USEC
A Global Energy Company

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April 10, 2008
GDP 08-0014

Mr. Michael F. Weber
Director, Office of Nuclear Material Safety and Safeguards
Attention: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Paducah Gaseous Diffusion Plant (PGDP)
Docket No. 70-7001, Certificate No. GDP-1
Application for Renewal of Certificate of Compliance, GDP-1

Dear Mr. Weber:

In accordance with 10 CFR 76.31 and 76.36, the United States Enrichment Corporation (USEC or Corporation) hereby submits its Application for renewal of Certificate GDP-1. This Application for renewal is based on USEC's previous Application (USEC-01), as revised through Revision 111 dated April 4, 2008.

Certificate GDP-1 currently has an expiration date of December 31, 2008. Based on the information contained in the enclosed Application and incorporated by reference, USEC requests that the Nuclear Regulatory Commission (NRC) renew Certificate of Compliance GDP-1 for a 5-year period coinciding with an expiration date of December 31, 2013.

Enclosure 1 contains the Oath and Affirmation. Enclosure 2 provides the basis for USEC's renewal Application. Enclosure 3 contains NESHAP reports for CY2002 through CY 2006. Enclosure 4 contains quarterly radiological monitoring discharge reports for CY2003 through 2007. Enclosure 5 contains Ambient Gamma Levels for PGDP from the environmental TLD monitoring systems and Summary of Notice of Violations (NOVs), permit exceedances, or other citations issued to PGDP for CY 2003 through CY2007. Enclosures 3, 4 and 5 are provided in response to NRC's request that USEC consolidate environmental reports for each year since last certification and submit them with this re-certification request (Reference).

NMSS01

Should you have any questions regarding this matter, please contact Steve Toelle at (301) 564-3250.

Sincerely,

Robert Van Namen

Reference: 1. Letter from Brian W. Smith (NRC) to Steven A. Toelle (USEC), Environmental Compliance Status Report Related Information, dated August 7, 2007.

Enclosures:

1. Oath and Affirmation
2. United States Enrichment Corporation, Paducah Gaseous Diffusion Plant, Docket No. 70-7001, Application for Renewal of Certificate of Compliance GDP-1, April 10, 2008
3. National Emissions Standard for Hazardous Air Pollutants (NESHAP) CY2002 through CY 2006
4. Quarterly Radiological Monitoring Discharge Reports for Plant Outfalls CY2003 through 2007
5. Ambient Gamma Levels for PGDP from the Environmental TLD Monitoring Systems and Summary of Notice of Violations (NOVs), Permit Exceedances, or Other Citations Issued to PGDP CY 2003 through CY2007

cc: M. Tschiltz, NRC HQ
J. Hensen, NRC Region II
M. Miller, NRC Senior Resident Inspector, PGDP
D. Hartland, NRC Region II
M. Raddatz, NRC Project Manager
R. DeVault, DOE

Enclosure 1
GDP 08-0014

Oath and Affirmation

OATH AND AFFIRMATION

I, Robert Van Namen, swear and affirm that I am the Senior Vice President, Uranium Enrichment , of the United States Enrichment Corporation (USEC), that I am authorized by USEC to sign and file with the Nuclear Regulatory Commission this April 10, 2008 Application for Renewal of Certificate of Compliance GDP-1, for the Paducah Gaseous Diffusion Plant, contained in USEC Letter GDP 08-0014, that I am familiar with the contents thereof, and that the statements made and matters set forth therein are true and correct to the best of my knowledge, information, and belief.

R Van Namen

Robert Van Namen

On this 10th day of April, 2008, the officer signing above personally appeared before me, is known by me to be the person whose name is subscribed to within the instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof I hereunto set my hand and official seal.

Rita L. Peak

Rita L. Peak, Notary Public
State of Maryland, Montgomery County
My commission expires December 1, 2009

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
Docket No. 70-7001
Application for Renewal of Certificate of Compliance GDP-1
April 10, 2008

In accordance with 10 CFR 76.31 and 76.36, the United States Enrichment Corporation (USEC or Corporation) hereby submits its Application for renewal of Certificate GDP-1. This Application for renewal is based on USEC's previous Application (USEC-01), as revised through Revision 111 dated April 4, 2008, and USEC's previous Compliance Plan (DOE/ORO-2026), as revised through Revision 9 dated December 1, 2000.

1.0 Requested Expiration Date

Certificate GDP-1 currently has an expiration date of December 31, 2008. Based on the information contained in this Application and incorporated by reference, USEC requests that the Nuclear Regulatory Commission (NRC) renew Certificate of Compliance GDP-1 for a 5-year period coinciding with an expiration date of December 31, 2013.

