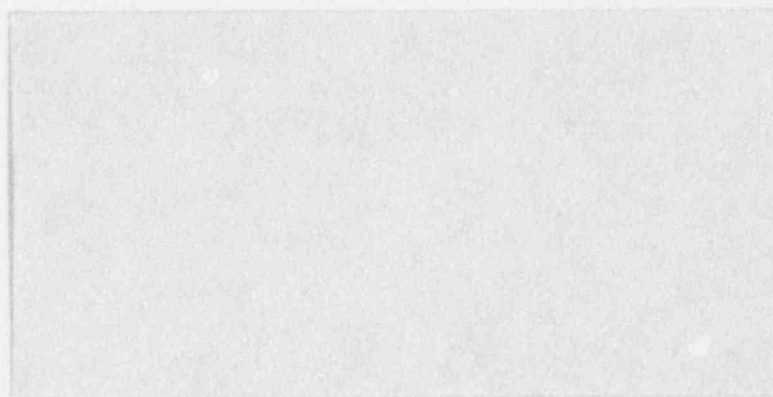




PECO
ENERGY

Limerick Generating Station



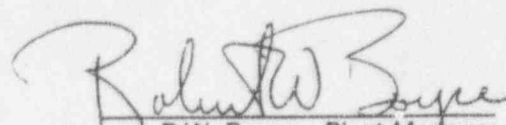
ANNUAL EFFLUENT RELEASE REPORT
NO. 20
January 1, 1994 Through December 31, 1994

PECO ENERGY

LIMERICK GENERATING STATION
UNITS NO. 1 AND 2

DOCKET NO. 50-352 (Unit 1)
DOCKET NO. 50-353 (Unit 2)

Submitted to
The United States Nuclear Regulatory Commission
Pursuant to
Facility Operating License NPF-39 (Unit 1)
and NPF-85 (Unit 2)


R.W. Boyce, Plant Manager

ANNUAL EFFLUENT RELEASE REPORT
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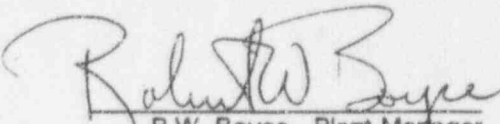

R.W. Boyce, Plant Manager

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I. INTRODUCTION

This submittal complies with the format described in Regulatory Guide 1.21, "Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants", Revision 1, June, 1974.

The following information is included as Tables to this report:

- A summary of the gaseous and liquid effluent releases for the report period. Where "0.00E+00" is used, it denotes the less than detectable level for the given isotope.
- Composite particulate air samples, counted for beta emitters (eg. Sr-89, Sr-90), are submitted to an offsite vendor laboratory for analysis. Since data for the fourth quarter particulate air samples were not available at the time this report was prepared, it will be necessary to submit an addendum in the future if fourth quarter particulate air samples results are reported >LLD.
- Since Limerick Technical Specification limits for liquid and gaseous effluent releases are stated in terms of quarterly and annual offsite doses, "percent technical specification limit" is given as 0.00E+00.
- A summary of solid waste dispositioned during the report period, to include: total activity shipped by waste type and an estimate of the error in the reported totals; the estimated composition of each type of waste by isotope; the number of shipments, mode of transportation, destination, type of container, total container volume, and solidification agent.
- There were no changes to the Radioactive Waste Treatment Systems during the report period.

II. TABLES

A. SUMMARY OF RADIOACTIVE GASEOUS EFFLUENTS

January 1, 1994 to December 31, 1994

SITE: LIMERICK
UNIT: U1 & U2
USER: MART
DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

: UNITS	: QUARTER	: QUARTER	: EST.	: TOTAL:
:	: 1	: 2	: ERROR,	: % :

A. FISSION AND ACTIVATION GASES

: 1. TOTAL RELEASE	: CI	: 0.972E+01	: 0.130E+02	: 0.453E+02 :
: 2. AVERAGE RELEASE	: UCI/SEC:	0.125E+01	: 0.166E+01 :	
: RATE FOR PERIOD	:	:	:	:
: 3. PERCENT OF TECHNICAL:	%	: 0.000E+00	: 0.000E+00 :	
: SPECIFICATION LIMIT	:	:	:	:

