THE ADJUSTED MIXTURE, THE EXCESS ACTIVITY IS RECORDED AS "ADDITIONAL BUT OTHERWISE UNSPECIFIED". LAUNDRY WASTE TANKS ARE INDIVIDUALLY ANALYZED ONLY BY GROSS BETA AND GROSS GAMMA. A MONTHLY COMPOSITE IS ANALYZED AS ABOVE. A QUARTERLY COMPOSITE OF ALL BATCHES IS ANALYZED FOR TRITIUM, SR89 AND SR90. THE STRONTIUM RESULTS ARE SUBTRACTED FROM "ADDITIONAL BUT OTHERWISE UNSPECIFIED" ACTIVITY AND IF NECESSARY, INCREASED TO ACCOUNT FOR THE EXCESS.

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION HUMBOLDT BAY

LOCATION 4 MI SW EJIREKA

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT FOR YEAR 1979
SUPPLEMENTAL INFORMATION

AVERAGE ENERGY (MEV/DISINTEGRATION)

BETA		GAMMA	
QUARTER	QUARTER	QUARTER	QUARTER
1	2	1	2
	N/A		N/A

BATCH RELEASES

A. LIQUID

	QUARTER	QUARTER
	1	2
1. NUMBER OF BATCH RELEASES-		12
2. TOTAL TIME PERIOD FOR BATCH RELEASE (MIN)-		1.87E 03
3. MAXIMUM TIME PERIOD FOR A BATCH RELEASE (MIN)-		4.32E 02
4. AVERAGE TIME PERIOD FOR BATCH RELEASES (MIN)-		1.56E 02
5. MINIMUM TIME PERIOD FOR A BATCH RELEASE (MIN)-		1.00E 01
6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT INTO A FLOWING STREAM (LTS/MIN)-		N/A

B. GASEOUS

1. NUMBER OF BATCH RELEASES-	
2. TOTAL TIME PERIOD FOR BATCH RELEASES (MIN)-	
3. MAXIMUM TIME PERIOD FOR A BATCH RELEASE (MIN)-	
4. AVERAGE TIME PERIOD FOR BATCH RELEASES (MIN)-	
5. MINIMUM PERIOD FOR A BATCH RELEASE (MIN)-	

ABNORMAL RELEASES

A. LIQUID

1. NUMBER OF RELEASES	NONE
2. TOTAL ACTIVITY RELEASED (CURIES)	

B. GASEOUS

1. NUMBER OF RELEASES	NONE
2. TOTAL ACTIVITY RELEASED (CURIES)	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION MIDHOLDT RAY

LOCATION 4 MI SW EUREKA

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT FOR YEAR 1979
SUPPLEMENTAL INFORMATION

AVERAGE ENERGY (MEV/DISINTEGRATION)

BETA		GAMMA	
QUARTER	QUARTER	QUARTER	QUARTER
3	4	3	4
N/A	N/A	N/A	N/A

HATCH RELEASES

A. LIQUID		B. GASEOUS	
1. NUMBER OF HATCH RELEASES-	2. TOTAL TIME PERIOD FOR HATCH RELEASE (MIN)-	1. NUMBER OF HATCH RELEASES-	2. TOTAL TIME PERIOD FOR HATCH RELEASE (MIN)-
3	3.44E 02	17	2.44E 03
4	1.44E 02	4	3.44E 02
N/A	N/A	3	1.44E 02
N/A	N/A	4	1.00E 01

H. GASEOUS

- 1. NUMBER OF HATCH RELEASES-
- 2. TOTAL TIME PERIOD FOR HATCH RELEASES (MIN)-
- 3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
- 4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
- 5. MINIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
- 6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT INTO A FLOWING STREAM (LTS/MIN)-

ABNORMAL RELEASES

A. LIQUID		B. GASEOUS	
1. NUMBER OF RELEASES	2. TOTAL ACTIVITY RELEASED (CURIES)	1. NUMBER OF RELEASES	2. TOTAL ACTIVITY RELEASED (CURIES)
NONE	NONE	NONE	NONE