2.0 Information Required by 10 CFR 76.31 and 76.36

76.31 *The Corporation shall periodically apply to the Commission for a certificate of compliance, in accordance with § 76.36, on or before April 15 of the year specified in an existing certificate of compliance as determined by the Commission, but not less frequently than every 5 years.*

76.36(a) *The Corporation shall file periodic applications for renewal, as required by § 76.31.*

In accordance with 10 CFR 76.31 and 10 CFR 76.36 (a), USEC is filing the periodic Application for renewal as described in this letter (GDP 08-0014). USEC's Application for renewal is dated April 10, 2008

76.36(b) Information contained in previous applications, statements, or reports filed with the Commission may be referenced as part of the application, provided that the reference is clear and specific.

Section 5.0 of this correspondence specifically identifies previous Applications, statements, and reports that are incorporated by reference into this renewal Application.

76.36(c) An application for renewal is subject to the requirements in § 76.33 and must contain the following information:

(1) The information specified in § 76.35; or,

(2) A statement by the Corporation that the NRC may rely upon the information provided in the previous application(s) upon which the existing certificate is based, except for:

(i) Any proposed changes in the existing certificate of compliance conditions or technical safety requirements;

(ii) Any proposed changes to the documents submitted with the previous application in accordance with § 76.35;

(iii) Any changes which the Corporation has made without prior NRC approval pursuant to § 76.68; and,

(iv) Any changes to certificate conditions or technical safety requirements for which the Corporation has sought and received Commission approval pursuant to § 76.45.

10 CFR 76.35 specifies the contents of an Application for a Certificate of Compliance. USEC's Application and Compliance Plan for PGDP, as approved by the NRC on November 26, 1996, and as subsequently revised in accordance with 10 CFR 76, satisfy those requirements. Pursuant to 10 CFR 76.36(b) and (c)(2), the NRC may rely upon the information provided in USEC's previous Applications for PGDP, and the NRC-approved Compliance Plan for PGDP, upon which Certificate GDP-1 is based except for any changes which USEC has made without prior NRC approval pursuant to 10 CFR 76.68 [Reference § 76.36 (c)(2)(iii)]. Records of the changes made in accordance with 10 CFR 76.68 are retained and are available at the site for NRC review.

In connection with this Application for renewal, USEC is not proposing to make any additional changes to the existing certificate conditions, technical safety requirements, or other documents submitted with its previous Application (as revised through Revision 111) and Compliance Plan (as revised through Revision 9) and is therefore not submitting any additional information with respect to these topics pursuant to 10 CFR 76.36(c)(2)(i) and (ii).

In accordance with 10 CFR 76.36(c)(iv), all changes to certificate conditions or technical safety requirements for which USEC has sought and received NRC approval have been incorporated into USEC's previous Application for PGDP (USEC-01) as revised through Revision 111 dated April 4, 2008.

76.36(d) The changes which are submitted as part of an application for renewal in accordance with paragraph (c)(2) of this section, must be in the form of specific changes to the documentation specified in § 76.35. The changes must be marked and dated for easy identification.

Section 5.0 specifically identifies the revisions of the Application (USEC-01) and the Compliance Plan (DOE/ORO-2026) that are incorporated by reference into this renewal Application. The referenced revisions are in the form of specific changes to the documentation specified in 10 CFR 76.35 which have been marked and dated for easy identification.

3.0 Information Required by 10 CFR 76.35(n)

76.35(n) A description of the funding program to be established to ensure that funds will be set aside and available for those aspects of the ultimate disposal of waste and depleted uranium, decontamination and decommissioning, relating to the gaseous diffusion plants leased to the Corporation by the Department of Energy, which are the financial responsibility of the Corporation. The Corporation shall establish financial surety arrangements to ensure that sufficient funds will be available for the ultimate disposal of waste and depleted uranium, and decontamination and decommissioning activities which are the financial responsibility of the Corporation. The funding mechanism, such as prepayment, surety, insurance, or external sinking fund, must ensure availability of funds for any activities which are required to be completed both before or after the return of the gaseous diffusion facilities to the Department of Energy in accordance with the lease between the Department and the Corporation. The funding program must contain a basis for cost estimates used to establish funding levels and must contain means of adjusting cost estimates and associated funding levels over the duration of the lease. The funding program need not address funding for those aspects of decontamination and decommissioning of the gaseous diffusion plants assigned to the Department of Energy under the Atomic Energy Act of 1954, as amended. The Corporation should address the adequacy of the financing mechanism selected in its periodic application for certification.

A revised Depleted Uranium Management Plan (DUP) and Decommissioning Funding Program Description (DFP) along with Financial Assurance for Calendar Year 2008 were submitted to the NRC on December 21, 2007 (GDP 07-0041). In accordance with Condition 14 of the PGDP Certificate of Compliance decommissioning cost estimates and funding levels will be reviewed in October of 2008 for 2009 and as necessary financial instruments submitted by December of 2008. In conjunction with any resultant revisions to the DUP and DFP for 2009, Table 1 of the

DUP will be revised to reflect projected estimates for the amount of depleted uranium generated by USEC through calendar year 2013.

