Commonwealth Edison
LaSalle County Nuclear Station
2601 N. 21st. Rd.
Marseilles, Illinois 61341
Telephone 815/357-6761

February 8, 1994

Nuclear Regulatory Commission
Region III
Attn: Chief Reactor Support Programs Branch
9 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Sir:

Enclosed is the Semi-annual Radioactive Effluent Report for July through December, 1993 for LaSalle County Nuclear Station, Docket Numbers 50-373 and 50-374.

Two copies of the report are provided for your use. Two copies will be forwarded to the Document Control Desk and one copy to the Resident Inspector.

Sincerely,

D. J. Ray
for Station Manager
LaSalle County Station

enclosure

cc: Document Control Desk, U.S. NRC
Illinois Department of Nuclear Safety
American Nuclear Insurers
B. P. I.
U.S. EPA
Murray and Trettel, Inc.
Teledyne Isotopes Midwest Laboratory
Chemistry Services (OPUS)
NRC Resident Inspector (LaSalle)
Nuclear Quality Programs Supt. (LaSalle)
Station Manager, Central File
Illini State Park
EP File: EPG-01-R09

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LASALLE COUNTY NUCLEAR POWER STATION
UNITS ONE AND TWO
DOCKET NUMBERS 50-373 AND 50-374

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

		Third Quarter	Fourth Quarter	Estimated Total Error %
A. Fission and Activation Gases				
1. Total release	Ci	9.85E+02	5.85E+01	44
2. Average release rate for period	uCi/sec	1.24E+02	7.36E+00	
B. Iodines				
1. Total iodine-131	Ci	7.71E-03	2.08E-03	33
2. Average release rate for period	uCi/sec	9.70E-04	2.62E-04	
C. Particulates				
1. Particulates with T1/2 >8 days	Ci	1.61E-02	6.22E-03	25
2. Average release rate for period	uCi/sec	2.03E-03	7.82E-04	
3. Gross alpha radioactivity (estimate)	Ci	<1.00E-11	<1.00E-11	
D. Tritium				
1. Total release	Ci	3.70E+01	1.95E+01	20
2. Average release rate for period	uCi/sec	4.65E+00	2.45E+00	

"<" indicates activity of sample is less than LLD given in uci/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

GASEOUS EFFLUENTS-ELEVATED RELEASE
Unit 1 and Unit 2 Continuous Mode

Nuclides Released		July	August	September	Third Quarter
1. Fission Gases					
Ar-41	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-85	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-85m	Ci	4.10E+00	<1.00E-06	<1.00E-06	4.10E+00
Kr-87	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-88	Ci	<1.00E-06	9.73E+02	7.86E+00	9.81E+02
Xe-133	Ci	<1.00E-06	2.97E-04	6.54E-02	6.55E-02
Xe-133m	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-135	Ci	<1.00E-06	1.96E-04	2.62E-02	2.64E-02
Xe-135m	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-138	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Total for period	Ci	4.10E+00	9.73E+02	7.86E+00	9.85E+02
2. Iodines					
I-131	Ci	2.64E-04	6.05E-04	1.51E-04	1.02E-03
I-132	Ci	4.84E-04	<1.00E-11	<1.00E-11	4.84E-04
I-133	Ci	3.96E-03	1.95E-03	3.01E-04	6.21E-03
I-134	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
I-135	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Total for period	Ci	4.71E-03	2.51E-03	4.52E-04	7.71E-03
3. Particulates					
Cr-51	Ci	1.10E-04	1.63E-03	<1.00E-11	1.74E-03
Mn-54	Ci	5.48E-05	<1.00E-11	2.82E-05	8.30E-05
Co-58	Ci	<1.00E-11	<1.00E-11	6.70E-05	6.70E-05
Na-24	Ci	5.31E-03	6.04E-03	6.37E-04	1.20E-02
Fe-59	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Tc-99m	Ci	3.00E-04	<1.00E-11	<1.00E-11	3.00E-04
Co-60	Ci	1.83E-04	1.75E-04	3.13E-04	6.71E-04
Zn-65	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Sr-89 (Estimate)	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Sr-90 (Estimate)	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Nb-95	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Mo-99	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-134	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-137	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-138	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ba-139	Ci	1.26E-03	<1.00E-11	<1.00E-11	1.26E-03
Ba-140	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
La-140	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ce-141	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ce-144	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Total for period	Ci	7.22E-03	7.85E-03	1.05E-03	1.61E-02

"<" indicates activity of sample is less than LLD given uci/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