N/A=NOT APPLICABLE
 N/D=NOT DETECTED
 N/R=NOT REPORTED

INSTALLATION=HIMMELDT 94Y

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1979

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

UNIT QUARTER 1 QUARTER 2 EST. TOTAL ERROR, %

A. FISSION AND ACTIVATION GASES

1. TOTAL RELEASE CI <1.10E-05 <1.10E-05 2.00E 01
2. AVERAGE RELEASE RATE FOR PERIOD UCI/SEC <1.34E-06 <1.34E-06
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT % <2.76E-09 <2.76E-09

B. IODINES

1. TOTAL IODINE-131 CI <3.00E-06 <3.00E-06 1.50E 01
2. AVERAGE RELEASE RATE FOR PERIOD UCI/SEC <3.77E-07 <3.77E-07
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT % <2.09E-04 <2.09E-04

C. PARTICULATES

1. PARTICULATES WITH HALF-LIVES > 8 DAYS CI 3.34E-05 3.01E-05 1.50E 01
2. AVERAGE RELEASE RATE FOR PERIOD UCI/SEC 4.32E-06 3.85E-06
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT % 2.40E-03 2.14E-03
4. GROSS ALPHA RADIOACTIVITY CI 4.69E-07 2.56E-07

D. TRITIUM

1. TOTAL RELEASE CI <1.00E-02 <1.00E-02 5.00E 01
2. AVERAGE RELEASE RATE FOR PERIOD UCI/SEC <1.29E-03 <1.27E-03
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT %

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION=HIMMOLDT HAY

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1979

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

UNIT	QUARTER 3	QUARTER 4	EST. TOTAL ERROR*
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A. FISSION AND ACTIVATION GASES

1. TOTAL RELEASE	CI	<1.10E-05	<1.10E-05	2.00E 01
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	<1.38E-06	<1.38E-06	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	<2.77E-09	<2.77E-09	

B. IODINES

1. TOTAL IODINE-131	CI	<1.00E-06	<1.00E-06	1.50E 01
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	<1.27E-07	<1.27E-07	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	<7.06E-05	<7.06E-05	

C. PARTICULATES

1. PARTICULATES WITH HALF-LIVES > 8 DAYS	CI	2.66E-05	1.87E-05	1.50E 01
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	3.13E-06	2.38E-06	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	1.74E-03	1.32E-03	
4. GROSS ALPHA RADIOACTIVITY	CI	3.98E-08	5.64E-08	

D. TRITIUM

1. TOTAL RELEASE	CI	<1.00E-02	<1.00E-02	5.00E 01
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	<1.27E-03	<1.27E-03	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%			

N/A=NOT APPLICABLE
 N/D=NOT DETECTED
 N/R=NOT REPORTED

INSTALLATION=HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1979

GAS EFFLUENTS ELEVATED RELEASE CONTINUOUS MODE HATCH MODE
UNIT QUARTER QUARTER QUARTER QUARTER

FISSION GASES

KR-83M	CI	<1.00E-06*	<1.00E-06*
KR-85M	CI	<1.00E-06*	<1.00E-06*
KR-87	CI	<1.00E-06*	<1.00E-06*
KR-88	CI	<1.00E-06*	<1.00E-06*
KR-89	CI	<1.00E-06*	<1.00E-06*
XE-133	CI	<1.00E-06*	<1.00E-06*
XE-133M	CI	<1.00E-06*	<1.00E-06*
XE-135	CI	<1.00E-06*	<1.00E-06*
XE-135M	CI	<1.00E-06*	<1.00E-06*
XE-137	CI	<1.00E-06*	<1.00E-06*
XE-138	CI	<1.00E-06*	<1.00E-06*

IODINES

I-131	CI	<1.00E-06*	<1.00E-06*
I-133	CI	<1.00E-06*	<1.00E-06*
I-135	CI	<1.00E-06*	<1.00E-06*

PARTICULATES

HA-LA-140	CI	<1.00E-06*	<1.00E-06*
GE-144	CI	<3.19E-06*	<3.15E-06*
CO-60	CI	1.74E-05	1.47E-05
CS-134	CI	<9.54E-07*	<9.94E-07*
CS-137	CI	<3.58E-06*	<3.58E-06*
MN-54	CI	<4.98E-06*	<4.98E-06*
SR-89	CI	<1.00E-06*	<1.00E-06*
SR-90	CI	<1.43E-06	<1.43E-06

* No release was detected due to the decay time since the unit was shut down on 7/2/76
monitors reported an arbitrary measurement
† The potassium sensitivity for particulates provided depends on the mixture
N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED
n.e. reported "less than" typical curve maximum quantities.