4.0 Information Required by 10 CFR 76.68(b)

76.68(b) To ensure that the approved application remains current with respect to the actual site description and that the plant's programs, plans, policies, and operations are in place, the Corporation shall submit revised pages to the approved application and safety analysis report, marked and dated to indicate each change. The Corporation shall evaluate any as-found conditions that do not agree with the plant's programs, plans, policies, and operations in accordance with paragraph (a) of this section. These revisions must be submitted before April 15 of each calendar year, or at a shorter interval as may be specified in the certificate. If a renewal application for a certificate is filed in accordance with Sec. 76.36 of this part, the revisions shall be incorporated into the application.

In accordance with 10 CFR 76.68(b), the 2008 Annual Update (USEC-01 Revision 111, April 4, 2008) to the certification documents for PGDP was submitted to the NRC by USEC letters GDP 08-0007 and GDP 08-0008 dated April 10, 2008. The 2008 Annual Update is incorporated by reference into this renewal Application.

5.0 Information Incorporated by Reference

The following information is incorporated by reference into this Application for renewal of Certificate GDP-1.

5.1 USEC-01, "Application for United States Nuclear Regulatory Commission Certification," Paducah Gaseous Diffusion Plant, Docket No. 70-7001, Revisions 1 through 111 as shown in the following table.

USEC-01 Revision	Date of Revision	Transmitted by USEC Letter(s)	Purpose of Revision
1	9/15/95	GDP 95-0014, GDP 95-0015, GDP 95-0016 dated 9/15/95	Transmit Volumes 1 through 4 of the Application for initial certification.
2	1/19/96	GDP 96-0027, GDP 96-0028 dated 2/13/96 GDP 96-0034 dated 2/21/96	Transmit changes to the Application for initial certification.
3	5/31/96	GDP 96-0111, GDP 96-0112, GDP 96-0115 dated 5/31/96	Transmit changes to the Application for initial certification.
4	7/26/96	GDP 96-0150, GDP 96-0151 dated 7/26/96	Transmit changes to the Application for initial certification.
5	8/1/96	GDP 96-0161 dated 8/1/96	Transmit changes to the TSRs for initial certification.
6	8/12/96	GDP 96-0169 dated 8/12/96	Transmit changes to the TSRs for initial certification.
7	3/7/97	GDP 97-0031 dated 3/7/97	Transmit changes to TSR basis statements that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
8	4/15/97	GDP 97-0055, GDP 97-0056, GDP 97-0057 dated 4/15/97	Transmit the 1997 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
9	5/4/97	GDP 97-0071 dated 4/30/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 1 to Certificate GDP-1 (original issue date of 11/26/96).

10	5/21/97	GDP 97-0083 dated 5/27/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 2 to Certificate GDP-1 (original issue date of 11/26/96).
11	6/15/97	GDP 97-0090 dated 6/11/97	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 3 to Certificate GDP-1 (original issue date of 11/26/96), (2) TSR basis statements that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
12	7/24/97	GDP 97-0119 dated 7/15/97	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 5 to Certificate GDP-1 (original issue date of 11/26/96), (2) TSR basis statements that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
13	8/4/97	GDP 97-0124 dated 7/28/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 4 to Certificate GDP-1 (original issue date of 11/26/96).
14	8/23/97	GDP 97-0152, GDP 97-0154 dated 8/25/97	Transmit changes to: (1) the SAR and TSRs that were approved by the NRC via Amendment 6 to GDP-1 (original issue date of 11/26/96), (2) programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
15	9/5/97	GDP 97-0160 dated 9/8/97	Transmit changes to the Fundamental Nuclear Materials Control Plan that were approved by the NRC via Amendment 7 to Certificate GDP-1 (original issue date of 11/26/96).
16	10/2/97	GDP 97-0177 dated 10/6/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 8 to Certificate GDP-1 (original issue date of 11/26/96).
17	10/31/97	GDP 97-0194 dated 11/14/97	Transmit changes to the TSRs that were approved by the NRC via Amendment 12 to Certificate GDP-1 (original issue date of 11/26/96).
18	11/1/97	GDP 97-0195 dated 11/14/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 9 to Certificate GDP-1 (original issue date of 11/26/96).