B. IODINES

: 1. TOTAL IODINE-131	: CI	: 0.683E-05	: 0.415E-03	: 0.453E+02 :
: 2. AVERAGE RELEASE	: UCI/SEC:	0.878E-06	: 0.527E-04 :	
: RATE FOR PERIOD	:	:	:	:
: 3. PERCENT OF TECHNICAL:	%	: 0.000E+00	: 0.000E+00 :	
: SPECIFICATION LIMIT	:	:	:	:

C. PARTICULATES

: 1. PARTICULATES WITH	: CI	: 0.231	: 0.931E-02	: 0.453E+02 :
: HALF-LIVES >8 DAYS	:	:	:	:
: 2. AVERAGE RELEASE	: UCI/SEC:	0.297E-01	: 0.118E-02 :	
: RATE FOR PERIOD	:	:	:	:
: 3. PERCENT OF TECHNICAL:	%	: 0.000E+00	: 0.000E+00 :	
: SPECIFICATION LIMIT	:	:	:	:
: 4. GROSS ALPHA	: CI	: 0.120E+01	: 0.139E+01 :	
: RADIOACTIVITY	:	:	:	:

D. TRITIUM

: 1. TOTAL RELEASE	: CI	: 0.000E+00	: 0.000E+00	: 0.453E+02 :
: 2. AVERAGE RELEASE	: UCI/SEC:	0.000E+00	: 0.000E+00 :	
: RATE FOR PERIOD	:	:	:	:
: 3. PERCENT OF TECHNICAL:	%	: 0.000E+00	: 0.000E+00 :	
: SPECIFICATION LIMIT	:	:	:	:

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.748E+01	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.748E+01	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

2. IODINES

I131	CI	0.683E-05	0.415E-03	0.000E+00	0.000E+00
I133	CI	0.248E-03	0.589E-03	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.255E-03	0.100E-02	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.231E+00	0.931E-02	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.231E+00	0.931E-02	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

FLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

2. IODINES

I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.224E+01	0.130E+02	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.224E+01	0.130E+02	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

2. IODINES

I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.977E-05	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.119E-04	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL FOR					
PERIOD	CI	0.217E-04	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER		
RELEASED		1	2	1	2		

1. FISSION GASES							

AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

TOTAL FOR							
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
(ABOVE)							

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASE1		1	2	1	2

2. IODINES

I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2	1	2

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TOTAL FOR							
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
(ABOVE)							

SITE: LIMERICK
UNIT: U1 & U2
USER: MART
DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

	UNITS	QUARTER	QUARTER	EST. TOTAL
		3	4	ERROR, %

A. FISSION AND ACTIVATION GASES

1. TOTAL RELEASE	CI	0.127E+02	0.391E+01	0.453E+02
2. AVERAGE RELEASE	UCI/SEC	0.160E+01	0.492E+00	
RATE FOR PERIOD				
3. PERCENT OF TECHNICAL	%	0.000E+00	0.000E+00	
SPECIFICATION LIMIT				

B. IODINES

1. TOTAL IODINE-131	CI	0.869E-03	0.543E-03	0.453E+02
2. AVERAGE RELEASE	UCI/SEC	0.109E-03	0.683E-04	
RATE FOR PERIOD				
3. PERCENT OF TECHNICAL	%	0.000E+00	0.000E+00	
SPECIFICATION LIMIT				

C. PARTICULATES

1. PARTICULATES WITH	CI	0.000E+00	0.000E+00	0.453E+02
HALF-LIVES >8 DAYS				
2. AVERAGE RELEASE	UCI/SEC	0.000E+00	0.000E+00	
RATE FOR PERIOD				
3. PERCENT OF TECHNICAL	%	0.000E+00	0.000E+00	
SPECIFICATION LIMIT				
4. GROSS ALPHA	CI	0.732E+01	0.437E+00	
RADIOACTIVITY				

D. TRITIUM

1. TOTAL RELEASE	CI	0.000E+00	0.000E+00	0.453E+02
2. AVERAGE RELEASE	UCI/SEC	0.000E+00	0.000E+00	
RATE FOR PERIOD				
3. PERCENT OF TECHNICAL	%	0.000E+00	0.000E+00	
SPECIFICATION LIMIT				

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER		
RELEASED		3	4	3	4		
1. FISSION GASES							
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TOTAL FOR							
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
(ABOVE)							