GASEOUS EFFLUENTS-ELEVATED RELEASE
Unit 1 and Unit 2 Continuous Mode

Nuclides Released		October	November	December	Fourth Quarter
1. Fission Gases					
Ar-41	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-85	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-85m	Ci	<1.00E-06	<1.00E-06	3.24E+00	3.24E+00
Kr-87	Ci	5.05E+00	<1.00E-06	1.54E+01	2.05E+01
Kr-88	Ci	7.13E+00	8.10E+00	1.77E+01	3.29E+01
Xe-133	Ci	2.30E-04	<1.00E-06	6.98E-04	9.28E-04
Xe-133m	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-135	Ci	1.85E+00	<1.00E-06	2.92E-04	1.85E+00
Xe-135m	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-138	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Total for period	Ci	1.40E+01	8.10E+00	9.63E+01	5.85E+01
2. Iodines					
I-131	Ci	<1.00E-11	5.14E-05	<1.00E-11	5.14E-05
I-132	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
I-133	Ci	1.92E-04	1.26E-04	5.76E-04	2.03E-03
I-134	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
I-135	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Total for period	Ci	1.92E-04	1.77E-04	5.76E-04	2.08E-03
3. Particulates					
Cr-51	Ci	<1.00E-11	1.30E-04	<1.00E-11	1.30E-04
Mn-54	Ci	4.59E-07	<1.00E-11	<1.00E-11	4.59E-07
Na-24	Ci	7.44E-04	2.45E-03	7.93E-04	3.99E-03
Co-58	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Fe-59	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Tc-99m	Ci	<1.00E-11	6.91E-04	1.82E-04	8.73E-04
Co-60	Ci	6.95E-05	1.98E-04	1.71E-04	4.38E-04
Zn-65	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Sr-89 (Estimate)	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Sr-90 (Estimate)	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Nb-95	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Mo-99	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-134	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-137	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Cs-138	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ba-139	Ci	<1.00E-11	<1.00E-11	7.92E-04	7.92E-04
Ba-140	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
La-140	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ce-141	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Ce-144	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Total for period	Ci	8.14E-04	4.64E-03	1.94E-03	6.22E-03

"<" indicates activity of sample is less than LLD given uci/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT ONE

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

		Third Quarter	Fourth Quarter
A. Fission and Activation Products			
1. Total release (not including tritium, gases, alpha)	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
3. Maximum concentration released	uCi/ml	N/A	N/A
B. Tritium			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
C. Dissolved Noble Gases			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
D. Gross Alpha Radioactivity			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
E. Volume of Waste Released (prior to dilution)	liters	0.00E+00	0.00E+00
F. Volume of Dilution Water	liters	0.00E+00	0.00E+00

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT ONE BATCH MODE

LIQUID EFFLUENTS

Nuclides Released		July	August	September	Third Quarter
Cr-51	Ci				
Mn-54	Ci	No	No	No	No
Fe-55	Ci	Releases	Releases	Releases	Releases
Co-58	Ci				
Fe-59	Ci				
Co-60	Ci				
Zn-65	Ci				
Sr-89	Ci				
Sr-90	Ci				
Nb-95	Ci				
Zr-95	Ci				
Mo-99	Ci				
Tc-99m	Ci				
I-131	Ci				
Cs-134	Ci				
Cs-137	Ci				
Ba-140	Ci				
La-140	Ci				
Ce-141	Ci				
Ce-144	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xe-131m	Ci				
Xe-133m	Ci				
Xe-133	Ci				
Xe-135m	Ci				
Xe-135	Ci				

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT ONE BATCH MODE

LIQUID EFFLUENTS

Nuclides Released		October	November	December	Fourth Quarter
Cr-51	Ci	No Releases	No Releases	No Releases	No Releases
Mn-54	Ci				
Fe-55	Ci				
Co-58	Ci				
Fe-59	Ci				
Co-60	Ci				
Zn-65	Ci				
Sr-89	Ci				
Sr-90	Ci				
Nb-95	Ci				
Zr-95	Ci				
Mo-99	Ci				
Tc-99m	Ci				
I-131	Ci				
Cs-134	Ci				
Cs-137	Ci				
Ba-140	Ci				
La-140	Ci				
Ce-141	Ci				
Ce-144	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xe-131m	Ci				
Xe-133m	Ci				
Xe-133	Ci				
Xe-135m	Ci				
Xe-135	Ci				

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT TWO

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

		Third Quarter	Fourth Quarter
A. Fission and Activation Products			
1. Total release (not including tritium, gases, alpha)	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
3. Maximum concentration released	uCi/ml	N/A	N/A
B. Tritium			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
C. Dissolved Noble Gases			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
D. Gross Alpha Radioactivity			
1. Total release	Ci	0.00E+00	0.00E+00
2. Average concentration released	uCi/ml	N/A	N/A
E. Volume of Waste Released	liters	0.00E+00	0.00E+00
F. Volume of Dilution Water	liters	0.00E+00	0.00E+00

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT TWO BATCH MODE

LIQUID EFFLUENTS

Nuclides Released		July	August	September	Third Quarter
Cr-51	Ci				
Mn-54	Ci	No	No	No	No
Fe-55	Ci	Releases	Releases	Releases	Releases
Co-58	Ci				
Fe-59	Ci				
Co-60	Ci				
Zn-65	Ci				
Sr-89	Ci				
Sr-90	Ci				
Nb-95	Ci				
Zr-95	Ci				
Mo-99	Ci				
Tc-99m	Ci				
I-131	Ci				
Cs-134	Ci				
Cs-137	Ci				
Ba-140	Ci				
La-140	Ci				
Ce-141	Ci				
Ce-144	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xe-131m	Ci				
Xe-133m	Ci				
Xe-133	Ci				
Xe-135m	Ci				
Xe-135	Ci				