19	11/15/97	GDP 97-0196 dated 11/17/97	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 10 to Certificate GDP-1 (original issue date of 11/26/96).
20	11/20/97	GDP 97-0199 dated 11/20/97	Transmit changes to the SAR that were acknowledged by the NRC in a letter dated October 21, 1997.
21	12/15/97	GDP 97-0221, GDP 97-0222, GDP 97-0223 dated 12/24/97	Transmit changes to the SAR and programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
22	2/20/98	GDP 98-0022 dated 2/25/98	Transmit changes to the TSRs that were approved by the NRC via Amendment 13 to Certificate GDP-1(original issue date of 11/26/96).
23	2/25/98	GDP 98-0023 dated 2/25/98	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 14 to Certificate GDP-1 (original issue date of 11/26/96).
24	4/15/98	GDP 98-0071, GDP 98-0072, GDP 98-0073 dated 4/14/98	Transmit the 1998 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval.
25	7/28/98	GDP 98-0148, GDP 98-0149, GDP 98-0150 dated 7/28/98	Transmit changes to the SAR and programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
26	8/15/98	GDP 98-0162, GDP 98-0163 dated 8/17/98	Transmit changes to the SAR, TSR Bases and programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
27	8/31/98	GDP 98-0181, GDP 98-0182 dated 9/1/98	Transmit changes to the programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
28	10/16/98	GDP 98-0209 dated 10/19/98	Transmit changes to the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
29	10/31/98	GDP 98-0227 dated 11/2/98	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 17 to Certificate GDP-1 (original issue date of 11/26/96), (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

30	11/4/98	GDP 98-0231 dated 11/6/98	Transmit changes to the Physical Security Plan that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
31	11/6/98	GDP 98-0240 dated 11/6/98	Transmit changes to the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
32	11/8/98	GDP 98-0232 dated 11/9/98	Transmit changes to the TSRs that were approved by the NRC via Amendment 16 to Certificate GDP-1 (original issue date of 11/26/96).
33	12/13/98	GDP 98-0245 dated 12/15/98	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 18 to Certificate GDP-1 (original issue date of 11/26/96), (2) the programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (3) miscellaneous administrative corrections.
34	12/23/98	GDP 98-0286 dated 12/23/98	Transmit changes to the SAR and TSRs that were approved by the NRC via Amendment 20 to Certificate GDP-1 (original issue date of 11/26/96).
35	1/8/99	GDP 99-0005 dated 1/8/99	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 22 to Certificate GDP-1 (original issue date of 11/26/96), (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
36	1/27/99	GDP 99-0022 dated 1/28/99	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 21 to Certificate GDP-1 (original issue date of 11/26/96), (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
37	1/29/99	GDP 99-0023 dated 2/1/99	Transmit changes to the TSRs that were approved by the NRC via Amendment 23 to Certificate GDP-1 (original issue date of 11/26/96).
38	4/14/99	GDP 99-0063, GDP 99-0064 dated 4/14/99	Transmit the 1999 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval.

39	5/25/99	GDP 99-0088, GDP 99-0089 dated 5/26/99	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 1 to Certificate GDP-1, (2) the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
40	8/13/99	GDP 99-0147, GDP 99-0148 dated 8/19/99	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
41	8/27/99	GDP 99-0160 dated 8/30/99	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 2 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
42	11/5/99	GDP 99-0190 dated 11/8/99	Transmit changes to the TSRs that were approved by the NRC via Amendment 4 to Certificate GDP-1.
43	12/3/99	GDP 99-0202 dated 12/3/99	Transmit changes to the QAP that were approved by the NRC via Amendment 3 to Certificate GDP-1.
44	12/17/99	GDP 99-0220, GDP 99-0221 dated 12/20/99	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
45	1/22/00	GDP 00-0007 dated 1/24/00	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 5 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
46	4/14/00	GDP 00-0059 GDP 00-0060 dated 4/14/00	Transmit the 2000 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval.
47	5/5/00	GDP 00-0073 dated 5/8/00	Transmit changes to: (1) the TSRs and SAR that were approved by the NRC via Amendment 2 to Certificate GDP-1, (2) programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
48	6/2/00	GDP 00-0099 dated 6/2/00	Transmit changes to the TSRs that were approved by the NRC via Amendment 7 to Certificate GDP-1.

49	6/29/00	GDP 00-0119 dated 6/30/00	Transmit changes to: (1) the QAP that were approved by the NRC via Amendment 6 to Certificate GDP-1, (2) the QAP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
50	7/7/00	GDP 00-0123 dated 7/10/00	Transmit changes to the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
51	8/11/00	GDP 00-0143, GDP 00-0144 dated 8/11/00	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
52	10/13/00	GDP 00-0182 dated 10/20/00	Transmit changes to the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
53	11/28/00	GDP 00-0206 dated 11/28/00	Transmit changes to the QAP that were approved by the NRC via Amendment 10 to Certificate GDP-1.
54	12/15/00	GDP 00-0221, GDP 00-0222 dated 12/19/00	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
55	3/19/01	GDP 01-0053, GDP 01-0054 dated 3/23/01	Transmit changes to: (1) the TSRs, FNMCP, and SAR that were approved by the NRC via Amendment 12 to Certificate GDP-1, (2) the SAR, and programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
56	4/6/01	GDP 01-0063, GDP 01-0064 dated 4/9/01.	Transmit (1) the 2001 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval, (2) changes to the FNMCP that were approved by the NRC via Amendment 12 to Certificate GDP-1.
57	5/23/01	GDP 01-0096, GDP 01-0097 dated 5/24/01	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 13 to Certificate GDP-1, (2) the SAR, and programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

58	5/31/01	GDP 01-0111 dated 6/4/01	Transmit changes to: (1) the TSRs and SAR that were approved by the NRC via Amendment 14 to Certificate GDP-1, (2) the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
59	6/1/01	GDP 01-0112 dated 6/4/01	Transmit changes to the SAR, and QAP, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
60	8/10/01	GDP 01-0127 GDP 01-0128 dated 8/10/01	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
61	9/7/01	GDP 01-0156 dated 9/10/01	Transmit changes to the SAR that were approved by the NRC via Amendment 16 to Certificate GDP-1.
62	10/12/01	GDP 01-0163 dated 10/15/01	Transmit changes to the TSRs that were approved by NRC via Amendment 17 to Certificate GDP-1.
63	12/16/01	GDP 01-0188, GDP 01-0189 dated 12/18/01	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 19 to Certificate GDP-1, (2) the SAR, TSR Bases, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
64	2/16/02	GDP 02-0009 dated 2/22/02	Transmit changes to the TSRs that were approved by the NRC via Amendment 19 to Certificate GDP-1.
65	2/28/02	GDP 02-0016, GDP 02-0017 dated 3/8/02	Transmit changes to: (1) the SAR and TSRs that were approved by the NRC via Amendment 20 to Certificate GDP-1, (2) programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
66	3/22/02	GDP 02-0027 dated 3/25/02	Transmit changes to the TSRs that were approved by the NRC via Amendment 21 to Certificate GDP-1.
67	4/12/02	GDP 02-0034, GDP 02-0035 dated 4/12/02	Transmit (1) the 2002 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval, (2) changes to the TSRs that were approved by the NRC via Amendments 24 and 27 to Certificate GDP-1.

68	4/30/02	GDP 02-0038, GDP 02-0039 dated 5/1/02	Transmit changes to: (1) the GDPSP that were approved by the NRC via Amendment 26 to Certificate GDP-1, (2) the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
69	5/17/02	GDP 02-0051 dated 5/20/02	Transmit changes to the TSRs that were approved by the NRC via Amendment 28 to Certificate GDP-1.
70	6/30/02	GDP 02-0064, GDP 02-0065 dated 7/1/02	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendments 23, 25 and 29 to Certificate GDP-1, (2) the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
71	7/19/02	GDP 02-0074 dated 7/23/02	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 31 to Certificate GDP-1, (2) the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
72	7/30/02	GDP 02-0076 dated 8/1/02	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 32 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
73	8/16/02	GDP 02-0080, GDP 02-0081 dated 8/19/02	Transmit changes to the SAR, and programs and plans, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
74	9/6/02	GDP 02-0086 dated 9/9/02	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 33 to Certificate GDP-1, (2) the TSR Bases that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
75	12/6/02	GDP 02-0099 dated 12/9/02	Transmit changes to the SAR, and QAP, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval. These changes are related to Revision 15 of the PTQAP.
76	12/13/02	GDP 02-0117 dated 12/16/02	Transmit changes to the programs and plans that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

77	12/20/02	GDP 02-0119 dated 12/23/02	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 35 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
78	1/10/03	GDP 03-0003 dated 1/14/03	Transmit changes to: (1) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (2) administrative corrections to the SAR.
79	2/21/03	GDP 03-0012 dated 2/24/03	Transmit changes to the SAR, and QAP, that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval. These changes are related to Revision 16 of the PTQAP.
80	3/21/03	GDP 03-0016 dated 3/24/03	Transmit changes to: (1) the TSRs that were approved by the NRC via Amendment 36 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (3) administrative corrections to the TSRs.
81	4/11/03	GDP 03-0024, GDP 03-0025 dated 4/11/03	Transmit the 2003 Annual Update of changes to the Application that were reviewed in accordance with 10 CFR 76 and were determined not to require prior NRC approval.
82	7/23/03	GDP 03-0040 dated 6/23/03	Transmit changes to: (1) the TSRs that were approved by the NRC as Amendment 37 to Certificate GDP-1, (2) the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (3) administrative corrections to the SAR.
83	8/15/03	GDP 03-0052, GDP 03-0053 dated 8/18/03	Transmit changes to the Emergency Plan and FNMCP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
84	10/24/03	GDP 03-0061 dated 11/3/03	Transmit changes to: (1) the TSR Basis, the SAR and Emergency Plan that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (2) administrative corrections to the TSR and SAR.
85	12/12/03	GDP 03-0067, GDP 03-0068 dated 12/15/03	Transmit changes to the SAR, Emergency Plan, FNMCP, GDPSP and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