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

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

2. IODINES

I131	CI	0.869E-03	0.543E-03	0.000E+00	0.000E+00
I133	CI	0.113E-02	0.793E-03	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.200E-02	0.134E-02	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 North Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED	:	3	4	3	4

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR	:	:	:	:	:
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)	:	:	:	:	:

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		3	4	3	4		
1. FISSION GASES							
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TOTAL FOR							
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
(ABOVE)							

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		3	4	3	4
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 Unit 1 - South Stack

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

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		3	4	3	4
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.127E+02	0.391E+01	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.127E+02	0.391E+01	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

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

2. IODINES

I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 Unit 2 - South Stack

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

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		3	4	3	4	3	4
1. FISSION GASES							
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR							
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)							

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

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

2. IODINES

I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 Hot Maintenance Shop

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

3. PARTICULATES (CONTD)

BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

II. TABLES

B. SUMMARY OF RADIOACTIVE LIQUID EFFLUENTS

January 1, 1994 to December 31, 1994

SITE: LIMERICK
UNIT: U1 & U2
USER: MART
DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

: UNITS :	QUARTER	:	QUARTER	:	EST. TOTAL:
:	1	:	2	:	ERROR, % :

A. FISSION AND ACTIVATION PRODUCTS

: 1. TOTAL RELEASE (EXCL.:	CI	:	0.368E-01	:	0.551E-02	:	0.628E+01	:
: TRIT., GASES, ALPHA):	:	:	:	:	:	:	:	:
: 2. AVERAGE DILUTED	:UCI/ML	:	0.267E-06	:	0.353E-07	:	:	:
: CONC. DURING PERIOD :	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.000E+00	:	0.000E+00	:	:
: APPLICABLE LIMIT :	:	:	:	:	:	:	:	:

B. TRITIUM

: 1. TOTAL RELEASE	:	CI	:	0.808E+01	:	0.564E+01	:	0.628E+01 :
: 2. AVERAGE DILUTED	:UCI/ML	:	0.586E-04	:	0.361E-04	:	:	:
: CONC. DURING PERIOD :	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.000E+00	:	0.000E+00	:	:
: APPLICABLE LIMIT :	:	:	:	:	:	:	:	:

C. DISSOLVED AND ENTRAINED GASES

: 1. TOTAL RELEASE	:	CI	:	0.433E-01	:	0.148E-01	:	0.628E+01 :
: 2. AVERAGE DILUTED	:UCI/ML	:	0.314E-06	:	0.949E-07	:	:	:
: CONC. DURING PERIOD :	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.157E+00	:	0.474E-01	:	:
: APPLICABLE LIMIT :	:	:	:	:	:	:	:	:

D. GROSS ALPHA RADIOACTIVITY

: 1. TOTAL RELEASE	:	CI	:	0.000E+00	:	0.000E+00	:	0.628E+01 :
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E. VOLUME WASTE RELEASED	:LITERS	:	0.840E+07	:	0.397E+07	:	0.000E+00	:
: (PRIOR TO DILUTION)	:	:	:	:	:	:	:	:

F. VOLUME DILUTION WATER	:LITERS	:	0.300E+10	:	0.310E+10	:	0.000E+00	:
: USED DURING PERIOD :	:	:	:	:	:	:	:	:

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2
H3	CI	0.000E+00	0.000E+00	0.808E+01	0.564E+01
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NA24	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
P32	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.364E-02	0.391E-03
MN54	CI	0.000E+00	0.000E+00	0.817E-02	0.555E-03
MN56	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE55	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.189E-03	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.318E-02	0.474E-04
CO60	CI	0.000E+00	0.000E+00	0.981E-02	0.146E-02
NI63	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NI65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CU64	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.858E-02	0.266E-02
ZN69	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR83	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR84	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

LIQUID EFFLUENTS (CONTD)

RB86	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Y93	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.383E-04	0.000E+00
ZR97	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NB95	CI	0.000E+00	0.000E+00	0.409E-04	0.000E+00
MO99	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC99M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2	1	2

LIQUID EFFLUENTS (CONTD)

RU103	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
RU105	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
RU106	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
AG110M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE125M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE127M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE127	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE129M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE129	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
TE132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
I130	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
I131	CI	0.000E+00	0.000E+00	0.268E-04	0.751E-04		
I132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
I133	CI	0.000E+00	0.000E+00	0.719E-04	0.271E-04		
I134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
I135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