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1979

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4

FISSION GASES

GAS EFFLUENTS ELEVATED RELEASE					
KR-83M	CI	<1.00E-06*	<1.00E-06*		
KR-85M	CI	<1.00E-06*	<1.00E-06*		
KR-87	CI	<1.00E-06*	<1.00E-06*		
KR-88	CI	<1.00E-06*	<1.00E-06*		
KR-89	CI	<1.00E-06*	<1.00E-06*		
XE-133	CI	<1.00E-06*	<1.00E-06*		
XE-133M	CI	<1.00E-06*	<1.00E-06*		
XE-135	CI	<1.00E-06*	<1.00E-06*		
XE-135M	CI	<1.00E-06*	<1.00E-06*		
XE-137	CI	<1.00E-06*	<1.00E-06*		
XE-138	CI	<1.00E-06*	<1.00E-06*		

IOO INFS

I-131	CI	<1.00E-06*	<1.00E-06*		
I-133	CI	<1.00E-06*	<1.00E-06*		
I-135	CI	<1.00E-06*	<1.00E-06*		

PARTICULATES

JA-LA-140	CI	<1.00E-06*	<1.00E-06*		
CE-144	CI	<1.50E-06*	<1.50E-06*		
CU-60	CI	1.25E-05	7.04E-06		
CS-134	CI	<2.00E-06*	<2.00E-06*		
CS-137	CI	3.50E-06	2.79E-06		
MY-54	CI	<2.00E-06*	<2.00E-06*		
SR-89	CI	<1.00E-06*	<1.00E-06*		
SR-90	CI	1.12E-06	1.37E-06		

* No release was detected due to the decay time. Since the unit was shut down on 7/2/76 quantities reported are an arbitrary 'zero-curve'

+ The minimum sensitivity for a particular nuclide depends on the mixture of nuclides present. These nuclides expected to be present, but not detected are reported "less than" typical curve maximum quantities.

N/A=NOT APPLICABLE
 N/D=NOT DETECTED
 N/H=NOT REPORTED

INSTALLATION: HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1979

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		MATCH MODE	
		QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
BA-134	CI			<1.00E-06*	<1.00E-06*
CE-144	CI			3.79E-04	2.47E-04
CO-58	CI			<1.00E-06*	<1.00E-06*
CO-60	CI			6.55E-03	1.50E-03
CR-51	CI			<1.00E-06*	<1.00E-06*
CS-134	CI			1.50E-03	8.81E-04
CS-137	CI			1.24E-02	5.37E-03
I-131	CI			<1.00E-06*	<1.00E-06*
MN-54	CI			9.44E-04	<3.00E-04*
MU-99	CI			<1.00E-06*	<1.00E-06*
N-239	CI			<1.00E-06*	<1.00E-06*
SR-90	CI			<1.00E-06*	<1.00E-06*
SR-90	CI			<1.24E-03	<5.37E-04
TC-99M	CI			<1.00E-06*	<1.00E-06*
ZN-65	CI			<5.00E-03*	<1.00E-03*
ZR-NR-95	CI			<1.00E-06*	<1.00E-06*
XE-133	CI			<1.00E-06*	<1.00E-06*
XE-135	CI			<1.00E-06*	<1.00E-06*

* Same as gas effluents

+ Same as gas effluents

N/A=NOT APPLICABLE

N/D=NOT DETECTED

U/P=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1979

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		MATCH MODE	
		QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
BA-140	CI			<1.00E-06*	<1.00E-06*
CE-144	CI			2.47E-04	1.12E-03
CO-58	CI			<1.00E-06*	<1.00E-06*
CO-60	CI			3.94E-03	2.94E-03+
CR-51	CI			<1.00E-06*	<1.00E-06*
CS-134	CI			9.00E-04	4.02E-03
CS-137	CI			6.34E-03	3.45E-02
I-131	CI			<1.00E-06*	<1.00E-06*
Mn-54	CI			8.65E-04	<3.00E-03
MU-99	CI			<1.00E-06*	<1.00E-06*
NP-239	CI			<1.00E-06*	<1.00E-06*
SR-90	CI			<1.00E-06*	<1.00E-06*
SR-90	CI			3.05E-06	2.32E-04
TC-99M	CI			<1.00E-06*	<1.00E-06*
ZN-65	CI			<1.00E-04+	<1.00E-04+
ZR-NB-95	CI			<1.00E-06*	<1.00E-06*
XE-133	CI			<1.00E-06*	<1.00E-06*
XE-135	CI			1.00E-06*	<1.00E-06*