86	12/29/03	GDP 03-0072 dated 12/29/03	Transmit changes to the Decommissioning Funding Program Description and Depleted Uranium Management Plan that were approved by NRC letter dated 8/4/03.
87	2/20/04	GDP 04-0007 dated 2/25/04	Transmit changes to the TSRs that were approved by the NRC as Amendment 1 to Certificate GDP-1.
88	3/5/04	GDP 04-0012 dated 3/8/04	Transmit changes to the TSRs that were approved by the NRC as Amendment 2 to Certificate GDP-1.
89	4/12/04	GDP 04-0023, GDP 04-0024 dated 4/13/04	Transmit Annual Update changes to the SAR, Emergency Plan, FNMCP and GDPSP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
90	5/28/04	GDP 04-0037 dated 6/2/04	Transmit changes to the QAP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
91	7/9/04	GDP 04-0042 dated 7/19/04	Transmit changes to the SAR that were approved by the NRC as Amendment 3 to Certificate GDP-1.
92	8/13/04	GDP 04-0045, GDP 04-0046 dated 8/17/04	Transmit changes to: (1) the GDPSP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval, (2) administrative corrections to the SAR.
93	12/15/04	GDP 04-0066, GDP 04-0067 dated 12/20/04	Transmit changes to the SAR, Emergency Plan, FNMCP and GDPSP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
94	2/25/05	GDP 05-0006 dated 3/15/05	Transmit changes to: (1) the Decommissioning Funding Program Description and Depleted Uranium Management Plan that were approved by NRC letter dated 1/25/05, (2) changes to the SAR that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
95	4/14/05	GDP 05-0016, GDP 05-0017 dated 4/14/05	Transmit Annual Update changes to the SAR, Emergency Plan and FNMCP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval. Revision 95 also included changes to the TSRs that were approved by the NRC as Amendment 4 to Certificate GDP-1.

96	8/12/05	GDP 05-0031 dated 8/12/05	Transmit changes to the TSR Basis, SAR and Emergency Plan that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
97	9/16/05	GDP 05-0039 dated 9/19/05	Transmit changes to the TSRs and SAR that were approved by the NRC as Amendment 5 to Certificate GDP-1.
98	1/27/06	GDP 06-0003, GDP 06-0004 dated 1/27/06	Transmit changes to the SAR, Emergency Plan, GDPSP and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
99	3/2/06	GDP 06-0014 dated 3/2/06	Transmit changes to the FNMCP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
100	3/26/06	GDP 06-0019, GDP 06-0020 dated 4/3/06	Transmit Annual Update changes to the TSR Basis, SAR, QAP, Emergency Plan, FNMCP and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval. Revision 100 also included changes to the TSRs that were approved by the NRC as Amendment 6 to Certificate GDP-1.
101	5/26/06	GDP 06-0047, GDP 06-0048 dated 8/17/06	Transmit changes to the TSRs and that were approved by the NRC as Amendment 7 to Certificate GDP-1.
102	7/27/06	GDP 06-0047, GDP 06-0048 dated 8/17/06	Transmit changes to the TSRs that were approved by the NRC as Amendment 8 to Certificate GDP-1. Revision 102 also included changes to the SAR that were associated with the TSR changes.
103	8/3/06	GDP 06-0047, GDP 06-0048 dated 8/17/06	Transmit changes to the TSRs that were approved by the NRC as Amendment 9 to Certificate GDP-1. Revision 103 also included changes to the SAR and Emergency Plan that were that were associated with the TSR changes.
104	8/11/06	GDP 06-0047, GDP 06-0048 dated 8/17/06	Transmit changes to the GDPSP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
105	9/20/06	GDP 06-0052, GDP 06-0053 dated 11/8/06	Transmit changes to the SAR, GDPSP and Emergency Plan that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

106	3/28/07	GDP 07-0006 dated 4/12/07	Transmit Annual Update changes to the TSR Basis, SAR, Emergency Plan, GDPSP and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
107	4/13/07	GDP 07-0012 dated 4/16/07	Transmit changes to the Decommissioning Funding Program Description and Depleted Uranium Management Plan that were approved by NRC letter dated 3/21/07.
108	7/18/07	GDP 07-0018 dated 8/2/07	Transmit changes to the TSRs that were approved by the NRC as Amendment 11 to Certificate GDP-1. Revision 108 also included changes to the SAR that were associated with the TSR changes.
109	9/8/07	GDP 07-0036 dated 10/11/07	Transmit changes to the TSRs that were approved by the NRC as Amendment 12 to Certificate GDP-1. Revision 109 also included changes to the SAR that were associated with the TSR changes.
110	10/26/07	GDP 07-0038, GDP 07-0039 dated 10/24/07	Transmit changes to the SAR, QAP, Emergency Plan,FNMCP, GDPSP and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.
111	4/4/08	GDP 08-0007, GDP 08-0008, Dated 4/10/08	Transmit Annual Update changes to the SAR, Emergency Plan, Environmental Compliance Status Report, FNMCP, GDPSP, and RWMP that were reviewed in accordance with 10 CFR 76 and determined not to require prior NRC approval.