LIQUID EFFLUENTS (CONTD)

CS134	CI	0.000E+00	0.000E+00	0.518E-03	0.394E-04
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.231E-02	0.183E-03
CS138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA139	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LA140	CI	0.000E+00	0.000E+00	0.172E-03	0.731E-04
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.485E-04	0.196E-05
CE143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ND147	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
AS76	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W187	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/08/95 13:25

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

CONTINUOUS MODE				BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		1	2	1	2

LIQUID EFFLUENTS (CONTD)

NONE	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
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TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.812E+01	0.565E+01
(ABOVE)					

XE-133	CI	0.000E+00	0.000E+00	0.188E-01	0.845E-02
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XE-135	CI	0.000E+00	0.000E+00	0.245E-01	0.637E-02
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SITE: LIMERICK
UNIT: U1 & U2
USER: MART
DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

: UNITS :	QUARTER	:	QUARTER	:	EST. TOTAL:
:	3	:	4	:	ERROR, % :

A. FISSION AND ACTIVATION PRODUCTS

: 1. TOTAL RELEASE (EXCL.:	CI	:	0.619E-02	:	0.682E-02	:	0.628E+01	:
: TRIT., GASES, ALPHA):	:	:	:	:	:	:	:	:
: 2. AVERAGE DILUTED	:UCI/ML	:	0.206E-08	:	0.220E-08	:	:	:
: CONC. DURING PERIOD	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.000E+00	:	0.000E+00	:	:
: APPLICABLE LIMIT	:	:	:	:	:	:	:	:

B. TRITIUM

: 1. TOTAL RELEASE	. CI	:	0.661E+01	:	0.800E+01	:	0.628E+01	:
: 2. AVERAGE DILUTED	:UCI/ML	:	0.220E-05	:	0.258E-05	:	:	:
: CONC. DURING PERIOD	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.000E+00	:	0.000E+00	:	:
: APPLICABLE LIMIT	:	:	:	:	:	:	:	:

C. DISSOLVED AND ENTRAINED GASES

: 1. TOTAL RELEASE	: CI	:	0.153E-01	:	0.119E+00	:	0.628E+01	:
: 2. AVERAGE DILUTED	:UCI/ML	:	0.511E-08	:	0.384E-07	:	:	:
: CONC. DURING PERIOD	:	:	:	:	:	:	:	:
: 3. PERCENT OF	:	%	:	0.256E-02	:	0.192E-01	:	:
: APPLICABLE LIMIT	:	:	:	:	:	:	:	:

D. GROSS ALPHA RADIOACTIVITY

: 1. TOTAL RELEASE	: CI	:	0.000E+00	:	0.000E+00	:	0.628E+01	:
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E. VOLUME WASTE RELEASED	:LITERS	:	0.416E+07	:	0.590E+07	:	0.000E+00	:
: (PRIOR TO DILUTION)	:	:	:	:	:	:	:	:

F. VOLUME DILUTION WATER	:LITERS	:	0.300E+10	:	0.298E+10	:	0.000E+00	:
: USED DURING PERIOD	:	:	:	:	:	:	:	:

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		3	4	3	4
H3	CI	0.000E+00	0.000E+00	0.661E+01	0.800E+01
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NA24	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
P32	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.163E-02	0.446E-02
MN54	CI	0.000E+00	0.000E+00	0.889E-04	0.000E+00
MN56	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE55	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.498E-03	0.298E-03
NI63	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NI65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CU64	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.293E-02	0.410E-03
ZN69	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR83	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR84	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

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

LIQUID EFFLUENTS (CONTD)

RB86	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y93	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR97	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NB95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MO99	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC99M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

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

LIQUID EFFLUENTS (CONTD)

RU103	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU105	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU106	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
AG110M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE125M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE129M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE129	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I130	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I131	CI	0.000E+00	0.000E+00	0.170E-04	0.444E-03
I132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.384E-03
I134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

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

LIQUID EFFLUENTS (CONTD)

CS134	CI	0.000E+00	0.000E+00	0.158E-03	0.327E-04
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.861E-03	0.168E-03
CS138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA139	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LA140	CI	0.000E+00	0.000E+00	0.000E+00	0.600E-03
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.207E-04
CE143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ND147	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
AS76	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W187	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 13:17

