

ANNUAL EFFLUENT RELEASE REPORT
NO. 21
January 1, 1995 Through December 31, 1995

PECO NUCLEAR

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)

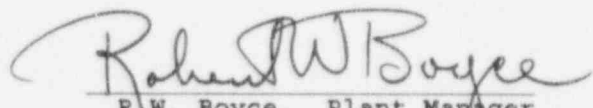

R.W. Boyce, Plant Manager

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(Sent under separate cover)

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. Vendor results were obtained prior to report calculation therefore the 1995 report is complete.
- 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, 1995 to December 31, 1995

SITE: LIMERICK
UNIT: U1 & U2
DATE: 02/27/96 21:04

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	:	0.123E+02	:	0.338E+02	:	0.453E+02	:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.158E+01	:	0.429E+01	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:

B. IODINES

: 1. TOTAL IODINE-131	: CI	:	0.437E-04	:	0.493E-03	:	0.453E+02	:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.562E-05	:	0.627E-04	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:

C. PARTICULATES

: 1. PARTICULATES WITH	: CI	:	0.110E-04	:	0.218E-04	:	0.453E+02	:
: HALF-LIVES >8 DAYS	:	:		:		:		:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.142E-05	:	0.278E-05	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:
: 4. GROSS ALPHA	: CI	:	0.105E-05	:	0.235E-05	:		:
: 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
 DATE: 02/27/96 21:04

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	0.412E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.405E+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	0.447E+01	0.311E+02	0.000E+00	0.000E+00
XE135M	CI	0.817E-01	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.685E+01	0.280E+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	0.122E+02	0.314E+02	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:04

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	0.261E-04	0.487E-03	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.412E-03	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.261E-04	0.899E-03	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	0.421E-06	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.110E-04	0.186E-04	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
 DATE: 02/27/96 21:04

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH STACK

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

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	0.110E-04	0.190E-04	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:04

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	0.225E-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	0.225E-01	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:05

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					

2. IODINES

I131	CI	0.000E+00	0.531E-05	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	0.531E-05	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	0.282E-05	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
 DATE: 02/27/96 21:05

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					

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	0.282E-05	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:05

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	0.325E-01	0.772E+00	0.000E+00	0.000E+00
XE135M	CI	0.566E-01	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.159E+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	0.890E-01	0.236E+01	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:05

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
RELEASED					

2. IODINES

I131	CI	0.169E-04	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	0.169E-04	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

SITE: LIMERICK
UNIT: U1 & U2
DATE: 02/27/96 21:05

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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	: 0.000E+00	: 0.000E+00	: 0.000E+00	: 0.000E+00
: (ABOVE)	:	:	:	:	:

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:05

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
 DATE: 02/27/96 21:05

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	0.738E-06	0.700E-06	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.738E-06	0.700E-06	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
 DATE: 02/27/96 21:05

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)					

SITE: LIMERICK
UNIT: U1 & U2
DATE: 02/29/96 04:44

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	:	0.179E+03	:	0.359E+01	:	0.453E+02	:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.226E+02	:	0.449E+00	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:

B. IODINES

: 1. TOTAL IODINE-131	: CI	:	0.379E-02	:	0.453E-03	:	0.453E+02	:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.476E-03	:	0.570E-04	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:

C. PARTICULATES

: 1. PARTICULATES WITH	: CI	:	0.130E-03	:	0.641E-04	:	0.453E+02	:
: HALF-LIVES >8 DAYS	:	:		:		:		:
: 2. AVERAGE RELEASE	: UCI/SEC:	:	0.166E-04	:	0.806E-05	:		:
: RATE FOR PERIOD	:	:		:		:		:
: 3. PERCENT OF TECHNICAL:	%	:	0.000E+00	:	0.000E+00	:		:
: SPECIFICATION LIMIT :	:	:		:		:		:
: 4. GROSS ALPHA	: CI	:	0.440E-05	:	0.326E-05	:		:
: 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
 DATE: 02/29/96 04:44

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	0.173E+03	0.968E-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	0.173E+03	0.968E-01	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH STACK

CONTINUOUS MODE

BATCH MODE

NUCLIDES	UNITS	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
RELEASED					

2. IODINES

I131	CI	0.217E-02	0.520E-04	0.000E+00	0.000E+00
I133	CI	0.206E-02	0.322E-02	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.422E-02	0.328E-02	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	0.470E-04	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.272E-04	0.487E-04	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
 DATE: 02/29/96 04:45

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 1 NORTH STACK

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

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	0.742E-04	0.487E-04	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

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	0.482E+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	0.272E+01	0.198E+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	0.320E+01	0.198E+01	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

EFFLUENT AND WASTE DISPOSAL REPORT

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

CONTINUOUS MODE

BATCH MODE

NUCLIDES	UNITS	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
RELEASED					

2. IODINES

I131	CI	0.154E-02	0.401E-03	0.000E+00	0.000E+00
I133	CI	0.253E-02	0.486E-02	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.407E-02	0.526E-02	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	0.874E-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	0.000E+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	0.109E-04	0.154E-04	0.000E+00	0.000E+00
SR90	CI	0.869E-06	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
 DATE: 02/29/96 04:45

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	0.205E-04	0.154E-04	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

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
RELEASED					

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	0.349E+01	0.149E+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	0.349E+01	0.149E+01	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

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	0.724E-04	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.202E-04	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR					
PERIOD	CI	0.925E-04	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	0.373E-04	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
 DATE: 02/29/96 04:45

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	0.373E-04	0.000E+00	0.000E+00	0.000E+00
(ABOVE)					

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:45

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		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
 DATE: 02/29/96 04:45

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		3	4	3	4

2. IODINES

I131	CI	0.521E-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	0.521E-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
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
 DATE: 02/29/96 04:45

EFFLUENT AND WASTE DISPOSAL REPORT

GASEOUS EFFLUENTS FOR RELEASE POINT: 4 HOT MAINTENANCE SHOP

CONTINUOUS MODE				BATCH MODE			
: NUCLIDES	: UNITS	: QUARTER	: QUARTER	: QUARTER	: QUARTER	: 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, 1995 to December 31, 1995

SITE: LIMERICK
UNIT: U1 & U2
DATE: 02/27/96 21:05

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 TRIT., GASES, ALPHA)		0.366E-01	0.142E-01	0.628E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.122E-07	0.457E-08	
3. PERCENT OF APPLICABLE LIMIT	%	0.000E+00	0.000E+00	

B. TRITIUM

1. TOTAL RELEASE	CI	0.704E+01	0.300E+01	0.628E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.235E-05	0.968E-06	
3. PERCENT OF APPLICABLE LIMIT	%	0.000E+00	0.000E+00	

C. DISSOLVED AND ENTRAINED GASES

1. TOTAL RELEASE	CI	0.926E-02	0.323E-03	0.628E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.309E-08	0.104E-09	
3. PERCENT OF APPLICABLE LIMIT	%	0.149E-02	0.520E-04	

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 (PRIOR TO DILUTION)	LITERS	0.840E+07	0.397E+07	0.000E+00
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F. VOLUME DILUTION WATER USED DURING PERIOD	LITERS	0.300E+10	0.310E+10	0.000E+00
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SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:06

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	0.704E+01	0.300E+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	0.350E-02	0.826E-04
MN54	CI	0.000E+00	0.000E+00	0.933E-02	0.723E-02
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	0.136E-02	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.228E-02	0.166E-03
CO60	CI	0.000E+00	0.000E+00	0.694E-02	0.181E-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	0.109E-01	0.214E-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
 DATE: 02/27/96 21:06

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 1	QUARTER 2	QUARTER 1	QUARTER 2
RELEASED					

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	0.487E-05
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	0.693E-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	0.837E-04	0.000E+00
MO99	CI	0.000E+00	0.000E+00	0.612E-05	0.000E+00
TC99M	CI	0.000E+00	0.000E+00	0.705E-05	0.000E+00
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/27/96 21:06

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)

RU103	CI	0.000E+00	0.000E+00	0.135E-03	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	0.828E-04	0.592E-04
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	0.000E+00
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
 DATE: 02/27/96 21:06

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	0.116E-03	0.409E-03
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.157E-02	0.227E-02
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	0.117E-03	0.000E+00
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.924E-04	0.000E+00
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
 DATE: 02/27/96 21:06

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 1	QUARTER 2	QUARTER 1	QUARTER 2
RELEASED					

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	0.803E+01	0.301E+01
(ABOVE)					

XE-133	CI	0.000E+00	0.000E+00	0.192E-02	0.299E-03
XE-135	CI	0.000E+00	0.000E+00	0.734E-02	0.235E-04

EFFLUENT AND WASTE DISPOSAL REPORT

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

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1.	TOTAL RELEASE (EXCL.: CI	:	0.986E-02	:	0.502E-01	:	0.628E+01	:
:	TRIT., GASES, ALPHA):	:	:	:	:	:	:	:

2.	AVERAGE DILUTED	:	UCI/ML	:	0.329E-08	:	0.162E-07	:
:	CONC. DURING PERIOD	:	:	:	:	:	:	:

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

: 1. TOTAL RELEASE	: CI	: 0.676E+01	: 0.545E+01	: 0.628E+01	:

: 2. AVERAGE DILUTED	: UCI/ML	: 0.225E-05	: 0.176E-05	:	
: CONC. DURING PERIOD	:	:	:	:	

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

: 1. TOTAL RELEASE	: CI	: 0.829E-01	: 0.203E-01	: 0.628E+01	:

: 2. AVERAGE DILUTED	: UCI/ML	: 0.280E-07	: 0.655E-08	:	
: CONC. DURING PERIOD	:	:	:	:	

: 3. PERCENT OF	: %	: 0.138E-01	: 0.328E-02	:	
: APPLICABLE LIMIT	:	:	:	:	

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

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

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:46

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	0.676E+01	0.545E+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	0.110E-02	0.455E-02
MN54	CI	0.000E+00	0.000E+00	0.185E-02	0.293E-02
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	0.350E-01
FE59	CI	0.000E+00	0.000E+00	0.512E-04	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.243E-03	0.215E-03
CO60	CI	0.000E+00	0.000E+00	0.110E-02	0.968E-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	0.220E-02	0.295E-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
 DATE: 02/29/96 04:46

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	0.290E-03	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	0.118E-03	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	0.434E-04	0.121E-03
TC99M	CI	0.000E+00	0.000E+00	0.442E-04	0.868E-04
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:46

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)

RU103	CI	0.000E+00	0.000E+00	0.184E-04	0.000E+00
RU105	CI	0.000E+00	0.000E+00	0.000E+00	0.538E-04
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	0.139E-03	0.227E-03
I132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.262E-04	0.731E-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
 DATE: 02/29/96 04:46

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	0.501E-03	0.883E-03
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.196E-03	0.105E-02
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
EA141	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	0.437E-04	0.483E-04
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.874E-04	0.432E-03
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
NP239	CI	0.000E+00	0.000E+00	0.488E-04	0.000E+00

SITE: LIMERICK
 UNIT: U1 & U2
 DATE: 02/29/96 04:46

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	CI	0.000E+00	0.000E+00	0.684E+01	0.550E+01
PERIOD					
(ABOVE)					

XE-133	CI	0.000E+00	0.000E+00	0.635E-01	0.582E-02
XE-135					

II. TABLES

C. SOLID WASTE DISPOSITION REPORT

January 1, 1995 to December 31, 1995

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL) 1/1/95 - 12/31/95

1.	<u>TYPE OF WASTE</u>	<u>UNIT</u>	<u>12-MONTH PERIOD</u>	<u>EST. ERROR %</u>
a.	Spent resin, filter sludges, evaporator bottoms, etc.	m(3) Ci	1.78E+2 1.88E+2	25%
b.	Dry compressible waste, contaminated equip., etc.	m(3) Ci	5.85E+1 1.67E+0	25%
c.	Irradiated components, control rods, etc.	NONE		
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, CONTAMINATED EQUIPMENT, ETC.	
ISOTOPE	WASTE CLASS B CURIES	PERCENT ABUNDANCE	WASTE CLASS A CURIES	PERCENT ABUNDANCE	WASTE CLASS A CURIES	PERCENT ABUNDANCE
Cr-51	0	0	1.95E+0	2.48	3.70E-1	22.14
Mn-54	4.00E+0	3.68	1.07E+1	13.60	1.78E-1	10.65
Fe-55	0	0	1.96E+0	2.49	4.60E-2	2.75
Co-58	0	0	1.48E-1	0.19	5.45E-2	3.26
Co-60	4.83E+1	44.41	1.89E+1	24.03	3.64E-1	21.78
Ni-63	4.53E-1	.42	7.89E+0	10.03	1.40E-2	0.84
Zn-65	5.16E+1	47.44	2.16E+1	27.37	4.23E-1	25.31
H-3	2.27E+0	2.09	1.34E-1	0.17	2.50E-2	1.50
C-14	2.16E-3	0	4.75E-1	0.60	6.00E-3	0.36
CS-134	0	0	1.35E+0	1.72	1.70E-2	1.02
CS-137	1.73E+0	1.59	9.28E+0	11.80	4.30E-2	2.57
I-131	0	0	1.83E+0	2.33	6.00E-3	0.36
Pu-238	1.32E-3	0	0	0	0	0
Pu-239/40	1.53E-3	0	0	0	0	0
Cm-242	1.64E-4	0	6.00E-4	0	2.00E-4	0.02
Sr-90	4.05E-1	0.37	1.43E-1	0.18	8.00E-3	0.48
Sr-89	0	0	1.95E-1	0.25	4.00E-2	2.39
Fe-59	0	0	0	0	1.80E-2	1.08
Ba/La-140	0	0	1.76E+0	2.24	2.26E-2	1.35
Ce-144	0	0	2.19E-1	2.28	0	0
Ce-141	0	0	1.10E-1	0.14	2.47E-2	1.48
Nb-95	0	0	0	0	3.00E-3	0.18
P-32	0	0	0	0	8.00E-3	0.48
TOTALS	1.09E+2	100	7.86E+1	100	1.67E+0	100

Activity is estimated.

Page 3 of 6

CATEGORY A - 1 SHIPMENT > TYPE A LSA
CATEGORY A - 31 SHIPMENTS TYPE A LSA
CATEGORY B - 36 SHIPMENTS TYPE A LSA
CATEGORY C - NO SHIPMENTS MADE
CATEGORY D - NO SHIPMENTS MADE

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MADE	MODE OF TRANSPORTATION	DESTINATION
27	TRUCK	LIMERICK TO BARNWELL
41	TRUCK	SEG TO BARNWELL

COMMENTS: 22 Shipments were made from Limerick to SEG for processing. No solidifications were performed.

B. IRRADIATED FUEL SHIPMENTS (DISPOSITION)

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

PCP Changes

The following is a brief summary of the one revision that was made to the Solid Radwaste Process Control Program. Revision 1 to this document, RW-C-100, was effective 1/19/95.

- Step 1.1 was revised to clarify the purpose of the document.
- The "Sources and References" section was revised to comply with the governing procedure writer's guide.
- Step 2.1.4 was revised to correct the title of the UFSAR.
- Step 2.1.11 was added to reference the SEG dewatering system, used to process spent ion exchange resin.
- A note, associated with step 2.2.2 was formatted to comply with the applicable writer's guide.
- Step 2.2.10 was added to refer to the 50.59 Review associated with the SEG dewatering system.
- Step 3.3 was revised to refer to the new title of the Nuclear Quality Assurance Department.
- Step 3.4 was revised to indicate the title of the Manager-Radwaste.
- Steps 3.4.6, 3.5, 3.6, and 3.6.1, and 4.1 were revised for clarification.
- Step 4.1 was revised to indicate the time frame for which vendor training records are to be maintained.
- Steps 4.3, 4.5, 5.1, and 5.5 were revised for clarification.
- Section 7.1.1 was revised to indicate the use of precoatless elements.

PCP Changes (cont'd)

- Section 5 of step 7.1.1 was revised to incorporate off-site oil incineration.
- Steps 7.2.1(d), 7.2.2(d), and 7.2.3 were revised to address the appropriate 50.59 reviews for various systems.
- Step 7.3.8 (2) was revised to indicate requirements associated with gas buildup in shipments.
- Steps 7.4, 7.4.5, 7.5, 7.6.1, 7.6.2, 7.6.3, 7.8.2, and 8.2 were revised to address new titles for various documents and to provide minor clarifications.

MAJOR CHANGES TO PLANT RADWASTE SYSTEMS

There were no major changes to Plant Radwaste Systems.

II. TABLES

D. OFFSITE RADIATION DOSE ASSESSMENT

January 1, 1995 to December 31, 1995

One (1) page is included in Table D.

SITE: LIMERICK
UNIT: U1 & U2
DATE: 02/29/96 04:42

SUMMARY OF MAXIMUM INDIVIDUAL DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/95 0:00 TO 12/31/95 23:00

GASEOUS: FROM 01/01/95 0:00 TO 12/31/95 23:00

AIR: FROM 01/01/95 0:00 TO 12/31/95 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (TOWARD)	% OF APPLICABLE LIMIT	LIMIT (MR)
LIQUID	TOTAL BODY	1.07E-01	ADULT	RECEPTOR 1	1.8E+00	6.0
LIQUID	LIVER	1.72E-01	TEEN	RECEPTOR 1	8.6E-01	20.0
NOBLE GAS	AIR DOSE (GAMMA-MRAD)	1.91E-01		793. ENE	9.6E-01	20.0
NOBLE GAS	AIR DOSE (BETA-MRAD)	2.45E-01		793. ENE	6.1E-01	40.0
NOBLE GAS	T.BODY (GAMMA)	8.55E-02	ALL	965. ENE	4.3E-01	20.0
NOBLE GAS	SKIN (BETA)	2.25E-01	ALL	965. ENE	5.6E-01	40.0
IODINE+ PARTICULATES	THYROID	5.95E-03	CHILD	805. ESE	2.0E-02	30.0

SUMMARY OF POPULATION DOSES

TOTAL ACCUMULATION FOR PERIODS:

LIQUID: FROM 01/01/95 0:00 TO 12/31/95 23:00

GASEOUS: FROM 01/01/95 0:00 TO 12/31/95 23:00

EFFLUENT	APPLICABLE ORGAN	ESTIMATED POPULATION DOSE (PERSON-REM)
LIQUID	TOTAL BODY	1.6E+00
LIQUID	THYROID	1.6E+00
GASEOUS	TOTAL BODY	8.8E-01
GASEOUS	THYROID	1.2E+00

II. TABLES

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

January 1, 1995 to December 31, 1995

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 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 25% of a working year in all 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	APPROX. DISTANCE (METERS)	GAMMA AIR DOSE, MRAD	BETA AIR DOSE, MRAD	IODINE/PARTICULATE ORGAN DOSE, MREM	H3/BETA-EMITTERS INGESTION DOSE, MREM
FRICK'S LOCK	WSW	450	1.20E-07	1.59E-07	1.92E+01	3.56E-02
INFO. CENTER	ESE	884	1.42E-07	1.87E-08	1.96E+01	3.58E-02
R.R. TRACKS	WSW	225	3.99E-07	5.28E-7	6.19E+01	1.09E-01

III. ATTACHMENTS

7. 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 mRem/yr - total body - "instantaneous" limits
 ≤ 3000 mRem/yr - skin and ODCM Control 3.3.2
2. ≤ 10 mRad - air gamma - quarterly air dose limits
 ≤ 20 mRad - air beta and ODCM Control 3.3.3
3. ≤ 20 mRad - air gamma - yearly air dose limits
 ≤ 40 mRad - air beta and ODCM Control 3.3.3

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

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

C. Liquid Effluents:

1. Concentration \leq 10CFR20 - "instantaneous" limits
Appendix B, Table II, Col.2 ODCM Control 3.2.2
2. ≤ 3 mRem - total body - quarterly dose limits per
 ≤ 10 mRem - any organ ODCM Control 3.2.3
3. ≤ 6 mRem - total body - yearly dose limits per
 ≤ 20 mRem - any organ 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 0.289 MeV and average gamma energy is 0.219 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 1995 - June 1995

A. <u>Liquid</u>	<u>Q1</u>	<u>Q2</u>
# of Batch Releases:	100	42
Total time period for batch releases, *	6,888	2,809
Maximum time period for a batch release *	90	75
Average time period for batch release, *	68.8	66.8
Minimum time period for a batch release, *	50	60
Average stream flow (Schuylkill River) during periods of release of effluents into a flowing stream, gpm.	8.90E+7	3.89E+7

* = Minutes

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 1995 - December 1995

A. <u>Liquid</u>	<u>Q3</u>	<u>Q4</u>
# of Batch Releases:	82	59
Total time period for batch releases, *	5,557	4,385
Maximum time period for a batch release *	89	95
Average time period for batch release, *	67.7	74.3
Minimum time period for a batch release, *	22	57
Average stream flow (Schuylkill River) during periods of release of effluents into a flowing stream, gpm.	2.14E+7	7.01E+7

* = Minutes

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

Release Point 5 = Auxiliary Boiler A

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 08/04/95 at 16:03, the Unit 2 South Stack Effluent Monitoring System Flow Rate Transmitter (FT-26-286) failed surveillance test ST-2-026-642-2 and was declared inoperable. With the Flow Rate Transmitter inoperable, ODCM Section 3.3 and Table I3.3-1 action statement 113 was entered. This action states in part:

With less than the minimum Required Channels OPERABLE, effluent releases via the NS, SS or HMS may continue for up to 30 days provided the flow rate is estimated by adding the normal flow rates indicated in P&ID M-26 for each in service fan. This shall be documented in the MCR operations Shift Log at least once per 4 hours.

Pursuant to the ACTION statement, the flow was estimated to be 234,000 scfm. The Flow Rate Transmitter was replaced. Delay in its replacement was due to difficulty in obtaining parts from the manufacturer. The new transmitter was tested using ST-2-026-442-2 (Rad Gaseous Effluent Monitor - South Stack Effluent - Flow Rate Monitor Calibration/Functional Test FT-26-286) and declared operable on 10/10/95 at 14:32. Operations continued to estimate stack flow and logged it every 4 hours during the entire inoperable status time frame. (08/04/95 16:03 - 10/10/95 14:32). Releases recorded through the Unit 2 South Stack during this time period used the estimated flow of 234,000 scfm.

III. ATTACHMENTS (continued)

C. REVISION TO PREVIOUS SUBMITTAL

Composite particulate air samples, counted for beta and alpha emitters are submitted to an offsite vendor laboratory for analysis. Data for the fourth quarter of 1994 was not available at the time Annual Effluent Release Report 20 (January 1, 1994 through December 31, 1994) was generated. Report number 20 revisions are given below. These revisions include fourth quarter Alpha and Sr-89 results plus corrections due to data entry errors. Doses for 1994 were not recalculated since they were conservatively reported.

Effluent and Waste Disposal Report					
Gaseous Effluents -- Summation of All Releases					
C. Particulates					
4. Gross Alpha Radioactivity Reported	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.120E+01	0.139E+01	0.732E+01	0.437E+00
4. Gross Alpha Radioactivity Corrected	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.184E-7	0.00E00	0.274E-7	0.130E-7
Gaseous Effluents for Release Point: 1 North Stack					
3. Particulates					
Sr-89 Reported	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.231E+00	0.931E+02	0.000E+00	0.000E+00
Sr-89 Corrected	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.380E-4	0.457E-4	0.419E-4	0.318E-4
Gaseous Effluents for Release Point: 2 Unit 1 - South Stack					
3. Particulates					
Sr-89 Reported	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Sr-89 Corrected	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.701E-6	0.101E-5	0.139E-5	0.161E-5
Gaseous Effluents for Release Point: 3 Unit 2 - South Stack					
3. Particulates					
Sr-89 Reported	Ci	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Sr-89 Corrected	Ci	Quarter 1	Quarter 2	Quarter 2	Quarter 4
		0.185E-5	0.851E-6	0.184E-5	0.272E-5