5.2 DOE/ORO-2026, "Plan for Achieving Compliance with NRC Regulations at the Paducah Gaseous Diffusion Plant (the Compliance Plan)," Docket No. 70-7001, Revisions 3 through 9 as shown in the following table.

Compliance Plan Revision	Date of Revision	Transmitted by USEC Letter(s)	Purpose of Revision
3	7/9/96 7/15/96 7/17/96	GDP 96-0136, GDP 96-0137 dated 7/12/96 GDP 96-0142 dated 7/15/96 GDP 96-0143 dated 7/18/96	Transmit changes to the Compliance Plan for initial certification.
3A	8/1/96	GDP 96-0163, GDP 96-0164 dated 8/1/96	Transmit changes to the Compliance Plan for initial certification.
4	9/5/97	GDP 97-0160 dated 9/8/97	Transmit changes that were approved by the NRC via Amendment 7 to Certificate GDP-1 (original issue date of 11/26/96).
5	10/16/97	GDP 97-0186 dated 10/28/97	Transmit changes that were approved by the NRC via Amendment 11 to Certificate GDP-1 (original issue date of 11/26/96).
6	11/20/97	GDP 97-0199 dated 11/20/97	Transmit changes that were acknowledged by the NRC in a letter dated October 21, 1997.
7	3/20/98	GDP 98-0056 dated 3/27/98	Transmit changes that were approved by the NRC via Amendment 15 to Certificate GDP-1 (original issue date of 11/26/96).
8	1/8/99	GDP 99-0005 dated 1/8/99	Transmit changes that were approved by the NRC via Amendment 22 to Certificate GDP-1 (original issue date of 11/26/96).
9	12/1/00	GDP 00-0210 dated 12/1/00	Transmit changes that were approved by the NRC via Amendment 11 to Certificate GDP-1.

Enclosure 3
GDP 08-0014

National Emissions Standard for
Hazardous Air Pollutants (NESHAP)
CY2002 through CY 2006

USEC
A Global Energy Company

June 25, 2003

Mr. John S. Lyons, Director
Division for Air Quality
Kentucky Department for Environmental Protection
803 Schenkel Lane
Frankfort, Kentucky 40601-1403
CERTIFIED MAIL – 7000 0600 0023 8878 1178

Mr. Winston A. Smith, Director
Air, Pesticides, and Toxic Management Division
United States Environmental Protection Agency, Region 4
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Ms. Eleanor D. Thornton
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MS6608J, Ariel Rios Building
United States Environmental Protection Agency Headquarters
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Washington, D.C. 20460
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Dear Mr. Lyons, Mr. Smith, and Ms. Thornton:

2002 National Emission Standards for Hazardous Air Pollutants (NESHAP) Annual Report for United States Enrichment Corporation (USEC) Operations at the Paducah Gaseous Diffusion Plant (PGDP)

Attached is the annual NESHAP report (Attachment 1) required by 40 CFR 61, Subpart H, as adopted by the Commonwealth of Kentucky by reference in 401 KAR 57:002. This report summarizes airborne radionuclide emissions from USEC operations during CY 2002. Attached for reference is a copy of the DOE report for CY 2002 (Attachment 2).

The PGDP site is owned by the Department of Energy (DOE). USEC and DOE conduct independent operations at the site. As the regulations apply to the total quantity of radionuclides emitted from the site, the USEC report also includes emissions from DOE operations. Separate certifications are provided for USEC and DOE operations.

If you have any questions, please contact Scott Creasey at (270) 441-6522.

Sincerely,

V. J. Shanks for

T. Michael Taimi
Director, Environmental Affairs

TMT:SLC:mjw

Attachments (2)

cc: Steve Penrod/Mark Keef – USEC/PGDP
Don Seaborg – DOE/PGDP
Russ Starkey – USEC/PGDP

cc/att: Scott Creasey – USEC/PGDP
~~Vernon~~ Shanks/Dennis Reiter – USEC/PGDP
WM/EC – RC

cc/att (1): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

United States Enrichment Corporation
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2002

SITE INFORMATION

***Site Name*:**

Paducah Gaseous Diffusion Plant

Operating Contractor:

United States Enrichment Corporation

Address:

Post Office Box 1410
Paducah, Kentucky 42002-1410

***Contact*:**

Scott L. Creasey

Contact's Phone:

(270) 441-6522

SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

DOE PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. The raw water treatment plant and contained landfill are the only operating areas outside of the security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 535,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, averages about 35 F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC. According to the Lease Agreement between DOE and USEC, USEC retained responsibility for quantification of airborne radionuclide emissions and preparation of the annual report required by 40 CFR 61, Subpart H. DOE remains responsible for compliance with other requirements for DOE-operated sources.