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 Liquid Rad Waste Discharge to Schuylkill River

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

LIQUID EFFLUENTS (CONTD)

NONE	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
------	----	-----------	-----------	-----------	-----------

TOTAL FOR					
PERIOD	CI	0.000E+00	0.000E+00	0.661E+01	0.801E+01
(ABOVE)					

XE-133	CI	0.000E+00	0.000E+00	0.118E-01	0.738E-01
XE-135	CI	0.000E+00	0.000E+00	0.356E-02	0.452E-01

II. TABLES

C. SOLID WASTE DISPOSITION REPORT

January 1, 1994 to December 31, 1994

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL) 1/1/94 - 12/31/94

1.	TYPE OF WASTE	UNIT	12- MONTH PERIOD	EST. ERROR %
a.	Spent resins, filter sludges, evaporator bottoms, etc.	m(3) Ci	1.93E+2 7.26E+2	25%
b.	Dry compressible waste, contaminated equip., etc.	m(3) Ci	8.83E+1 3.40E+0	25%
c.	Irradiated components, control rods, etc.	m(3) Ci	1.08E-1 1.39E+2	25%
d.	Other (Describe)	NONE		

Activity is estimated

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

CATEGORY A - SPENT RESINS,
FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

CATEGORY B - DRY
COMPRESSIBLE
WASTE, CONTAMINA-
TED EQUIPMENT, ETC

ISOTOPE	WASTE CLASS B CURIES	PERCENT ABUNDANCE	WASTE CLASS A CURIES	PERCENT ABUNDANCE	WASTE CLASS A CURIES	PERCENT ABUNDANCE
Cu-51	2.23E+2	37.56	8.37E0	6.40	5.88E-1	17.28
Mn-54	1.70E+1	2.88	1.52E+1	11.69	3.0E-1	8.92
Fe-55	0	0	3.37E0	2.59	2.2E-1	6.98
Co-58	2.33E+1	3.93	2.74E0	2.09	1.22E-1	3.69
Co-60	7.84E+1	13.20	1.57E+1	11.99	1.02E-1	30.37
Ni-63	4.50E-1	0	3.00E0	2.29	2.8E-2	0.01
Zn-65	1.89E+2	31.83	2.24E+1	17.10	9.64E-1	29.08
H-3	3.0E-3	0	1.67E-1	0	5.1E-2	1.5
C-14	8.0E-3	0	2.35E-1	0	0	0
Tc-99	1.0E-3	0	0	0	0	0
Cs-134	1.54E+1	2.59	4.89E0	3.78	6.0E-3	0
Cs-137	2.20E+1	3.70	1.09E+1	8.32	6.6E-2	0
I-131	0	0	2.46E+1	18.78	0	0
Pu-238	2.0E-3	0	0	0	0	0
Pu-239/40	2.0E-3	0	0	0	0	0
Cm-242	1.90E-2	0	0	0	0	0
Sr-90	8.08E0	1.38	1.53E-1	0	5.0E-3	0
Sr-89	1.74E+1	2.93	1.86E0	1.42	0	0
Pu-241	1.27E-1	0	1.00E-3	0	0	0
Cm-243/44	1.0E-3	0	0	0	0	0
Fe-59	0	0	8.61E-1	0.01	0	0
Ba/La-140	0	0	1.59E+1	12.19	0	0
Ce-144	0	0	0	0	1.3E-2	0
Sb-125	1.0E-1	0	0	0	2.0E-2	0.01
Ce-141	0	0	1.08E0	0.01	0	0
TOTALS	5.94E+2	100	1.31E+2	100	3.4E0	100

ACTIVITY IS ESTIMATED.

PAGE 3 OF 5

CATEGORY C - IRRADIATED COMPONENTS,
CONTROL RODS, ETC.