* Same as gas effluents
 + Same as gas effluents
 N/A=NOT APPLICABLE
 N/D=NOT DETECTED
 N/N=NOT REPORTED

INSTALLATION=HUMHOLDT HAY

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1970

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

UNIT QUARTER 1 QUARTER 2 FST. TOTAL ERROR,*

A. FISSION AND ACTIVATION PRODUCTS

1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)

CI 2.92E-02 9.84E-03 1.50E 01

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

UCI/ML 1.15E-09 5.47E-10

3. PERCENT OF APPLICABLE LIMIT

* 2.43E-02 1.25E-02

B. TRITIUM

1. TOTAL RELEASE

CI <1.1E-02 <1.18E-02 4.00E 00

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

UCI/ML <7.12E-10 <6.56E-10

3. PERCENT OF APPLICABLE LIMIT

* <2.37E-06 <2.19E-06

C. DISSOLVED AND ENTRAINED GASES

1. TOTAL RELEASE

CI <2.0E-06 <2.00E-06 5.00E 01

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

UCI/ML

3. PERCENT OF APPLICABLE LIMIT

*

D. GROSS ALPHA RADIOACTIVITY

1. TOTAL RELEASE

CI <8.14E-06 <5.32E-06 7.50E 01

E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)

LITERS 9.04E 04 5.90E 04 5.00E 00

F. VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 2.54E 10 1.80E 10 5.00E 00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

UNIT	QUARTER	QUARTER	EST. TOTAL ERROR, %
	3	4	

A. FISSION AND ACTIVATION PRODUCTS

1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)

CI 1.24E-02 4.40E-02 1.50E 01

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

UCI/ML 4.44E-10 1.67E-09

3. PERCENT OF APPLICABLE LIMIT

% 2.13E-03 1.19E-02

B. TRITIUM

1. TOTAL RELEASE

CI 7.82E-04 8.42E-03 4.00E 00

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

UCI/ML 3.03E-11 3.20E-10

3. PERCENT OF APPLICABLE LIMIT

% 1.01E-06 1.07E-07

C. DISSOLVED AND ENTRAINED GASES

1. TOTAL RELEASE

CI <2.00E-06 <2.00E-06 5.00E 01

2. AVERAGE DILUTED CONCENTRATION DURING PERIOD

ICI/ML

3. PERCENT OF APPLICABLE LIMIT

D. GROSS ALPHA RADIOACTIVITY

1. TOTAL RELEASE

CI 4.21E-06 2.40E-06 7.50E 01

E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)

LITERS 5.61E 04 1.59E 05 5.00E 00

F. VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 2.58E 10 2.63E 10 5.00E 00

INSTALLATION: HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1979
(JANUARY-JUNE)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

1. TYPE OF WASTE	UNIT	6-MONTH PERIOD	EST. TOTAL EMPLOYEES
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	NONE	
	CI		
B. DRY COMPRESSIONABLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3		
	CI		
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3		
	CI		
	M3		
D. OTHER (DESCRIBE)	CI		

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION= HUMPHOLDT HAY

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1979
(JULY-DECEMBER)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)

1. TYPE OF WASTE	UNIT	6-MONTH PERIOD	EST. TOTAL ERROR, %
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	9.06E 01	
CI			
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.35E 03	2.50E 01
CI			
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3		
CI			
D. OTHER (DESCRIBE)	M3		
CI			

2. ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

A	%
CS-134	7.94E 00
CS-137	5.43E 01
UNIDENTIFIED	2.42E 00
CO-60	3.00E 01
MN-54	5.42E 00

3. SOLID WASTE DISPOSITION-

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
16	TRUCK	RICHLAND WA.

B. IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED