

SEMI-ANNUAL EFFLUENT RELEASE REPORT
NO. 19
July 1, 1993 THROUGH December 31, 1993

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)

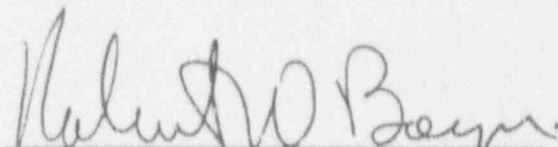

R.W. Boyce, Plant Manager

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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 Offsite Dose Calculation Manual (ODCM) or Radioactive Waste Treatment Systems during the report period.

II. TABLES

A. SUMMARY OF RADIOACTIVE GASEOUS EFFLUENTS

July 1, 1993 to December 31, 1993

UNIT: U1
USER: MART
DATE: 02/22/94 09:25

EFFLUENT AND WASTE DISPOSAL REPORT

DASEDUS EFFLUENTS -- SUMMATION OF ALL RELEASES

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

A. FISSION AND ACTIVATION GASES

: 1. TOTAL RELEASE : CI : 0.571E+02 : 0.401E+02 : 0.453E+02 :

: 2. AVERAGE RELEASE :UCI/SEC: 0.719E+01 : 0.505E+01 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICAT. ON LIMIT : : : : :

B. IODINES

: 1. TOTAL IODINE-131 : CI : 0.330E-03 : 0.107E-03 : 0.453E+02 :

: 2. AVERAGE RELEASE :UCI/SEC: 0.415E-04 : 0.135E-04 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

C. PARTICULATES

: 1. PARTICULATES WITH : CI : 0.112E-01 : 0.591E-02 : 0.453E+02 :
: HALF-LIVES >8 DAYS : : : : :

: 2. AVERAGE RELEASE :UCI/SEC: 0.141E-02 : 0.743E-03 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

: 4. GROSS ALPHA : CI : 0.138E+01 : 0.773E+00 : :
: RADIOACTIVITY : : : : :

D. TRITIUM

: 1. TOTAL RELEASE : CI : 0.000E+00 : 0.839E+00 : 0.453E+02 :

: 2. AVERAGE RELEASE :UCI/SEC: 0.000E+00 : 0.106E+00 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:26

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH 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	0.229E+02	0.228E+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	0.229E+02	0.228E+02	0.000E+00	0.000E+00		
(ABOVE)							

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:26

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	0.327E-03	0.107E-03	0.000E+00	0.000E+00
I133	CI	0.960E-02	0.413E-02	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.993E-02	0.424E-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
XOPCOM, 22-FEB-1994 09:27:09.44, message from user SYSTEM					
02/22/94 09:27:05 DMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1					
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.109E-01	0.553E-02	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.314E-03	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
 USER: MART
 DATE: 02/24/94 09:27

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH STACK

CONTINUOUS MODE				BATCH MODE			
NUCLIDES	UNITS	QUARTER	QUARTER	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	0.109E-01	0.584E-02	0.000E+00	0.000E+00
(ABOVE)					

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: HART
 DATE: 02/22/94 09:27

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

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					
XOPCOM, 22-FEB-1994 09:28:09.42, message from user SYSTEM					
02/22/94 09:28:05 DMUPDT: COMMUNICATIONS IS FAULTY DN RM-11 NUMBER 1					
PERIOD	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

ENTER [C] TO ERASE SCREEN AND CONTINUE ; C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:28

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 (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

3. PARTICULATES

C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.232E-03	0.650E-04	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

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:28

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	0.232E-03	0.650E-04	0.000E+00	0.000E+00
(ABOVE)					

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:29

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 UNIT 2 - SOUTH STACK

CONTINUOUS MODE BATCH MODE
 %OPCOM, 22-FEB-1994 09:29:09.43, message from user SYSTEM
 02/22/94 09:29:05 DMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

NUCLIDES	UNITS	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
RELEASED					

1. FISSION GASES

AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB3M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB5M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB5	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB7	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB8	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB9	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	0.138E+01	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	0.329E+02	0.173E+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	0.343E+02	0.173E+02	0.000E+00	0.000E+00
(ABOVE)					