ISOTOPE	WASTE CLASS B CURIES	PERCENT ABUNDANCE
Cr-51	2.12E+1	15.23
Mn-54	5.57E0	4.00
Fe-55	7.0E+1	50.28
Co-60	4.03E+1	28.95
Ni-59	1.2E-2	0
Ni-63	2.14E0	1.54
C-14	3.0E-3	0
TOTALS	1.39E-2	100

ACTIVITY IS ESTIMATED

CATEGORY A - 2 SHIPMENTS >TYPE A LSA
CATEGORY A - 36 SHIPMENTS TYPE 1 LSA
CATEGORY B - 46 SHIPMENTS TYPE A LSA
CATEGORY C - 1 SHIPMENT TYPE B
CATEGORY C - NO SHIPMENTS MADE

PAGE 4 OF 5

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MADE	MODE OF TRANSPORTATION	DESTINATION
15	TRUCK	LIMERICK TO BARNWELL
57	TRUCK	SEG TO BARNWELL

COMMENTS: 36 SHIPMENTS MADE FROM LIMERICK TO SEG FOR PROCESSING.
NO SOLIDIFICATIONS WERE PERFORMED.
THERE WERE NO CHANGES TO THE PCP DURING THIS PERIOD.

PAGE 5 OF 5

B. IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

II. TABLES

D. OFFSITE RADIATION DOSE ASSESSMENT

January 1, 1994 to December 31, 1994

One (1) page is included in Table D.

SITE: LIMERICK
 UNIT: U1 & U2
 USER: MART
 DATE: 02/13/95 09:00

SUMMARY OF MAXIMUM INDIVIDUAL DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/94 0:00 TO 12/31/94 23:00
 GASEOUS: FROM 01/01/94 0:00 TO 12/31/94 23:00
 AIR: FROM 01/01/94 0:00 TO 12/31/94 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (TOWARD)	% OF APPLICABLE LIMIT	LIMIT (MR)
LIQUID	TOTAL BODY	5.54E-02	ADULT	RECEPTOR 1	9.2E-01	6.0
LIQUID	LIVER	9.28E-02	TEEN	RECEPTOR 1	4.6E-01	20.0
NOBLE GAS	AIR DOSE (GAMMA-MRAD)	6.45E-02		762. ESE	3.2E-01	20.0
NOBLE GAS	AIR DOSE (BETA-MRAD)	9.91E-02		762. ESE	2.5E-01	40.0
NOBLE GAS	T.BODY (GAMMA)	1.84E-03	ALL	965. ESE	9.2E-03	20.0
NOBLE GAS	SKIN (BETA)	4.84E-03	ALL	965. ESE	1.2E-02	40.0
IODINE+ PARTICULATES	LUNG	9.08E-02	TEEN	965. ENE	3.0E-01	30.0

SUMMARY OF POPULATION DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/94 0:00 TO 12/31/94 23:00
 GASEOUS: FROM 01/01/94 0:00 TO 12/31/94 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED POPULATION DOSE (PERSON-REM)
LIQUID	TOTAL BODY	1.7E+00
LIQUID	THYROID	1.9E+00
GASEOUS	TOTAL BODY	1.0E-01
GASEOUS	THYROID	1.7E-01

II. TABLES

E. RADIATION DOSES TO MEMBERS OF THE PUBLIC DUE TO THEIR
ACTIVITIES INSIDE SITE BOUNDARY

January 1, 1994 to December 31, 1994

Two (2) pages are included in Table E.

RADIATION DOSES TO MEMBERS OF THE PUBLIC DUE TO THEIR ACTIVITIES
INSIDE SITE BOUNDARY

Per ODCM Control 3.6, the Semi-Annual Effluent Release Report shall include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the Site Boundary during the report period. Technical Specifications/ODCM Controls state that Members of the Public shall include all persons not occupationally associated with the plant. This category does not include employees of the utility or contractors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational education, or other purposes not associated with the plant. The Limerick Information Center on Longview Road near the rear exit of the plant, Frick's Lock Environmental Laboratory on the west shore of the river and the railroad tracks which run above the east shore of the Schuylkill River are all areas within the site boundary where radiation dose of this type could occur. The radiation doses to Members of the Public have been estimated using methodology stated in the ODCM. The maximum gaseous dose to members of the public at these locations is based on the following assumptions:

1. Real time meteorology and actual effluent releases.
2. Beta air dose attributed to noble gas releases.
3. Highest exposed sector of the railroad tracks (W), and the sectors enclosing Frick's Lock and the Information Center available for occupancy.
4. The maximum expected occupancy factor is a working year (or 25%) in any of the locations.
5. Distance to the railroad tracks, which pass through the Site Boundary in the W sector, is approximately 225 meters.
6. Distance to the Limerick Information Center is approximately 884 meters in the ESE sector.
7. Distance to Frick's Lock Environmental Laboratory is approximately 450 meters in the WSW sector.