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

UNIT TWO BATCH MODE

LIQUID EFFLUENTS

Nuclides Released		October	November	December	Fourth Quarter
Cr-51	Ci	No Releases	No Releases	No Releases	No Releases
Mn-54	Ci				
Fe-55	Ci				
Co-58	Ci				
Fe-59	Ci				
Co-60	Ci				
Zn-65	Ci				
Sr-89	Ci				
Sr-90	Ci				
Nb-95	Ci				
Zr-95	Ci				
Mo-99	Ci				
Tc-99m	Ci				
I-131	Ci				
Cs-134	Ci				
Cs-137	Ci				
Ba-140	Ci				
La-140	Ci				
Ce-141	Ci				
Ce-144	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xe-131m	Ci				
Xe-133m	Ci				
Xe-133	Ci				
Xe-135m	Ci				
Xe-135	Ci				

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

MAXIMUM DOSES RESULTING FROM RELEASES

			Third Quarter	Fourth Quarter
A.	Gaseous Effluents (Units One and Two)			
1.	Gamma air	mrad	4.28E-02	1.78E-03
2.	Beta air	mrad	7.05E-04	7.56E-05
3.	Total body	mrem	2.91E-02	1.21E-03
4.	Skin	mrem	3.37E-02	1.43E-03
5.	Organ (infant thyroid)	mrem	6.22E-03	2.00E-03
B.	Liquid Effluents (Unit One)			
1.	Total body	mrem	0.00E+00	0.00E+00
4.	Internal organ (adult liver)	mrem	0.00E+00	0.00E+00
C.	Liquid Effluents (Unit Two)			
1.	Total body	mrem	0.00E+00	0.00E+00
4.	Internal organ	mrem	0.00E+00	0.00E+00

COMPLIANCE STATUS

A.	Gaseous Effluents (Units One and Two)			
1.	Gamma air	% of Tech. Spec. Limit	0.86	0.04
2.	Beta air	% of Tech. Spec. Limit	0.01	0.00
3.	Total body	% of Tech. Spec. Limit	1.16	0.05
4.	Skin	% of Tech. Spec. Limit	0.45	0.02
5.	Organ	% of Tech. Spec. Limit	0.08	0.03
B.	Liquid Effluents (Unit One)			
1.	Total body	% of Tech. Spec. Limit	0.00	0.00
2.	Internal organ	% of Tech. Spec. Limit	0.00	0.00
C.	Liquid Effluents (Unit Two)			
1.	Total body	% of Tech. Spec. Limit	0.00	0.00
2.	Internal organ (adult liver)	% of Tech. Spec. Limit	0.00	0.00

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

			July	August	September	Third Quarter
1.	Spent resins, filter sludges, evaporator bottoms, etc.					
	a. Quantity shipped	cu.m.	1.45E+01	3.08E+01	2.31E+01	6.84E+01
	b. Total activity	Ci	1.54E+01	2.35E+02	2.47E+02	4.97E+02
	c. Major nuclides (estimate)					
	Mn-54	%	5.4	4	7	
	Fe-55	%	72	79	75	
	Co-58	%	0.31	0.35	1	
	Co-60	%	19	13	16	
	d. Container type		LSA	LSA	LSA	
	e. Container volume	cu.m.	4.83E+00 5.82E+00	3.08E+01	5.82E+00 4.33E+00	
	f. Solidification agent		Cement	Cement	Cement	
2.	Dry compressible waste, contaminated equipment, etc.					
	a. Quantity shipped	cu.m.	0.00E+00	7.24E+01	0.00E+00	7.24E+01
	b. Total activity	Ci	0.00E+00	1.21E+00	0.00E+00	1.21E+00
	c. Major nuclides (estimate)					
	Cr-51	%	0	8	0	
	Mn-54	%	0	28	0	
	Fe-55	%	0	22	0	
	Fe-59	%	0	13	0	
	Co-60	%	0	0	0	
	d. Container type		N/A	LSA	N/A	
	e. Container volume	cu.m.	N/A	7.24E+01	N/A	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

			July	August	September	Third Quarter
3.	Other					
	a. Quantity shipped	cu.m.	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	b. Total activity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	c. Major nuclides (estimate)					
	Cr-51	%	0	0	0	
	Mn-54	%	0	0	0	
	Fe-55	%	0	0	0	
	Fe-59	%	0	0	0	
	Co-60	%	0	0	0	
	d. Container type		N/A	N/A	N/A	
	e. Container volume	cu.m.	N/A	N/A	N/A	
4.	Irradiated Components					
	a. Number of shipments		1	0	0	1
	b. Mode of Transportation		Truck	N/A	N/A	
	c. Destination		Barnwell	N/A	N/A	
5.	Solid Waste Disposition					
	a. Number of Shipments		3	8	5	16
	b. Mode of Transportation		Truck	Truck	Truck	
	Number		3	8	5	
	c. Destination					
	Oak Ridge, TN					
	Number		0	1	0	
	Barnwell, SC					
	Number		3	7	5	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