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:29

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 UNIT 2 - SOUTH STACK

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES	UNITS	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
2. IODINES					
I131	CI	0.331E-05	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.168E-03	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.171E-03	0.000E+00	0.000E+00	0.000E+00

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

ENTER [C] TO ERASE SCREEN AND CONTINUE :

ZDFCDM, 22-FEB-1994 09:30:09.48, message from user SYSTEM

FOR MORE INFORMATION CONTACT COMMUNICATIONS TO FACILITY ON EMERGENCY NUMBER 1

SITE: LIMERICK
UNIT: U1
USER: MART
DATE: 02/22/94 09:30

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)					

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:30

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
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB3M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KRB5M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR95	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)					

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:31

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

XOPCOM, 22-FEB-1994 09:31:09.45, message from user SYSTEM
 02/22/94 09:31:05 DMUPIT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

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 (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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

ENTER 'D' TO ERASE SCREEN AND CONTINUE : D

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:31

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 (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

II. TABLES

B. SUMMARY OF RADIOACTIVE LIQUID EFFLUENTS

July 1, 1993 to December 31, 1993

UNIT: U1
USER: MART
DATE: 02/22/94 09:31

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 : 0.308E-01 : 0.644E-01 : 0.628E+01 :
: TRIT., GASES, ALPHA): : : : : :

: 2. AVERAGE DILUTED :UCI/ML : 0.223E-06 : 0.412E-06 : :
: CONC. DURING PERIOD : : : : :

: 3. PERCENT OF : % : 0.000E+00 : 0.000E+00 : :
: APPLICABLE LIMIT : : : : :

B. TRITIUM

: 1. TOTAL RELEASE : CI : 0.397E+01 : 0.937E+01 : 0.628E+01 :

: 2. AVERAGE DILUTED :UCI/ML : 0.288E-04 : 0.600E-04 : :
: CONC. DURING PERIOD : : : : :

ZOPCOM, 22-FEB-1994 09:32:09.45, message from user SYSTEM
02/22/94 09:32:05 OMUPDT: COMMUNICATIONS IS FAULTY DN RM-11 NUMBER 1
: 3. PERCENT OF : % : 0.000E+00 : 0.000E+00 : :
: APPLICABLE LIMIT : : : : :

C. DISSOLVED AND ENTRAINED GASES

: 1. TOTAL RELEASE : CI : 0.201E-01 : 0.265E-01 : 0.628E+01 :

: 2. AVERAGE DILUTED :UCI/ML : 0.145E-06 : 0.170E-06 : :
: CONC. DURING PERIOD : : : : :

: 3. PERCENT OF : % : 0.727E-01 : 0.849E-01 : :
: APPLICABLE LIMIT : : : : :

D. GROSS ALPHA RADIOACTIVITY

: 1. TOTAL RELEASE : CI : 0.000E+00 : 0.000E+00 : 0.628E+01 :

E. VOLUME WASTE RELEASED :LITERS : 0.152E+07 : 0.171E+07 : 0.000E+00 :
: (PRIOR TO DILUTION) : : : : :

F. VOLUME DILUTION WATER :LITERS : 0.138E+09 : 0.156E+09 : 0.000E+00 :
: USED DURING PERIOD : : : : :

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:32

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	0.397E+01	0.937E+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	0.192E-01	0.328E-01
MN54	CI	0.000E+00	0.000E+00	0.856E-04	0.518E-04
MN56	CI	0.000E+00	0.000E+00	0.000E+00	-0.000E+00
FE55	CI	0.000E+00	0.000E+00	0.207E-02	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	0.206E-03	0.479E-03
CO60	CI	0.000E+00	0.000E+00	0.634E-03	0.124E-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	0.520E-02	0.109E-01
ZN69	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRB3	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRB4	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRB5	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:33

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)

R886	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
R888	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
R889	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.154E-01
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.162E-03
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	0.481E-05	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
MD99	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

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:33

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS FOR RELEASE POINT: 1 LIQUID RAD WASTE DISCHARGE TO SCHUYLKILL RIVER

CONTINUOUS MODE

PATCH MODE

NUCLIDES	UNITS	QUARTER	QUARTER	QUARTER	QUARTER
RELEASED		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	0.000E+00	0.000E+00
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	0.806E-05
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

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:34

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	0.157E-04	0.817E-05
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.865E-04	0.274E-04
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	0.234E-04	0.345E-04
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	0.306E-02	0.277E-02
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.151E-03	0.556E-03
CE143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.245E-04	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

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 09:34

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	0.400E+01	0.944E+01
(ABOVE)					

XE-133	CI	0.000E+00	0.000E+00	0.109E-01	0.135E-01
--------	----	-----------	-----------	-----------	-----------

XE-135	CI	0.000E+00	0.000E+00	0.918E-02	0.130E-01
--------	----	-----------	-----------	-----------	-----------

EFFLUENT RELEASE SUMMARY OPTIONS

- 1 -- TERMINATE
- 2 -- ACCUMULATE GASEOUS RELEASES
- 3 -- ACCUMULATE LIQUID RELEASES
- 4 -- PRINT WASTE SUMMARY REPORT

ENTER OPTION SELECTION [1-4] :

ROUTINE RELEASE CALCULATION OPTIONS (LEVEL 2)

- 1 -- RETURN TO TOP LEVEL
- 2 -- CALCULATE X/Q OR DOSE
- 3 -- CALCULATE DOSES FOR GASEOUS PATHWAYS
- 4 -- CALCULATE HYPOTHETICALLY HIGHEST EXPOSED RECEPTOR
- 5 -- CALCULATE DOSES FOR LIQUID PATHWAYS
- 6 -- PREPARE PATHWAYS DOSE SUMMARY FOR APPENDIX I REPORTS
- 7 -- PREPARE GASEOUS AND LIQUID EFFLUENT SUMMARY REPORT
- 8 -- PREPARE SOLID WASTE REPORT

ENTER OPTION SELECTION [1-8] :

II. TABLES

C. SOLID WASTE DISPOSITION REPORT

July 1, 1993 to December 31, 1993

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL) 7/1/93 - 12/31/93

1. TYPE OF WASTE	UNIT	6-MONTH PERIOD	EST. TOTAL ERROR %
a. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	m(3) Ci	1.19E+02 3.40E+02	25%
b. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIP., ETC.	m(3) Ci	1.86E+01 2.22E+00	25%
c. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	m(3) Ci	0 0	
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		WASTE CLASS A		WASTE CLASS A	
	CURIES	PERCENT ABUNDANCE	CURIES	PERCENT ABUNDANCE	CURIES	PERCENT ABUNDANCE
Cr-51	1.14E+02	38.37	1.80E+00	4.21	3.59E-01	16.15
Mn-54	8.27E+00	2.78	3.75E+00	8.79	2.07E-01	9.32
Fe-55	1.97E-02	0.01	2.27E+00	5.33	3.04E-01	13.72
Co-58	1.16E+01	3.90	8.20E-01	1.92	6.87E-02	3.09
Co-60	3.86E+01	12.98	5.48E+00	12.85	5.92E-01	26.65
Ni-63	2.17E-01	0.07	1.40E+00	3.28	4.76E-02	2.14
Zn-65	9.32E+01	31.38	9.40E+00	22.03	4.92E-01	22.15
H-3	1.43E-02	0.00	6.90E-02	0.16	2.34E-04	0.01
C-14	3.97E-03	0.00	2.43E-01	0.57	1.17E-03	0.05
Tc-99	9.39E-04	0.00	0.00E+00	0.00	0.00E+00	0.00
I-129	1.73E-04	0.00	0.00E+00	0.00	0.00E+00	0.00
Cs-134	7.56E+00	2.54	6.12E+00	14.34	2.50E-02	1.13
Cs-137	1.09E+01	3.66	1.05E+01	24.61	8.80E-02	3.96
I-131	0.00E+00	0.00	6.07E-01	1.42	4.67E-03	0.21
Pu-238	1.17E-03	0.00	0.00E+00	0.00	0.00E+00	0.00
Pu-239/409	8.81E-04	0.00	4.96E-03	0.01	2.61E-05	0.00
Cm-242	9.26E-03	0.00	1.55E-05	0.00	0.00E+00	0.00
Sr-90	3.97E+00	1.34	5.33E-03	0.01	0.00E+00	0.00
Sr-89	8.74E+00	2.94	6.00E-03	0.01	0.00E+00	0.00
Pu-241	6.26E-02	0.02	0.00E+00	0.00	0.00E+00	0.00
Cm-243/442	5.53E-04	0.00	0.00E+00	0.00	0.00E+00	0.00
BA-140	0.00E+00	0.00	9.53E-02	0.22	1.04E-03	0.05
LA-140	0.00E+00	0.00	9.53E-02	0.22	1.04E-03	0.05
Ce-144	0.00E+00	0.00	1.61E-05	0.00	0.00E+00	0.00
Sb-125	0.00E+00	0.00	0.00E+00	0.00	2.90E-02	1.31
TOTALS	2.97E+02	100.00	4.27E+01	100.00	2.22E+00	100.00

ACTIVITY IS ESTIMATED.

CATEGORY A - 1 SHIPMENT > TYPE A LSA
 CATEGORY A - 141 SHIPMENTS TYPE A LSA
 CATEGORY B - 44 SHIPMENTS TYPE A LSA
 CATEGORIES A AND B BLENDED - 1 SHIPMENT TYPE A LSA

CATEGORIES C AND D - NO SHIPMENTS MADE

3. SOLID WASTE DISPOSITION

NUMBER OF OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
4	TRUCK	LIMERICK TO BARNWELL
12	TRUCK	QUADREX TO BARNWELL
171	TRUCK	SEG TO BARNWELL

COMMENTS: 24 SHIPMENTS MADE FROM LIMERICK TO SEG FOR PROCESSING.
2 SHIPMENTS MADE TO QUADREX FOR PROCESSING.
NO SOLIDIFICATIONS WERE PERFORMED.
THERE WERE NO CHANGES TO THE PCP DURING THIS PERIOD.

PAGE 4 OF 4

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, 1993 to December 31, 1993

One (1) page is included in Table D.

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 02/22/94 10:35

SUMMARY OF MAXIMUM INDIVIDUAL DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/93 0:00 TO 12/31/93 23:00
 GASEOUS: FROM 01/01/93 0:00 TO 12/31/93 23:00
 AIR: FROM 01/01/93 0:00 TO 12/31/93 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (TOWARD)	% OF APPLICABLE LIMIT	LIMIT (MR)
LIQUID	TOTAL BODY	7.47E-02	ADULT	RECEPTOR 1	1.2E+00	6.0
LIQUID	LIVER	1.24E-01	TEEN	RECEPTOR 1	6.2E-01	20.0
NOBLE GAS	AIR DOSE (GAMMA-MRAD)	6.07E-02		762. ESE	3.0E-01	20.0
NOBLE GAS	AIR DOSE (BETA-MRAD)	9.43E-02		762. ESE	2.4E-01	40.0
NOBLE GAS	T.BODY (GAMMA)	7.61E-03	ALL	965. ESE	3.8E-02	20.0
NOBLE GAS	SKIN (BETA)	2.01E-02	ALL	965. ESE	5.0E-02	40.0
IODINE+ PARTICULATES	THYROID	1.71E-01	INFANT	965. ESE	5.7E-01	30.0

SUMMARY OF POPULATION DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/93 0:00 TO 12/31/93 23:00
 GASEOUS: FROM 01/01/93 0:00 TO 12/31/93 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED POPULATION DOSE (PERSON-REM)
LIQUID	TOTAL BODY	1.8E+00
LIQUID	THYROID	1.2E+00
GASEOUS	TOTAL BODY	4.2E-01
GASEOUS	THYROID	2.2E+00

II. TABLES

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

January 1, 1993 to December 31, 1993

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	6.02E-8	7.68E-8	2.10E-1	0.00E0
INFO. CENTER	ESE	884	9.34E-8	1.19E-7	4.38E-1	0.00E0
R.R. TRACKS	W	225	2.79E-7	3.56E-7	9.01E-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 Tech Spec 3.11.2.1
and ODCM Control 3.3.2
2. ≤ 10 mRads - air gamma - quarterly air dose limits
 ≤ 20 mRads - air beta per Tech Spec 3.11.2.2
and ODCM Control 3.3.3
3. ≤ 20 mRads - air gamma - yearly air dose limits
 ≤ 40 mRads - air beta per Tech Spec. 3.11.2.2
and ODCM Control 3.3.3

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

1. ≤ 1500 mRems/yr - any organ - "instantaneous" limits
(inhalation path) per Tech Spec. 3.11.2.1
and ODCM Control 3.3.2
2. ≤ 15 mRems - any organ - quarterly dose limits
per Tech Spec. 3.11.2.3
and ODCM Control 3.3.4
3. ≤ 30 mRems - any organ - yearly dose limits
per Tech. Spec. 3.11.2.3
and ODCM Control 3.3.4

C. Liquid Effluents:

1. Concentration \leq 10CFR20 - "instantaneous" limits
Appendix B, Table II, Col.2 per Tech. Spec. 3.11.1.1
and ODCM Control 3.2.2
2. ≤ 3 mRems - total body - quarterly dose limits per
 ≤ 10 mRems - any organ Tech. Spec. 3.11.1.2
and ODCM Control 3.2.3
3. ≤ 6 mRems - total body - yearly dose limits per
 ≤ 20 mRems - any organ Tech. Spec. 3.11.1.2
and 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.

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 3.5 liter Marinelli.

5. Batch Releases

A. Liquid

	<u>Q3</u>	<u>Q4</u>
# of Batch Releases:	73	130
Total time period for batch releases, *	4,654	8486
Maximum time period for a batch release *	120	85
Average time period for batch release, *	63.8	65.3
Minimum time period for a batch release, *	4	50
Average stream flow (Schuylkill River) during periods of release of effluents into a flowing stream, gpm.	3.44E5	1.22E6

B. Gaseous

# 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

6. Abnormal Releases

A. Liquid

None

B. Gaseous

None

7. 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

8. 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 10/14/93 at 2050, the Unit 2 Service Water Rad. 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 2150. The Service Water Rad. Monitor Low Flow condition was rectified by replacing 100 feet of sample piping. The Unit 2 Service Water Rad. Monitor was declared operable on 1/26/94 at 1425. Service Water sampling frequency was maintained during the entire inoperable status time frame (10/14/93 2050 - 1/26/94 1425).

III. ATTACHMENTS (continued)

C. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SAMPLING LOCATION CHANGE.

Milk farm 25B1 (1.3 miles, WSW sector) went out of business in March 1993. It is one of the three(3) semimonthly milk farms and was replaced to comply with ODCM (Rev. 11) Table I3.4-1 Section 4.a. The milk farm with the next highest dose potential is Farm 19B1 (1.9 miles, SSW). Milk Farm 19B1 has replaced Farm 25B1. All required sampling occurred during the transition.

III. ATTACHMENTS (continued)

D. REVISIONS TO PREVIOUS SUBMITTALS

A problem has been identified in the values reported in the Semiannual Effluent Release Report No. 18 (January 1, 1993 through June 30, 1993) for the total amount of fission gases released from the Unit 1 and Unit 2 South Stack and the North Stack release points. The computed values reported were conservatively high. The corrected values are attached as pages D2 through D15.

A typographical error was identified in Semiannual Effluent Release Report No. 16 (January 1, 1992 through June 30, 1992). The error was in Section II. part C. SOLID WASTE DISPOSITION REPORT. The Solid Waste and Irradiated Fuel Shipment time period was reported as 7/1/91 through 12/31/91, but the shipment activity was correctly given for the period 1/1/92 through 6/30/92. The corrected page is attached as page D16.

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:39

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	0.646E-02	0.449E-02	0.000E+00	0.000E+00
I133	CI	0.298E-02	0.338E-02	0.000E+00	0.000E+00
TOTAL FOR PERIOD	CI	0.944E-02	0.787E-02	0.000E+00	0.000E+00
(AROVE)					

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
BR81	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CB135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CB137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:38

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 BASES					
: 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	: 0.404E-04	: 0.000E+00	: 0.000E+00	: 0.000E+00
: KR85	: CI	: 0.113E-03	: 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	: 0.804E-02	: 0.000E+00	: 0.000E+00	: 0.000E+00
: XE133	: CI	: 0.794E+00	: 0.745E-01	: 0.000E+00	: 0.000E+00
: XE135M	: CI	: 0.000E+00	: 0.286E+00	: 0.000E+00	: 0.000E+00
: XE135	: CI	: 0.835E+01	: 0.120E+02	: 0.000E+00	: 0.000E+00
: XE137	: CI	: 0.000E+00	: 0.000E+00	: 0.000E+00	: 0.000E+00
NOPCOM: 11-JAN-1994 10:39:09.12: message from user SYSTEM					
01/11/94 10:39:05 DMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1					
: XE138	: CI	: 0.000E+00	: 0.000E+00	: 0.000E+00	: 0.000E+00
: TOTAL FOR	:	:	:	:	:
: PERIOD	: CI	: 0.915E+01	: 0.123E+02	: 0.000E+00	: 0.000E+00
: (ABOVE)	:	:	:	:	:

ENTER C C 3 TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
UNIT: U1
USER: MART
DATE: 01/11/94 10:39

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH STACK

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

3. PARTICULATES (CONTD)

BA140	CI	0.293E-05	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					
(ABOVE)	CI	0.293E-05	0.000E+00	0.000E+00	0.000E+00

ENTER E C I TO ERASE SCREEN AND CONTINUE :
NOPCOM: 11-JAN-1994 10:40:09.14, message from user SYSTEM
01/11/94 10:40:05 CMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1
E

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:40

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 UNIT 1 - SOUTH STACK

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
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	0.261E+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	0.261E+00	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

ENTER C C 3 TO ERASE SCREEN AND CONTINUE :

XOPCOH, 11-JAN-1994 10:41:09.12, message from user SYSTEM
 01/11/94 10:41:05 DMURDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1
 XOPCOH, 11-JAN-1994 10:42:09.12, message from user SYSTEM
 01/11/94 10:42:05 DMURDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:42

EFFLUENT AND WASTE DISPOSAL REPORT

BASEDUS 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

Cl4	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.461E-04	0.144E-04	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
PO40	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR176	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 JNIT: U1
 JSER: HART
 DATE: 01/11/94 10:42

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 2 UNIT 1 - SOUTH STACK

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
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	0.219E-04	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.680E-04	0.144E-06	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:43

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 UNIT 2 - SOUTH STACK

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

2. IODINES

I131	CI	0.786E-05	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.326E-04	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.405E-04	0.000E+00	0.000E+00	0.000E+00

3. PARTICULATES

BI4	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.605E-07	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	0.123E-06	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

NOFDDM: 11-JAN-1994 10:44:09.11, message from user SYSTEM
 01/11/94 10:44:05 OMURDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

SITE: LIMERICK

UNIT: U1

USER: MART

XOPCOM: 11-JAN-1994 10:43:09.13; message from user SYSTEM

01/11/94 10:43:05 OMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

DATE: 01/11/94 10:43

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 3 UNIT 2 - SOUTH STACK

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 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	0.306E-02	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
XE135	CI	0.609E+00	0.111E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.120E+00	0.000E+00	0.000E+00
XE137	CI	0.144E+02	0.266E+02	0.000E+00	0.000E+00
XE137M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE139	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.150E+02	0.268E+02	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:44

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
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
XE139	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
UNIQUE					

ENTER [C] TO ERASE SCREEN AND CONTINUE : NO

ENTER [C] TO ERASE SCREEN AND CONTINUE :

NOBODY: 11-JAN-1994 10:45:09.16: message from user SYSTEM

01/11/94 10:45:05 DRUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:44

EFFLUENT AND WASTE DISPOSAL REPORT

BASED ON EFFLUENTS FOR RELEASE POINT: 3 UNIT 2 - SOUTH STACK

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

3. PARTICULATES (CONTD)

PA140	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 (ABOVE)	CI	0.184E-06	0.000E+00	0.000E+00	0.000E+00

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:45

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

2. IODINES

I131	CI	0.814E-05	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	0.814E-05	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
SO60	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
SR124	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

ENTER 1 0 3 TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
 UNIT: U1
 USER: MART
 DATE: 01/11/94 10:45

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

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)					

ENTER [D] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
UNIT: U1
USER: MART
DATE: 01/11/94 10:38

PAGE D14

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 : 0.244E+02 : 0.392E+02 : 0.453E+02 :

: 2. AVERAGE RELEASE :UCI/SEC: 0.314E+01 : 0.498E+01 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