A summary of gaseous radiation doses to members of the public at these locations is included in this Attachment.

RADIATION DOSE TO MEMBERS OF PUBLIC WITHIN LIMERICK GENERATING
STATION SITE BOUNDARY FOR AFFECTED SECTORS AND DISTANCES

LOCATION	SECTOR	APPROXIMATE DISTANCE (METERS)	GAMMA AIR DOSE, MRAD	BETA AIR DOSE, MRAD	IODINE/PARTICULATE ORGAN DOSE, MREM	H-3/BETA-EMITTER INGESTION DOSE, MREM
FRICK'S LOCK	WSW	450	4.10E-8	5.25E-8	6.37E-2	0.00E0
INFO CENTER	ESE	884	5.21E-8	6.68E-8	1.18E-1	0.00E0
R.R.TRACKS	W	225	1.01E-7	1.29E-7	1.19E-1	0.00E0

III. ATTACHMENTS

A. SUPPLEMENTAL INFORMATION

Facility: Limerick Generating Station - Units 1 and 2
License : NPF-39 (Unit 1) and NPF-85 (Unit 2)

1. Regulatory Limits (Technical Specification Limits)

A. Noble Gases:

- | | |
|-------------------------------------|-----------------------------|
| 1. ≤ 500 mRems/yr - total body | - "instantaneous" limits |
| ≤ 3000 mRems/yr - skin | per ODCM Control 3.3.2 |
| 2. ≤ 10 mRads - air gamma | - quarterly air dose limits |
| ≤ 20 mRads - air beta | per ODCM Control 3.3.3 |
| 3. ≤ 20 mRads - air gamma | - yearly air dose limits |
| ≤ 40 mRads - air beta | per ODCM Control 3.3.3 |

B. Iodines, tritium, particulates with half life > 8 days:

- | | |
|--|--|
| 1. ≤ 1500 mRems/yr - any organ
(inhalation path) | - "instantaneous" limits
per ODCM Control 3.3.2 |
| 2. ≤ 15 mRems - any organ | - quarterly dose limits
per ODCM Control 3.3.4 |
| 3. ≤ 30 mRems - any organ | - yearly dose limits
per ODCM Control 3.3.4 |

C. Liquid Effluents:

- | | |
|--|--|
| 1. Concentration \leq 10CFR20
Appendix B, Table II, Col.2 | - "instantaneous" limits
per ODCM Control 3.2.2 |
| 2. ≤ 3 mRems - total body
≤ 10 mRems - any organ | - quarterly dose limits
per ODCM Control 3.2.3 |
| 3. ≤ 6 mRems - total body
≤ 20 mRems - any organ | - yearly dose limits per
ODCM Control 3.2.3 |

2. Maximum Permissible Concentrations

Per LGS ODCM Control 3.2.2, MPCs are not used to calculate permissible release rates and concentrations for gaseous releases. The MPCs specified in 10CFR20, Appendix B, Table II, Column 2 for identified nuclides are used to calculate permissible release rates and concentrations for liquid releases.

3. Average Energy

Based on gaseous effluent releases for the report period, average beta energy is 0.303 MeV and average gamma energy is 0.245 MeV.

4. Measurements and Approximations of Total Radioactivity

A. Fission and Activation Gases

The method used is the Canberra Series 90 Counting System;
GS - Gas Marinelli.

B. Iodine:

The method used is the Canberra Series 90 Counting System;
CH - Charcoal Cartridge.

C. Particulate:

The method used is the Canberra Series 90 Counting System;
PT - Air Particulate Sample, 47 mm filter.

D. Liquid Effluents:

The method used is the Canberra Series 90 Counting System
and the Radwaste Liquid Discharge Pre-Release Method with
a 1.0 liter Marinelli.