			October	November	December	Fourth Quarter
1.	Spent resins, filter sludges, evaporator bottoms, etc.					
	a. Quantity shipped	cu.m.	2.03E+01	1.88E+01	1.30E+01	5.21E+01
	b. Total activity	Ci	7.80E+01	2.53E+02	2.38E+02	5.69E+02
	c. Major nuclides					
	Mn-54	%	4	7	6	
	Fe-55	%	81	75	72	
	Co-58	%	0	0.08	0	
	Co-60	%	14	16	19	
	Ni-63	%	0.5	1	0.4	
	d. Container type		LSA	LSA	LSA	
	e. Container volume	cu.m.	4.33E+00 5.82E+00	4.33E+00 5.82E+00	4.33E+00	
	f. Solidification agent		Cement	Cement	Cement	
2.	Dry compressible waste, contaminated equipment, etc.					
	a. Quantity shipped	cu.m.	1.45E+00	7.66E+01	8.18E+01	1.60E+02
	b. Total activity	Ci	2.38E+01	8.04E-01	1.36E-01	2.47E+01
	c. Major nuclides (estimate)					
	Cr-51	%	7	8	8	
	Mn-54	%	28	28	28	
	Fe-55	%	23	22	22	
	Fe-59	%	12	12	0	
	Co-60	%	28	27	27	
	d. Container type		LSA	LSA	LSA	
	e. Container volume	cu.m.	7.24E+01	4.33E+00	7.24E+01 9.34E+00	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

			October	November	December	Fourth Quarter
3.	Other					
	a. Quantity shipped	cu.m.	0.00E+00	0.00E+00	3.41E+00	3.41E+00
	b. Total activity	Ci	0.00E+00	0.00E+00	1.64E+02	1.64E+02
	c. Major nuclides (estimate)					
	Cr-51	%	0	0	8	
	Mn-54	%	0	0	28	
	Fe-55	%	0	0	22	
	Fe-59	%	0	0	13	
	Co-60	%	0	0	27	
	d. Container type		N/A	N/A	LSA	
	e. Container volume	cu.m.	N/A	N/A	3.41E+00	
4.	Irradiated Components					
	a. Number of shipments		0	0	0	
	b. Mode of Transportation		N/A	N/A	N/A	
	c. Destination		N/A	N/A	N/A	
5.	Solid Waste Disposition					
	a. Number of Shipments		6	6	6	18
	b. Mode of Transportation		Truck	Truck	Truck	
	Number		6	6	6	
	c. Destination					
		Oak Ridge, TN				
	Number		2	1	2	
		Barnwell, SC				
	Number		4	5	4	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

Supplemental Information

1. Regulatory Limits

a. Gaseous Effluents

1) The air dose due to noble gases released in gaseous effluents, from each reactor unit, from the site shall be limited to the following:

a) During any calendar quarter: Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation, and

b) During any calendar year: Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

2) The dose to an individual from radioiodines and radioactive materials in particulate form, and radionuclides, other than noble gases, with half-lives greater than eight days in gaseous effluents released, from each reactor unit, from the site shall be limited to the following:

a) During any calendar quarter: Less than or equal to 7.5 mRems to any organ, and

b) During any calendar year: Less than or equal to 15 mRems to any organ.

b. Liquid Effluents

1) The dose or dose commitment to an individual from radioactive materials in liquid effluents released, from each reactor unit, from the site shall be limited:

a) During any calendar quarter to less than or equal to 1.5 mRem to the total body and to less than or equal to 5 mRem to any organ, and

b) During any calendar year to less than or equal to 3 mRem to the total body and to less than or equal to 10 mRem to any organ.

c. Total Dose

1) The dose or dose commitment to any member of the public, due to releases or radioactivity and radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mRem to the body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mRem) over 12 consecutive months.

2. Maximum Permissible Concentrations

a. Gaseous Effluents

1) The dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to the following:

a) For noble gases: Less than or equal to 500 mRem/year to the total body and less than or equal to 3000 mRem/year to the skin, and

b) For all radioiodines and for all radioactive materials in particulate form, and radionuclides, other than noble gases, with half-lives greater than eight days: Less than or equal to 1500 mRem/year to any organ via the inhalation pathway.

b. Liquid Effluents

1) The concentration of radioactive material released form the site shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to the following:

Nuclide	MPC (µci/ml)
Kr-85m	2.00E-04
Kr-85	5.00E-04
Kr-87	4.00E-05
Kr-88	9.00E-05
Ar-41	7.00E-05
Xe-131m	7.00E-04
Xe-133m	5.00E-04
Xe-133	6.00E-04
Xe-135m	2.00E-04
Xe-135	2.00E-04

3. Average Energy

a. Not Applicable.

