

50-331

SEMI-ANNUAL REPORT

Radioactive Effluent Releases

January 1, 1984 through June 30, 1984

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RADIATION EFFLUENT REPORT  
January 1, 1984 through June 30, 1984

ITEM	UNITS	1ST QUARTER 1984	2ND QUARTER 1984
A. Gaseous Effluents			
1. Gross Radioactivity	curies	9.77 E01	6.68 E01
2. Maximum 1 hour Release Rate	μCi/sec	5.89 E01	9.44 E01
3. Nuclides Release			
Xe-138	curies	3.61 E01	2.10 E01
Kr-87	curies	1.22 E00	none identified
Kr-88	curies	1.44 E00	none identified
Kr-85m	curies	5.64 E-01	none identified
Xe-135	curies	3.95 E01	3.04 E01
Xe-133	curies	2.86 E00	2.97 E00
Kr-85 (cal.)	curies	<9.04 E-03	<5.36 E-03
Xe-135m	curies	1.36 E01	1.14 E01
Ar-41	curies	1.08 E00	none identified
N-13	curies	1.36 E00	1.09 E00
4. Tritium Released	curies	1.04 E00	3.13 E00
5. Percent of ETS (16% Limit)	%	2.29 E-01	1.47 E-01
B. Iodine Releases			
1. Total I-131 Released	curies	5.80 E-04	4.58 E-04
2. Total I-133 Released	curies	1.02 E-03	1.14 E-03
3. Total I-135 Released	curies	7.23 E-04	1.54 E-03
4. Percent ETS Limit (I-131) Note 2	%	4.44 E-01	2.53 E-01
C. Particulate Releases			
1. Total Releases	curies	4.13 E-03	3.73 E-03
2. Gross Alpha Released	curies	9.26 E-06	3.71 E-05

# RADIATION EFFLUENT REPORT

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3. Nuclides Released			
Cr-51	curies	3.00 E-03	2.39 E-03
Co-60	curies	4.53 E-04	9.33 E-04
Mn-54	curies	5.12 E-05	1.52 E-04
Co-58	curies	5.30 E-05	8.94 E-05
Ba-140	curies	1.20 E-05	1.44 E-05
Sr-89	curies	1.24 E-04	6.52 E-05
Sr-90	curies	2.61 E-07	3.25 E-07
Unidentified	curies	4.37 E-04	8.57 E-05
4. Percent ETS Limit (Part.) Note 3	%	3.62 E00	3.22 E00
5. Percent ETS Limit (I-131 & Part.) Note 4	%	4.06 E00	3.47 E00

NOTE 1

$$\% \text{ ETS} = \frac{\frac{Q_{SE}}{0.21} + \frac{Q}{(1.4 \times 10^5)(MPC)}}{0.16} \times 100$$

NOTE 2

$$\% \text{ ETS(I-131)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q}{1.8 \times 10^{-7}}}{0.08} \times 100$$

NOTE 3

$$\text{ETS(PART)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q}{1.8 \times 10^{-7}}}{0.08} \times 100$$

NOTE 4

$$\text{ETS(PaI-131)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q}{1.8 \times 10^{-7}}}{0.08} \times 100$$

LIQUID EFFLUENTS

No Liquid Releases

January 1, 1984 through June 30, 1984

SOLID RADIOACTIVE WASTE  
January 1, 1984 through June 30, 1984

<u>DATE</u>	<u>VOLUME(Ft<sup>3</sup>)</u>	<u>ACTIVITY(Ci)</u>	<u>TYPE OF WASTE</u>
2-24-84	85	1.736	Resin
3-01-84	85	1.022	Resin
3-03-84	170	1.932	Resin
3-06-84	170	1.932	Resin
3-07-84	170	2.654	Resin
4-02-84	85	101.236	Resin
4-06-84	105	2.75856	Dewatered Resin
4-12-84	85	145.7692	Resin
4-16-84	85	160.017	Resin
4-20-84	85	75.3698	Resin
4-24-84	170	40.1502	Resin
4-27-84	170	10.92	Resin
4-30-84	85	3.2488	Resin
5-19-84	1104	0.32384	DAW
5-24-84	75	1.9704	Dewatered Resin
6-7-84	170	5.0649	Resin
6-08-84	170	4.3386	Resin
6-12-84	170	4.3386	Resin
6-20-84	170	4.4778	Resin
6-26-84	85	1.7786	Resin
6-26-84	85	1.7786	Resin

SUMMARY

<u>RESIN</u>	<u>VOLUME(Ft<sup>3</sup>)</u>	<u>ACTIVITY(Ci)</u>
o Solidified	2295	567.7641
o Dewatered	180	4.72896
	<u>2475</u>	<u>572.49306</u>
 DAW		
o Compactable Trash	828	0.24067
o Non-compactable Trash	276	0.08317
	<u>1104</u>	<u>0.32384</u>
 GRAND TOTAL	3579 (Ft <sup>3</sup> )	572.8169 (Ci)

All Shipments were made to Barnwell, South Carolina



Iowa Electric Light and Power Company

August 30, 1984  
DAEC-84-550

Director, Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

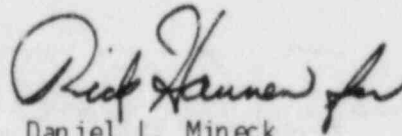
RE: Duane Arnold Energy Center

SUBJECT: Semi-annual Effluent Release Report  
January through June, 1984 for the  
Duane Arnold Energy Center,  
Unit No. 1

FILE: NRC-7, A-118e

Dear Sir:

Please find enclosed a copy of the Semi-annual Report for the Duane Arnold Energy Center, Unit No. 1, for the period January 1, 1984 through June 30, 1984. This report satisfies the requirements for the Semi-annual Effluent Release Report, as stated in the Radiological Technical Specifications, (Appendix B to the Operating License DPR-49).



Daniel L. Mineck  
Plant Superintendent

DM/lh

Enclosure: Semi-annual Effluent Release Report

cc: R. Mc Gaughy/P. Ward (all w/o attachments)  
K. Young  
H. Giorgio  
Records Control - 14

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