5. Batch Releases January 1994 - June 1994

A. <u>Liquid</u>	<u>Q1</u>	<u>Q2</u>
# of Batch Releases:	141	68
Total time period for batch releases, *	9,284	4,377
Maximum time period for a batch release *	89	72
Average time period for batch release, *	65.8	64.3
Minimum time period for a batch release, *	3	42
Average stream flow (Schuylkill River) during periods of release of effluents into a flowing stream, gpm.	1.04E6	1.17E6
B. <u>Gaseous</u>	<u>Q1</u>	<u>Q2</u>
# of Batch Releases:	0	0
Total time period for batch releases, *	0	0
Maximum time period for a batch release, *	0	0
Average time period for batch release, *	0	0
Minimum time period for a batch release, *	0	0
* = Minutes		

6. Batch Releases July 1994 - December 1994

A. <u>Liquid</u>	<u>Q3</u>	<u>Q4</u>
# of Batch Releases:	71	97
Total time period for batch releases, *	4,670	6,808
Maximum time period for a batch release *	93	96
Average time period for batch release, *	65.6	70
Minimum time period for a batch release, *	47	50
Average stream flow (Schuylkill River) during periods of release of effluents into a flowing stream, gpm.	5.96E5	7.35E5

B. <u>Gaseous</u>	<u>Q3</u>	<u>Q4</u>
# of Batch Releases:	0	0
Total time period for batch releases, *	0	0
Maximum time period for a batch release, *	0	0
Average time period for batch release, *	0	0
Minimum time period for a batch release, *	0	0

* = Minutes

7. Abnormal Releases

A. Liquid

None

B. Gaseous

None

8. Description of LGS Effluent Release Points

Release Point 1 = North Stack, Common

Release Point 2 = South Stack, Unit 1

Release Point 3 = South Stack, Unit 2

Release Point 4 = Hot Maintenance Shop

Liquid Release Point = LGS Liquid Radwaste Discharge

9. Description of LGS Liquid Dose Receptors

Receptor 1 = LGS Liquid Radwaste Discharge Point

Receptor 2 = Citizens Home Water Company

Receptor 3 = Phoenixville Water Company

Receptor 4 = Philadelphia Suburban Water Company

Receptor 5 = City of Philadelphia Crew Course

III. ATTACHMENTS (continued)

B. RADIATION MONITORS OUT-OF-SERVICE CONDITION

On 02/27/94 at 2300, the Unit 1 Service Water Radiation Monitor was declared inoperable based on the monitor being in a Low Flow Alarm condition. With a liquid effluent monitor inoperable, ODCM Control 3.2 Action Statement 101 was entered. This action states in part:

With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table I3.2-1. The ACTION from Table I3.2-1 states (in part) to take grab samples and analyze for radioactivity by gamma isotopic analysis at least once per 8 hours.

Pursuant to the ACTION Statement, sampling was initiated at 0040 on 02/28/94. The Service Water Radiation Monitor Low Flow condition was rectified by replacing the plunger assembly inside flow switch (FISHL-026-110). The Monitor was declared operable on 4/28/94 at 1350. Service Water sampling frequency was maintained during the entire inoperable status time frame (02/27/94 2300 - 04/28/94 1350).

III. ATTACHMENTS (continued)

C. REVISION TO PREVIOUS SUBMITTAL

A mathematical error was identified in Semi-Annual Effluent Release Report 16 (January 1, 1992 through June 30, 1992). The error occurred in the compilation of the number of Gaseous Effluent Batch Releases and the total time period (minutes) for Gaseous Effluent Batch Releases. The Information reported was conservative. Semi-Annual Effluent Release Report 16 revisions are given below.

B. <u>Gaseous</u>	<u>Q1</u>	<u>Q2</u>
# of Batch Releases:	17	3
Total time period for batch releases, *	16,505	4.254
Maximum time period for a batch release, *	2.760	2.637
Average time period for batch release, *	970.9	1,418
Minimum time period for a batch release, *	55	337
* = Minutes		

III. ATTACHMENTS (continued)

D. GASEOUS EFFLUENT SAMPLE AND ANALYSIS FREQUENCY NON-COMPLIANCE

Offsite Dose Calculation Manual (ODCM) Table I3.3-3 describes the Radioactive Gaseous Waste Sampling and Analysis Program for the Limerick Generating Station. The required sampling and analysis frequency for the Hot Maintenance Shop Gaseous release point is seven (7) days. On September 13, 1994, the Hot Maintenance Shop Gaseous release point was not sampled and analyzed per ODCM Table I3.3-3. The Hot Maintenance Shop Gaseous release point was sampled and analyzed on September 20, 1994. The September 20, 1994 sample was for a two week time frame (September 6, 1994 through September 20, 1994). No radioactivity was identified on the sample taken on September 20, 1994.