4. Measurements and Approximations of Total Radioactivity

a. Gaseous Effluents

1) Containment Vent and Purge System is sampled by grab sample which is analyzed for principal gamma emitters and H-3.

2) Main Vent Stack is sampled by grab sample which is analyzed for principal gamma emitters and H-3.

3) Standby Gas Treatment System is sampled by grab sample which is analyzed for principal gamma emitters.

4) All release types as listed in 1 and 2 above, at the vent stack and as listed in 3 above, at the Standby Gas Treatment System whenever there is a flow, are continuously sampled by charcoal, particulate and composite samples which are analyzed for iodines, principal gamma emitters, gross alpha, Sr-89 and Sr-90. Noble gases, gross beta and gamma are continuously monitored by noble gas monitors for the vent stack and the standby gas treatment system.

b. Liquid Effluents

1) Batch waste release tanks are sampled each batch for principal gamma emitters, I-131, dissolved and entrained noble gases, H-3, gross alpha, Sr-89, Sr-90 and Fe-55.

2) Continuous releases are sampled continuously in proportion to the rate of flow of the effluent stream and by grab sample. Samples are analyzed for principal gamma emitters, I-131, dissolved and entrained noble gases, H-3, gross alpha, Sr-89, Sr-90 and Fe-55.

5. Batch Releases

a. Gaseous

1)	Number of batch releases:	None
2)	Total time period for batch releases:	N/A
3)	Maximum time period for a batch release:	N/A
4)	Average time period for batch releases:	N/A
5)	Minimum time period for a batch release:	N/A

b. Liquid

1)	Number of batch releases:	N/A
2)	Total time period for batch releases:	N/A
3)	Maximum time period for a batch release:	N/A
4)	Average time period for batch releases:	N/A
5)	Minimum time period for a batch release:	N/A
6)	Average stream flow during periods of release of effluent into a flowing stream:	N/A

6. Abnormal Releases

a. Gaseous

1) Number of releases: None

2) Total activity released: N/A

b. Liquid

1) Number of releases: None

2) Total activity released: N/A

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (1993)

METEOROLOGICAL DATA

(See following pages.)

CECo LASALLE STATION
375 ft. WIND SPEED and WIND DIRECTION

July-September 1993
375-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2187
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																	STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A	N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L	SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05		.05					
1	SU	.05	.00	.00	.00	.00	.00	.00	.09	.05	.00	.09	.00	.00	.00	.00	.00	.27			.27				
-	N	.14	.05	.09	.09	.09	.05	.09	.09	.05	.05	.05	.00	.09	.14	.05	.14	1.23				1.23			
3	SS	.05	.00	.05	.05	.05	.05	.14	.00	.00	.00	.00	.00	.09	.05	.05	.00	.55					.55		
	MS	.00	.00	.05	.05	.00	.00	.14	.05	.00	.05	.00	.09	.05	.00	.00	.00	.46						.46	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
																									2.56
	EU	.00	.00	.05	.00	.05	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00	.18	.18						
	MU	.00	.09	.23	.00	.00	.00	.09	.14	.23	.09	.00	.00	.00	.00	.00	.05	.91		.91					
4	SU	.05	.05	.14	.05	.09	.00	.18	.09	.05	.14	.09	.09	.05	.14	.14	.00	1.33			1.33				
-	N	.91	.64	.55	.69	.64	.59	.91	.27	.18	.00	.23	.18	.41	.46	.50	.27	7.45				7.45			
7	SS	.14	.18	.59	.23	.27	.41	.14	.09	.05	.14	.09	.05	.00	.05	.09	.14	2.65					2.65		
	MS	.00	.00	.00	.09	.14	.18	.23	.32	.27	.27	.23	.09	.23	.14	.00	.05	2.24						2.24	
	ES	.00	.00	.00	.00	.00	.00	.09	.05	.00	.00	.09	.05	.00	.05	.05	.05	.41							.41
																									15.18
	EU	.00	.00	.00	.00	.00	.00	.00	.14	.09	.41	.05	.00	.00	.00	.00	.00	.69	.69						
	MU	.00	.23	.00	.00	.05	.00	.05	.14	.41	.32	.32	.00	.00	.00	.00	.09	1.60		1.60					
8	SU	.32	.05	.00	.00	.00	.09	.14	.05	.18	.09	.32	.18	.14	.23	.41	.37	2.56			2.56				
-	N	1.05	1.10	.41	.59	.73	1.10	1.42	.32	.46	.46	.55	.50	.37	.78	.73	.41	10.97				10.97			
1	SS	.18	.46	.46	.23	.46	.46	.55	.32	.23	.50	.37	.41	.59	.59	.14	.18	6.13					6.13		
2	MS	.05	.00	.05	.09	.05	.14	.32	.23	.23	.27	.37	.09	.14	.14	.18	.37	2.70						2.70	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.09	.18	.09	.05	.00	.05	.00	.09	.55							.55
																									25.19
	EU	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05						
1	MU	.05	.05	.00	.00	.00	.00	.05	.05	.27	.50	.18	.05	.00	.00	.00	.05	1.23		1.23					
3	SU	.09	.09	.05	.09	.18	.00	.14	.05	.18	.32	.09	.27	.05	.37	.23	.23	2.42			2.42				
-	N	1.10	.46	.00	1.46	1.51	.55	.64	.32	.50	.82	.82	.59	.82	1.28	1.28	1.[illegible]	21				13.21			
1	SS	.18	.27	.09	.14	1.05	1.01	.69	.46	.37	.78	.46	.64	.78	.69	.59	[illegible]	8.50					8.50		
8	MS	.18	.18	.00	.05	.00	.05	.50	.18	.23	.23	.37	.41	.27	.27	.32	.55	3.80						3.80	
	ES	.00	.00	.00	.00	.00	.00	.00	.09	.05	.00	.00	.05	.05	.00	.05	.00	.27							.27
																									29.49

