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QUAD CITIES NUCLEAR POWER STATION

TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 3rd	Quarter 4th	Est. Total Error, %
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A. Fission & Activation Gases

1. Total release	Ci	7.90E+03	5.30E+03	
2. Average release rate for period	uCi/sec	9.94E+02	6.66E+02	
3. a. Percent of Tech. Spec. limit Chimney	%	4.32E-02	3.36E-02	
b. Percent of Tech. Spec. limit Stack	%	4.17E-01	1.11E+00	

B. Iodines

1. Total iodine-131	Ci	4.01E-01	3.15E-01	
2. Average release rate for period	uCi/sec	5.04E-02	3.95E-02	
3. a. Percent of Tech. Spec. limit station	%	4.06E+00	3.19E+00	

C. Particulates

1. Particulates with half-lives > 8 days	Ci	4.83E-01	3.14E-01	
2. Average release rate for period	uCi/sec	6.08E-02	3.96E-02	
3. Gross alpha radioactivity		4.94E-05	1.83E-05	

TABLE 1A CONTINUED
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 3rd	Quarter 4th	Est. Total Error, %
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D. Tritium

1. Total release	Ci	1.70E+01	1.29E+01	
2. Average release rate for period	uCi/sec	2.14E+00	1.62E+00	

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QUAD CITIES NUCLEAR POWER STATION

1B TABLE

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS - ELEVATED RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3rd	Quarter 4th	Quarter	Quarter

1. Fission gases

Kr-85	Ci	<LLD	<LLD		
Kr-85m	Ci	3.91E+02	3.29E+02		
Kr-87	Ci	<LLD	1.32E+01		
Kr-83	Ci	8.18E+01	5.33E+01		
Xe-133	Ci	6.86E+03	3.96E+03		
Xe-135	Ci	5.16E+02	5.12E+02		
Xe-135m	Ci	<LLD	<LLD		
Xe-138	Ci	3.94E+01	4.19E+02		
	Ci				
	Ci				
Unidentified	Ci	<LLD	<LLD		
Total for Period	Ci	7.90E+03	5.29E+03		

2. Iodines

I-131	Ci	3.72E-01	2.83E-01		
I-133	Ci	1.69E+00	1.91E+00		
I-135	Ci	1.90E+00	2.13E+00		
Total for Period	Ci	3.96E+00	4.32E+00		

TABLE 1B CONTINUED
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978
 GASEOUS EFFLUENTS- ELEVATED RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3rd	Quarter 4th	Quarter	Quarter
Sr-89	Ci	1.62E-02			
Sr-90	Ci	1.89E-04			
Cs-134	Ci	6.35E-04	7.67E-04		
Cs-137	Ci	1.73E-03	2.36E-03		
Ba-140	Ci	5.28E-02	1.23E-01		
La-140	Ci	7.45E-02	1.43E-01		
Cr51	Ci	<LLD	<LLD		
Mn54	Ci	3.87E-05	2.87E-05		
Co58	Ci	<LLD	<LLD		
Co60	Ci	1.51E-03	1.43E-03		
I131	Ci	6.33E-02	8.17E-02		
Ag110m	Ci	<LLD	<LLD		
	Ci	6.82E-04	1.75E-03		
	Ci				
	Ci				
	Ci				
	Ci				
	Ci				
Unidentified	Ci	1.21E-01			

QUAD CITIES NUCLEAR POWER STATION

1C TABLE

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS- GROUND LEVEL RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3rd	Quarter 4th	Quarter	Quarter

1. Fission gases

Kr-85	Ci	<LLD	<LLD		
Kr-85m	Ci	2.17E-01	4.94E-01		
Kr-87	Ci	<LLD	<LLD		
Kr-88	Ci	6.30E-02	3.11E-02		
Xe-133	Ci	3.31E+00	4.86E+00		
Xe-135	Ci	4.04E-01	6.90E-01		
Xe-135m	Ci	<LLD	<LLD		
Xe-138	Ci	<LLD	2.37E+00		
	Ci				
	Ci				
Unidentified	Ci	<LLD	<LLD		
Total for Period	Ci	3.99E+00	8.45E+00		

2. Iodines

I-131	Ci	4.62E-02	3.17E-02		
I-133	Ci	1.74E-01	1.14E-01		
I-135	Ci	5.09E-01	3.63E-01		
Total for Period	Ci	7.29E-01	5.09E-01		

TABLE 1C CONTINUED
 EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1978
 GASEOUS EFFLUENTS-GROUND LEVEL RELEASE

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3rd	Quarter 4th	Quarter	Quarter
Sr-89	ci	8.10E-03			
Sr-90	ci	2.06E-04			
Cs-134	ci	2.95E-03	9.71E-04		
Cs-137	ci	5.60E-03	1.67E-03		
Ba-140	ci	1.95E-02	7.07E-03		
La-140	ci	2.70E-02	8.63E-03		
Cr51	ci	1.73E-02	2.11E-03		
Mn54	ci	3.17E-04	2.46E-05		
Co58	ci	7.46E-04	5.64E-05		
Co60	ci	6.44E-03	8.24E-04		
I131	ci	1.30E-03	7.01E-03		
Ag110m	ci	3.89E-05	5.83E-06		
Cs 136	ci	1.07E-03	1.24E-04		
Zn 65	ci	4.58E-04	8.18E-05		
Ce 141	ci	3.15E-04	8.34E-05		
Zr 95	ci	<LLD	3.41E-05		
Nb 95	ci	<LLD	4.45E-05		
Ru 103	ci	<LLD	2.82E-05		
Unidentified	ci	5.66E-02			

