

TABLE 1A
SEMIANNUAL SUMMATION OF GASEOUS RELEASES
ALL AIRBORNE EFFLUENTS

QUARTERS 1 AND 2, 1992

TYPE OF EFFLUENT	UNITS	FIRST QUARTER	SECOND QUARTER	EST TOTAL ¹ ERROR %
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A. FISSION AND ACTIVATION GASES

1. TOTAL RELEASE	CURIES	2.72E+02	3.44E+01	20
2. AVERAGE RELEASE RATE FOR PERIOD	μCi/SEC	3.46E+01	4.38E+00	
3. PERCENT OF TECH SPEC LIMIT	%	N/A	N/A	

B. RADIOIODINES

1. TOTAL IODINE-131	CURIES	1.93E-04	2.65E-04	23
2. AVERAGE RELEASE RATE FOR PERIOD	μCi/SEC	2.45E-05	3.37E-05	
3. PERCENT OF TECH SPEC LIMIT	%	N/A	N/A	

C. PARTICULATES

1. PARTICULATE (HALF-LIVES > 8 DAYS)	CURIES	6.25E-07	2.06E-05	30
2. AVERAGE RELEASE RATE FOR PERIOD	μCi/SEC	7.95E-08	2.63E-06	
3. PERCENT OF TECH SPEC LIMIT	%	N/A	N/A	
4. GROSS ALPHA RADIOACTIVITY	CURIES	1.96E-06	1.28E-06	

D. TRITIUM

1. TOTAL RELEASE	CURIES	7.40E+00	1.70E+01	14
2. AVERAGE RELEASE RATE FOR PERIOD	μCi/SEC	9.42E-01	2.16E+00	
3. PERCENT OF TECH SPEC LIMIT	%	N/A	N/A	

¹ Callaway Plant Safety Analysis Calculation 87-063-00

TABLE 1B

SEMIANNUAL AIRBORNE CONTINUOUS AND BATCH RELEASES
GROUND LEVEL RELEASES
FISSION GASES, IODINES, AND PARTICULATES

QUARTERS 1 AND 2, 1992

NUCLIDE	UNIT	CONTINUOUS RELEASES			BATCH RELEASES	
		FIRST QUARTER	SECOND QUARTER		FIRST QUARTER	SECOND QUARTER
1. FISSION GASES						
KR-85M	CURIES	1.50E-01	0.00E+00		1.27E-03	0.00E+00
KR-85	CURIES	2.13E+01	8.68E+00		3.29E+00	3.13E+00
KR-87	CURIES	1.86E-01	0.00E+00		0.00E+00	0.00E+00
KR-88	CURIES	3.71E-01	0.00E+00		8.03E-04	0.00E+00
XE-131M	CURIES	0.00E+00	1.48E+00		1.54E+00	1.90E-01
XE-133	CURIES	1.09E+02	3.45E+00		1.30E+02	1.73E+01
XE-133M	CURIES	1.05E-01	0.00E+00		1.21E+00	0.00E+00
XE-135	CURIES	4.57E+00	0.00E+00		3.72E-01	1.02E-01
AR-41	CURIES	0.00E+00	0.00E+00		4.51E-01	1.52E-01
TOTAL FOR PERIOD	CURIES	1.35E+02	1.36E+01		1.36E+02	2.08E+01
2. IODINES						
I-131	CURIES	5.41E-05	3.27E-05		1.38E-04	2.33E-04
I-132	CURIES	0.00E+00	0.00E+00		0.00E+00	2.84E-07
I-133	CURIES	4.05E-06	2.00E-06		6.17E-06	0.00E+00
TOTAL FOR PERIOD	CURIES	5.82E-05	3.47E-05		1.45E-04	2.33E-04
3. PARTICULATES						
CR-51	CURIES	0.00E+00	7.70E-07		4.05E-07	3.59E-07
CO-57	CURIES	2.20E-07	0.00E+00		0.00E+00	1.13E-10
CO-58	CURIES	0.00E+00	7.53E-06		0.00E+00	1.08E-05
CO-60	CURIES	0.00E+00	0.00E+00		0.00E+00	2.57E-07
BR-82	CURIES	0.00E+00	0.00E+00		2.95E-15	0.00E+00
NB-95	CURIES	0.00E+00	7.75E-07		0.00E+00	1.22E-07
BR-82	CURIES	0.00E+00	0.00E+00		2.95E-15	0.00E+00
G ALPHA	CURIES	9.78E-07	6.06E-07		9.83E-07	6.77E-07
TOTAL FOR PERIOD	CURIES	1.20E-06	9.68E-06		1.39E-06	1.22E-05
4. TRITIUM						
H-3	CURIES	6.79E+00	7.47E+00		6.14E-01	9.52E+00