B. IODINES

: 1. TOTAL IODINE-131 : CI : 0.648E-02 : 0.449E-02 : 0.453E+02 :

: 2. AVERAGE RELEASE :UCI/SEC: 0.833E-03 : 0.571E-03 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

C. PARTICULATES

: 1. PARTICULATES WITH : CI : 0.710E-04 : 0.144E-04 : 0.453E+02 :
: HALF-LIVES >8 DAYS : : : : :

: 2. AVERAGE RELEASE :UCI/SEC: 0.914E-05 : 0.184E-07 : :
: RATE FOR PERIOD : : : : :

: 3. PERCENT OF TECHNICAL: % : 0.000E+00 : 0.000E+00 : :
: SPECIFICATION LIMIT : : : : :

: 4. GROSS ALPHA : CI : 0.000E+00 : 0.000E+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 : : : : :

ENTER [C] TO ERASE SCREEN AND CONTINUE : C

SITE: LIMERICK
UNIT: U1
USER: MART
DATE: 01/11/94 10:46

EFFLUENT AND WASTE DISPOSAL REPORT

ZOPCOM, 11-JAN-1994 10:46:09.14, message from user SYSTEM
01/11/94 10:46:05 OMUPDT: COMMUNICATIONS IS FAULTY ON RM-11 NUMBER 1

LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

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

A. FISSION AND ACTIVATION PRODUCTS

: 1. TOTAL RELEASE (EXCL.: CI : 0.387E-01 : 0.111E-01 : 4.28E+01 :
: TRIT., GASES, ALPHA): : : : :

: 2. AVERAGE DILUTED :UCI/ML : 0.281E-06 : 0.708E-07 :
: CONC. DURING PERIOD : : : :

: 3. PERCENT OF : % : 0.000E+00 : 0.000E+00 :
: APPLICABLE LIMIT : : : :

B. TRITIUM

: 1. TOTAL RELEASE : CI : 0.779E+01 : 0.452E+01 : 0.628E+01 :

: 2. AVERAGE DILUTED :UCI/ML : 0.565E-04 : 0.289E-04 :
: CONC. DURING PERIOD : : : :

: 3. PERCENT OF : % : 0.000E+00 : 0.000E+00 :
: APPLICABLE LIMIT : : : :

C. DISSOLVED AND ENTRAINED GASES

: 1. TOTAL RELEASE : CI : 0.241E-01 : 0.628E-01 : 0.628E+01 :

: 2. AVERAGE DILUTED :UCI/ML : 0.175E-06 : 0.402E-06 :
: CONC. DURING PERIOD : : : :

: 3. PERCENT OF : % : 0.973E-01 : 0.201E+00 :
: APPLICABLE LIMIT : : : :

D. GROSS ALPHA RADIOACTIVITY

: 1. TOTAL RELEASE : CI : 0.000E+00 : 0.000E+00 : 0.628E+01 :

: 2. VOLUME WASTE RELEASED :LITERS : 0.152E+07 : 0.171E+07 : 0.000E+00 :
: (PRIOR TO DILUTION) : : : :

: 3. VOLUME DILUTION WATER :LITERS : 0.138E+09 : 0.156E+09 : 0.000E+00 :
: USED DURING PERIOD : : : :

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
PERIOD 01/01/92 TO 06/30/92

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)			
1. TYPE OF WASTE	UNIT	6-MONTH PERIOD	ESTIMATE TOTAL ERROR %
a. SPENT RESINS, FILTERS SLUDGES, EVAPORATOR BOTTOMS, ETC. (PROCESS - DEWATERED)	m(3) Ci	1.94E+02 1.32E+02	2.50E+01
* b. COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC. (PROCESS - COMPACTED)	m(3) Ci	1.50E+01 5.83E-01	2.50E+01
c. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	m(3) Ci	0.00E+00 0.00E+00	0.00E+00
d. OTHER (DESCRIBE) CRD FILTER & TRASH	m(3) Ci	4.06E+00 9.91E+01	2.50E+01

*PORTIONS OF THE WASTE PROCESSED BY OFFSITE VENDORS (QUADREX, SEG)
ACTIVITY IS ESTIMATED.