ZCADRAD/194

CECo LASALLE STATION
375 ft. WIND SPEED and WIND DIRECTION

July-September 1993
375-33 ft. DIFFERENTIAL TEMPERATURE

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	STABILITY CLASSES EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.09	.05	.00	.00	.00	.00	.37	.00	.00	.50		.50						
9 SU	.00	.00	.00	.05	.00	.00	.00	.09	.14	.14	.05	.00	.14	.27	.14	.00	1.01			1.01					
- N	.32	.00	.00	.50	.46	.09	.09	.14	.46	.69	.27	.23	.32	.69	.69	.14	5.08				5.08				
2 SS	.05	.14	.00	.05	.32	.18	.50	.64	1.14	.69	.78	.27	.37	.46	.64	.27	6.49					6.49			
4 MS	.00	.00	.00	.00	.00	.05	.14	.18	.27	.59	.91	.55	.37	.46	.32	.18	4.02						4.02		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.18	.05	.05	.05	.00	.00	.05	.00	.37							.37	
																									17.47
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.05	.00	.00	.09		.09						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.14	.41	.14	.09	.00	.00	.00	.00	.78			.78					
N	.00	.00	.00	.00	.00	.00	.00	.18	.87	.59	.32	.05	.27	.55	.27	.00	3.11				3.11				
2 SS	.00	.00	.00	.00	.00	.00	.09	.23	1.37	1.37	.73	.18	.23	.23	.41	.14	4.98					4.98			
4 MS	.00	.00	.00	.00	.00	.05	.00	.05	.05	.09	.18	.00	.27	.14	.09	.00	.91						.91		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.00	.00	.00	.14	.00	.23							.23	
																									10.11
TOT	4.89	4.02	2.79	4.48	6.13	5.03	7.32	5.21	8.87	10.38	8.32	5.21	6.08	8.60	7.54	5.12	100.00	.91	4.39	8.37	41.06	29.31	14.13	1.83	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.00	.00	.05	.00	.05	.00	.00	.23	.14	.41	.05	.00	.00	.00	.00	.00	.91	Extremely Unstable
.05	.37	.23	.00	.05	.00	.18	.41	.96	1.01	.50	.05	.00	.41	.00	.18	4.39	Moderately Unstable
.50	.18	.18	.18	.27	.09	.46	.37	.73	1.10	.78	.64	.37	1.01	.91	.59	8.37	Slightly Unstable
3.52	2.24	1.05	3.34	3.43	2.38	3.16	1.33	2.51	2.61	2.24	1.55	2.29	3.89	3.52	2.01	41.06	Neutral
.59	1.05	1.19	.69	2.15	2.10	2.10	1.74	3.16	3.48	2.42	1.55	2.06	2.06	1.92	1.05	29.31	Slightly Stable
.23	.18	.09	.27	.18	.46	1.33	1.01	1.05	1.51	2.06	1.23	1.33	1.14	.91	1.14	14.13	Moderately Stable
.00	.00	.00	.00	.00	.00	.09	.14	.32	.27	.27	.18	.05	.09	.27	.14	1.83	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.23	.05	.18	.18	.14	.09	.37	.23	.09	.14	.14	.09	.23	.18	.09	.14	2.56	0.8 - 3.5 mph
1.10	.96	1.55	1.05	1.19	1.19	1.65	1.01	.82	.64	.73	.46	.69	.82	.78	.55	15.18	3.6 - 7.5 mph
1.60	1.83	.91	.91	1.28	1.78	2.47	1.19	1.69	2.24	2.06	1.23	1.23	1.78	1.46	1.51	25.19	7.6 - 12.5 mph
1.60	1.05	.14	1.74	2.74	1.60	2.01	1.19	1.60	2.65	1.92	2.01	1.97	2.61	2.47	2.19	29.49	12.6 - 18.5 mph
.37	.14	.00	.59	.78	.32	.73	1.14	2.24	2.15	2.06	1.10	1.19	2.24	1.83	.59	17.47	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.05	.09	.46	2.42	2.56	1.42	.32	.78	.96	.91	.14	10.11	> 24.5 mph