TABLE 5

DOSE AT THE SITE BOUNDARY AND TO THE NEAREST RESIDENT
FROM GASEOUS EFFLUENTS

<u>ORGAN</u>	<u>SITE BOUNDARY</u>		<u>NEAREST RESIDENT</u>	
	<u>LOCATION:</u> 2.05km N <u>AGE GROUP:</u> CHILD		<u>LOCATION:</u> 2.83 km N <u>AGE GROUP:</u> CHILD	
	<u>DOSE</u>	<u>% LIMIT(a)</u>	<u>DOSE</u>	<u>% LIMIT(b)</u>
Gamma Air Dose (mRad)*	5.40E-03	0.05	3.23E-03	N/A
Beta Air Dose (mRad)*	1.76E-02	0.09	1.05E-02	N/A
Whole Body (mRem)*	4.65E-03	N/A	2.79E-03	N/A
Skin (mRem)*	1.34E-02	N/A	8.02E-03	N/A
Bone (mRem)**	6.36E-06	N/A	2.40E-04	0.00
Liver (mRem)**	1.81E-03	N/A	9.61E-03	0.06
Total Body (mRem)**	1.81E-03	N/A	9.61E-03	0.06
Thyroid (mRem)**	2.00E-03	N/A	3.70E-02	0.25
Kidney (mRem)**	1.81E-03	N/A	9.66E-03	0.06
Lung (mRem)**	1.81E-03	N/A	9.52E-03	0.06
GI-LLI (mRem)**	1.81E-03	N/A	9.53E-03	0.06

* Dose from Noble Gases only

** Dose from Tritium, Radiiodines and Particulates only

(a) Annual dose limits of Offsite Dose Calculation Manual (APA-ZZ-01003)
of 10 mRad gamma air dose and 20 mRad beta air dose.(b) Annual dose limits of Offsite Dose Calculation Manual (APA-ZZ-01003)
of 15 mRem to any organ from I-131, I-133, H-3 and particulate radio-
nuclides with half-lives greater than 8 days.

TABLE 6

DOSE TO THE MEMBER OF THE PUBLIC FROM ACTIVITIES
WITHIN THE SITE BOUNDARY

ORGAN	EFFLUENT DOSE WITHIN THE SITE BOUNDARY <u>(mRem)</u>	DIRECT RADIATION FROM THE UNIT <u>(mRem)</u>	DIRECT RADIATION FROM OUTSIDE TANKS <u>(mRem/1100hr)</u>	TOTAL DOSE FOR THE YEAR <u>(mRem)</u>
Skin	2.51E-03	N/A	N/A	2.51E-03
Bone	8.73E-04	9.00E-03	6.56E-04	1.05E-02
Liver	1.27E-03	9.00E-03	6.56E-04	1.09E-02
Total Body	1.27E-03	9.00E-03	6.56E-04	1.09E-02
Thyroid	1.30E-03	9.00E-03	6.56E-04	1.10E-02
Kidney	1.27E-03	9.00E-03	6.56E-04	1.09E-02
Lung	1.27E-03	9.00E-03	6.56E-04	1.09E-02
GI-LLI	1.27E-03	9.00E-03	6.56E-04	1.09E-02

TABLE 7

TOTAL DOSE DUE TO THE URANIUM FUEL CYCLE
(MEMBER OF THE PUBLIC)

<u>ORGAN</u>	<u>DOSE AT THE RESIDENCE LOCATION (mRem)</u>	<u>DOSE FROM ACTIVITIES WITHIN THE SITE BOUNDARY (mRem)</u>	<u>TOTAL DOSE TO THE MEMBER OF THE PUBLIC (mRem)</u>	<u>% LIMIT 40CFR190*</u>
Skin	2.30E-03	2.51E-03	4.81E-03	0.02
Bone	8.30E-04	1.05E-02	1.14E-02	0.05
Liver	2.42E-03	1.09E-02	1.34E-02	0.05
Total Body	2.43E-03	1.09E-02	1.34E-02	0.05
Thyroid	4.82E-03	1.10E-02	1.58E-02	0.02
Kidney	2.43E-03	1.09E-02	1.34E-02	0.05
Lung	2.41E-03	1.09E-02	1.33E-02	0.05
GI-LLI	2.42E-03	1.09E-02	1.33E-02	0.05

* Annual dose limits from 40CFR190.10(a) of 25 mRem whole body, 75 mRem to the thyroid, and 25 mRem to any other organ.