QUAD CITIES NUCLEAR POWER STATION

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1978

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter 3rd	Quarter 4th	Est. Total Error, %
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A. Fission and Activation Products

1. Total release (not including beta emitters, alpha)	Ci	3.67E-01	3.05E-01	
2. Average diluted concentration during period	uCi/ml	2.49E-09	8.57E-09	
3. Percent of applicable limit	%	2.49E+00	8.57E+00	
4. Maximum diluted concentration during period	uCi/ml	3.82E-08	6.44E-08	

B. Tritium

1. Total release	Ci	2.89E+00		
2. Average diluted concentration during period	uCi/ml	1.96E-08		
3. Percent of applicable limit	%	6.53E-04		

C. Dissolved and Entrained Gases

1. Total release	Ci	<LLD	<LLD	
2. Average diluted concentration during period	uCi/ml	<LLD	<LLD	
3. Percent of applicable limit	%	<LLD	<LLD	

D. Gross Alpha Radioactivity

1. Total release	Ci	2.44E-04	2.70E-04	
2. Average concentration released	uCi/ml	1.66E-12	7.58E-12	

E. Volume of waste released (prior to dilution)	Liters	3.18E+06	9.11E+05	
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F. Volume of dilution water used during period	Liters	1.47E+11	3.56E+10	
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QUAD CITIES NUCLEAR POWER STATION

TABLE 20

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

LIQUID EFFLUENTS

	Unit	Continuous Mode		Batch Mode	
		Quarter	Quarter	Quarter 3rd	Quarter 4th
Sr-89	Ci			3.75E-03	
Sr-90	Ci			6.47E-04	
Cs-134	Ci			4.21E-02	1.72E-02
Cs-137	Ci			8.38E-02	3.77E-02
I-131	Ci			<LLD	<LLD
Co-58	Ci			1.50E-02	<LLD
Co-60	Ci			2.36E-02	2.68E-02
Fe-59	Ci			<LLD	<LLD
Zn-65	Ci			<LLD	<LLD
Mn-54	Ci			<LLD	5.14E-04
Cr-51	Ci			<LLD	<LLD
Zr-95	Ci			<LLD	<LLD
Nb-95	Ci			<LLD	<LLD
Mo-99	Ci			<LLD	<LLD
Tc-99m	Ci			<LLD	<LLD
Ba-140	Ci			<LLD	6.98E-03
Ce-141	Ci			<LLD	<LLD
La-140	Ci			1.89E-02	1.04E-02
	Ci				
Unidentified	Ci			1.79E-01	
Total for Period (above)	Ci			3.67E-01	
Xe-133	Ci			<LLD	<LLD
Xe-135	Ci			<LLD	<LLD

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

JULY - 1978

BSC - Barnwell South Carolina

CN - Chem Nuclear Co.

HN - Hittman Nuclear & Development Co.

QUAD-CITIES STATION

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLICURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
7/03	HN	BSC	105		9629	
7/03	HN	BSC	105		10892	
7/08	HN	BSC	90		6674	
7/10	HN	BSC	105		12036	
7/11	HN	BSC	90		8167	
7/12	HN	BSC	105		10868	
7/12	HN	BSC	90		8010	
7/12	HN	BSC	90		9237.5	
7/14	HN	BSC	90		9155	
7/17	HN	BSC	90		9007	
7/17	HN	BSC	105		11157	
7/18	HN	BSC	90		6565	
7/19	HN	BSC	90		7035	
7/20	HN	BSC	90		11144	
7/21	HN	BSC	105		8414	
7/21	HN	BSC	90		7134	

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

August - 1978

BSC - Barnwell South Carolina

CN - Chem Nuclear Co.

QUAD-CITIES STATION

HN - Hittman Nuclear & Development Co.

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLCURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
8/2	HN	BSC	93.87		4633	
8/2	HN	BSC	90		5572	
8/3	HN	BSC	90		8012	
8/7	HN	BSC	97.66		8282	
8/7	HN	BSC	90		8485	
8/9	HN	BSC	90		7000	
8/10	HN	BSC	1039.4		293	
8/11	HN	BSC	90		8485	
8/14	HN	BSC	90		5913	
8/14	HN	BSC	90		8407	
8/16	HN	BSC	90		8264	
8/17	HN	BSC	105.16		5805	
8/18	HN	BSC	90		6960	
8/18	HN	BSC	90		6694	
8/21	HN	BSC	90		11424	
8/22	HN	BSC	90		7514	

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

September - 1978

BSC - Barnwell South Carolina

CN - Chem Nuclear Co.