CECo LASALLE STATION
375 ft. WIND SPEED and WIND DIRECTION

October-December 1993
375-33 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2183
VALUES ARE PERCENT OCCURRENCE

SPEED	WIND DIRECTION CLASSES																	STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
C	SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
A	N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00				
L	SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
M	MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
																									.00
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
1	SU	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05			.05					
-	N	.00	.05	.09	.09	.09	.05	.05	.05	.05	.00	.00	.09	.05	.14	.00	.05	.82			.82				
3	SS	.00	.00	.09	.00	.05	.00	.00	.00	.05	.00	.00	.00	.09	.00	.05	.00	.32				.32			
	MS	.05	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.05	.05	.23					.23		
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00	
																									1.42
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.00	.00	.00	.00	.00	.09		.09					
4	SU	.00	.09	.05	.00	.00	.00	.00	.00	.00	.00	.05	.05	.00	.00	.00	.00	.23			.23				
-	N	.18	.09	.32	.46	.82	.46	.46	.23	.14	.27	.27	.23	.14	.41	.18	.23	4.90				4.90			
7	SS	.05	.00	.09	.09	.27	.09	.27	.00	.05	.05	.14	.09	.09	.05	.00	.00	1.33					1.33		
	MS	.00	.00	.05	.00	.05	.05	.00	.05	.05	.14	.09	.05	.09	.05	.00	.00	.64						.64	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.09	.05	.00	.00	.23							.23
																									7.42
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
	MU	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.18	.09	.00	.00	.00	.00	.32		.32					
8	SU	.00	.05	.05	.00	.00	.00	.00	.00	.05	.00	.18	.18	.00	.00	.00	.00	.50			.50				
-	N	.69	1.01	.96	.50	.64	.27	.41	.05	.64	.64	.37	.60	.87	.27	1.01	1.10	10.03				10.03			
1	SS	.09	.09	.41	.27	.32	.50	.18	.09	.09	.18	.14	.18	.18	.00	.18	.05	2.98					2.98		
2	MS	.00	.00	.09	.05	.00	.23	.14	.00	.14	.32	.00	.05	.14	.00	.18	.00	1.33						1.33	
	ES	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05	.14	.00	.05	.00	.05	.05	.37							.37
																									15.53
	EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
1	MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.05	.00	.00	.00	.00	.00	.23		.23					
3	SU	.09	.05	.00	.00	.00	.00	.00	.00	.09	.32	.27	.18	.00	.09	.09	.00	1.19			1.19				
-	N	1.33	.96	1.65	.69	.18	.50	1.01	.55	.60	.78	.64	1.01	1.56	1.97	1.51	1.79	16.72				16.72			
1	SS	.32	.50	.23	.18	.55	.09	.09	.23	.60	.37	.46	.27	.41	.32	.32	.09	5.04					5.04		
8	MS	.23	.05	.00	.00	.05	.05	.14	.09	.27	.46	.09	.09	.09	.09	.32	.05	2.06						2.06	
	ES	.00	.00	.00	.00	.00	.05	.09	.14	.23	.14	.00	.09	.00	.18	.00	.00	.92							.92
																									26.16