HN - Hittman Nuclear & Development Co.

QUAD-CITIES STATION

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLCURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
9/1	HN	BSC	90		8276	
9/1	HN	BSC	105.16		7263	
9/5	HN	BSC	90		4742	
9/7	HN	BSC	105		10187	
9/7	HN	BSC	90		8728	
9/8	HN	BSC	90		8129	
9/8	HN	BSC	105		5775	
9/13	HN	BSC	90		6432	
9/13	HN	BSC	109		6623.6	
9/14	HN	BSC	90		4759	
9/15	HN	BSC	975		99.46	
9/18	HN	BSC	90		8658	
9/18	HN	BSC	109.2		10689	
9/22	HN	BSC	90		7444	
9/22	HN	BSC	90		841	
9/22	HN	BSC	105		6942	

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

October - 1978

BSC - Barnwell South Carolina

CN - Chem Nuclear Co.

HN - Hittman Nuclear & Development Co.

QUAD-CITIES STATION

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLCURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
10/2	HN	BSC	105.16		4939	
10/4	HN	BSC	90		960	
10/5	HN	BSC	499.25		72.2	
10/6	HN	BSC	90		19474.3	
10/11	HN	BSC	105		23335	
10/10	HN	BSC	90		10608	
10/11	HN	BSC	105		27833	
10/13	HN	BSC	90		13015	
10/16	HN	BSC	109.22		997	
10/18	HN	BSC	105		23083	
10/18	HN	BSC	581.75		94.7	
10/20	HN	BSC	105		22527	
10/20	HN	BSC	90		14563	
10/25	HN	BSC	105		18495	
10/25	HN	BSC	109.22		7716	
10/26	HN	BSC	90		13364	

SOLID RADIOACTIVE WASTE SUMMARY

UNITS 1/2

November - 1978

BSC - Barnwell South Carolina

CN - Chem Nuclear Co.

QUAD-CITIES STATION

HN - Hittman Nuclear & Development Co.

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLICURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
11/1	HN	BSC	105		13948.2	
11/2	HN	BSC	830.25		79.89	
11/6	HN	BSC	105		14731	
11/6	HN	BSC	105		12502	
11/9	HN	BSC	105		19452	
11/13	HN	BSC	105		19091	
11/16	HN	BSC	105		13611	
11/17	HN	BSC	803.26		157.69	
11/17	HN	BSC	105		14436	
11/21	HN	BSC	105		8900	
11/22	HN	BSC	105		9538	
11/28	HN	BSC	105		12782	
11/29	HN	BSC	90		4903	
11/29	HN	BSC	105.16		8538	
11/30	HN	BSC	90		7386	
				2968.67		159.89

SOLID RADIOACTIVE WASTE SUMMARY

BSC - Barnwell South Carolina

UNITS 1/2

December - 1978

CN - Chem Nuclear Co.

QUAD-CITIES STATION

HN - Hittman Nuclear & Development Co.

DATE	DISPOSITION OF MATERIAL		VOLUME (ft ³) PER SHIPMENT	VOLUME (ft ³) PER MONTH	MILLCURIES PER SHIPMENT	CURIES PER MONTH
	CO. TRANS.	BURIAL SITE				
12/1	HN	BSC	97.58		11070	
12/4	HN	BSC	90		6062	
12/5	HN	BSC	90		6821	
12/6	HN	BSC	90		5860	
12/7	HN	BSC	90		13669	
12/8	HN	BSC	105.16		16821	
12/8	HN	BSC	105		20675	
12/12	HN	BSC	90		2599.5	
12/13	HN	BSC	105		14069.6	
12/13	HN	BSC	90		6173	
12/18	HN	BSC	105		11348	
12/19	HN	BSC	105		16760	
12/19	HN	BSC	90		9075	
12/20	HN	BSC	90		5763	
12/22	HN	BSC	105		14469	
12/27	HN	BSC	90		10567	

Quad Cities Station

1978 Report of Occupational Personnel Radiation Doses

Commonwealth Edison Employees

Job Function	Work Function			
	Reactor Operations & Surveillance # of people/man-rem	Routine Maint. & Inservice Inspection # of people/man-rem	Waste Processing # of people/man-rem	Refueling # of people/man-rem
Maintenance	10/23.3	105/255.3	1/1.8	-
Operating	71/37.6	9/15.3	74/125.1	13/33.0
Health Physics	11/28.4	6/14.8	9/23.1	-
Supervisory	42/27.3	65/57.3	3/1.6	7/2.5
Engineering	144/34.1	-	-	-
Contract Workers				
Maintenance	-	1808/699.5	-	-

Special maintenance

Company employees other than station employees: 193/187.8 Special maintenance on installing ACAD/CAM modification: pull & inspect CRD nozzle; removed, inspected, and replace sparger; blade guides, cut off and weld on new tie plate.