CECo LASALLE STATION
375 ft. WIND SPEED and WIND DIRECTION

October-December 1993
375-33 ft. DIFFERENTIAL TEMPERATURE

SPEED	WIND DIRECTION CLASSES																STABILITY CLASSES							
CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	.18	.00	.09	.00	.00	.46		.46						
9 SU	.09	.00	.00	.00	.00	.00	.00	.00	.09	.09	.18	.09	.00	.32	.00	.18	1.05			1.05					
- N	.92	.32	.09	.32	.23	.09	.05	.37	1.01	1.24	1.19	.73	.55	1.65	1.01	.55	10.31				10.31				
2 SS	.05	.05	.00	.05	.18	.23	.05	.50	.92	.92	1.24	.46	.87	1.37	.23	.00	7.10					7.10			
4 MS	.00	.00	.00	.09	.00	.00	.09	.37	.46	.32	.50	.18	.32	.05	.09	.05	2.52						2.52		
ES	.00	.00	.00	.00	.00	.00	.00	.09	.27	.14	.32	.23	.18	.32	.05	.00	1.60							1.60	
																									23.04
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
G MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.09		.09						
T SU	.00	.00	.00	.00	.00	.00	.00	.00	.05	.18	.09	.09	.00	.18	.00	.00	.60			.60					
N	.14	.27	.00	.23	.41	.32	.00	.05	.50	1.33	.69	.32	.96	1.88	1.15	.18	8.43				8.43				
2 SS	.00	.00	.00	.00	.37	.09	.09	.69	1.97	2.70	1.97	.64	.64	1.15	.27	.00	10.58					10.58			
4 MS	.00	.00	.00	.00	.00	.00	.09	.05	.69	1.01	1.37	.37	.05	.05	.00	.00	3.66						3.66		
ES	.00	.00	.00	.00	.00	.00	.00	.14	.18	.50	1.37	.64	.14	.09	.00	.00	3.07							3.07	
																									26.43
TOT	4.21	3.62	4.17	3.02	4.21	3.07	3.21	3.71	9.34	12.55	12.19	7.24	7.56	10.77	6.73	4.40	100.00	.00	1.19	3.62	51.21	27.35	10.44	6.18	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	Extremely Unstable
.00	.05	.00	.00	.00	.00	.00	.00	.00	.41	.37	.27	.00	.09	.00	.00	1.19	Moderately Unstable
.18	.18	.09	.00	.00	.00	.00	.00	.32	.60	.78	.60	.00	.60	.09	.18	3.62	Slightly Unstable
3.25	2.70	3.11	2.29	2.38	1.69	1.97	1.28	2.93	4.26	3.16	2.98	4.12	6.32	4.86	3.89	51.21	Neutral
.50	.64	.82	.60	1.74	1.01	.69	1.51	3.66	4.21	3.94	1.65	2.29	2.89	1.05	.14	27.35	Slightly Stable
.27	.05	.14	.14	.09	.32	.46	.55	1.69	2.24	2.06	.73	.69	.23	.64	.14	10.44	Moderately Stable
.00	.00	.00	.00	.00	.05	.09	.37	.73	.82	1.88	1.01	.46	.64	.09	.05	6.18	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	C A L M
.05	.05	.18	.09	.14	.05	.05	.05	.23	.00	.00	.09	.14	.14	.09	.09	1.42	0.8 - 3.5 mph
.23	.18	.50	.55	1.15	.60	.73	.27	.23	.50	.64	.46	.41	.55	.18	.23	7.42	3.6 - 7.5 mph
.78	1.19	1.51	.82	.96	1.01	.73	.14	.96	1.19	1.01	1.10	1.24	.27	1.42	1.19	15.53	7.6 - 12.5 mph
1.97	1.56	1.88	.87	.78	.69	.33	1.01	1.79	2.24	1.51	1.65	2.06	2.66	2.24	1.92	26.16	12.6 - 18.5 mph
1.05	.37	.09	.46	.41	.23	.13	1.33	2.75	2.79	3.53	1.88	1.92	3.80	1.37	.78	23.14	18.6 - 24.5 mph
.14	.27	.00	.23	.78	.41	.18	.92	3.39	5.82	5.50	2.06	1.79	3.34	1.42	.18	26.43	> 24.5 mph

ZCADRAD/194

STATION VENT STACK PARTICULATE SAMPLE LOST DURING SHIPMENT

Description and Cause of Event:

The July 1993 station vent stack particulate samples were shipped from LaSalle Station in a five gallon bucket via Yellow Freight Lines to TMA/NORCAL in California for analysis in the vendor's laboratory. The bucket never made it to the vendor.

The Yellow Freight representative at Marseilles ran a tracer on the shipment for us. Yellow Freight was able to trace the bucket from LaSalle Station to Marseilles, and from Marseilles to the Chicago dock. The Chicago dock paperwork shows it loaded on the truck bound for Tracy California. However, Tracy California shows it as a shortage, that is, their paperwork shows it wasn't on the truck when it got there. Yellow Freight's Marseilles Representative said since it was shipped so long ago (August 24, 1993) they didn't think it was very likely they would be able to locate it, if it was going to turn up it would have by now. They considered the bucket lost.

Although these samples are sent out for analysis every month they are usually not a rad shipment and are able to be shipped together. This month the SVS particulate could not be unconditionally released and had to be shipped as radioactive material. These samples had not been shipped in this manner for the past 18 months.

Although there is a surveillance item on the 25th of each month to verify that the vendor has received the sample the station did not realize this sample had been lost until November 1, 1993. Usually this sample (SVS particulate) is shipped with the Lake Blowdown sample and their is one surveillance for the combined sample shipment. This time the SVS particulate could not be released as unconditional and was sent as a second shipment (radioactive material shipment). On September 24, 1993 TMA/NORCAL acknowledged receipt of the shipment thinking it was the July sample not realizing they had just received the August sample. On November 1, 1993 the station Chemistry Department received the July sample analysis from TMA/NORCAL and recognized the results were missing for the SVS particulate sample. The length of time between the shipment date and the date the tracer was placed on the shipment added to the difficulty in tracing the bucket.

The significance of the lost bucket/sample is the failure of LaSalle Station to meet section 12.4.1.B.2 and Table 12.4.1-1 item D of the Station's ODCM. The consequence of the lost bucket/sample is the ODCM requires the station to include this information in the next semi-annual effluent report. The report is required to be completed 60 days after the end of the reporting period, in this case December 31, 1993 is the end of the reporting period.

Corrective Actions:

1. Station Chemistry to submit a separate surveillance (G-SURV) for each sample. Each sample will be tracked separately in the future.

2. Rad Protection will include the fact that the required ODCM monthly SVS particulate sample was missed and include details of this event in the next Semi-Annual Effluent Report.