On March 3, 1997, the Nuclear Regulatory Commission assumed regulatory responsibility for the USEC-leased portion of the plant. However, because DOE owns the entire facility, both the USEC and DOE facilities are subject to 40 CFR 61, Subpart H, requirements.

USEC SOURCE DESCRIPTIONS

The following are the potential USEC airborne radionuclide sources at the Paducah Plant. Although not all of them were used in 2002, they are included in this report due to their potential for future restart.

C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of

sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily results of the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2002, there were 12 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the unlikely event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick, gummy sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002, respectively. The 2002 sampling results were used for emission estimates for CY 2002.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhaust

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet)

air is pumped from the system by the wet air pumps. In the dry air purges and the five wet air withdrawals, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts in 2002 were estimated based on results of Method 5 stack sampling performed in 2002. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a "puff" of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that any minute "whiff or puff" of UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities in CY 2002 were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).
C-360	Toll Transfer and Sampling Facility.

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Quantities of UF_6 released as observed puffs are added to the releases estimated from normal operations.

In the case of C-360, there are two stacks, one for the pigtail exhaust system and one for the sample cabinet exhaust.

Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 94 laboratory hoods and canopies in the C-709/710 buildings. Sixty-one of the hoods were used for radiological activities in CY 2002. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th). In some cases, the hood exhausts combine with other hood exhausts, creating a discrepancy between the number of hoods and actual emission points. There are also 8 laboratory hoods in the C-409 Stabilization Facility. None of these hoods were used for work with radionuclides in 2002. The list below indicates the laboratory exhaust systems at PGDP:

Building	Hoods/Canopies	Hoods/Canopies Used in Radiological Areas in 2002
C-709/710 Laboratory	94	61
C-409	8	Not used

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 separator is located in C-335 and can be used to separate relatively large amounts of CFC-114 coolant, which has entered the cascade system and mixed with UF_6. The separator was installed in 1978, and pilot tests were conducted in 1979. When in use, the separator air effluent is passed through a cold trap at 0 F which condenses approximately 98.5 percent of the gaseous UF_6. The residual UF_6 in the effluent is trapped by two NaF traps containing 900 pounds of NaF each. Uranium trapped by the NaF traps is recovered back to the gaseous diffusion cascade. The outlet of the NaF traps is monitored by a flow-through ionization chamber. The effluent passes from the NaF traps through alumina traps and a header to the C-335 wet air/seal exhaust system.

The emissions from this system also have to pass through the wet air/seal exhaust pump oil, which is an excellent scrubber of UF_6. Since this facility is used only when large amounts of CFC-114 leak into the cascade and is equipped with a two-stage control process, use of this facility is not expected to increase the emissions from the wet air/seal exhaust system. This facility was not operated in 2002.

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in the solution from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Radiological Areas

Radiological areas are established under specific criteria listed in various worker protection procedures and standards. There are a number of radiological areas at PGDP that are monitored by Health Physics (HP) low-volume air samplers. The sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing the ambient building air through a Whatman No. 41 cellulose filter. The samplers run 24-hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending upon weekend and holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for airborne radioactivity concentrations.

For the 2002 NESHAP report, PGDP estimated the building ventilation grouped source according to the method stated in Section 3.1 of the revised PGDP NESHAP Compliance Plan submitted to EPA in January 1992.

According to PGDP's compliance plan, building emissions from non-radiological areas are not estimated due to their lack of potential for airborne radiological emissions.

For CY 2002, the following is a list of PGDP's radiological areas from which emissions were evaluated using HP data:

C-310 Product Withdrawal Building
C-315 Tails Withdrawal Building
C-331 Uranium Enrichment Process Building
C-333 Uranium Enrichment Process Building
C-333-A Uranium Feed Facility
C-335 Uranium Enrichment Process Building
C-337 Uranium Enrichment Process Building
C-337-A Uranium Feed Facility
C-360 Toll Transfer/Sampling Building
C-400 Decontamination Building
C-710 Laboratory
C-720 Maintenance Building This building is the primary maintenance building at PGDP. Maintenance on contaminated and uncontaminated machinery is performed here. Transferable contamination has been removed prior to maintenance; however, there is a potential for airborne radionuclide emissions from fixed contamination during maintenance procedures. Portable negative air machines, which are equipped with HEPA filters, are utilized whenever there is a potential for airborne radionuclide emissions.

Buildings C-754, C-757, and the USEC-controlled side of C-746-Q are also categorized as radiological areas. However, these buildings have no ventilation system. Any emissions from these buildings would be fugitive or diffuse in nature. Fugitive and diffused emissions are discussed later in this report.

Data from HP air sampling in radiological areas indicated that the trigger level of 10 percent of the most restrictive Derived Air Concentration (DAC) guideline in 10 CFR 20, Appendix B, (2E-12 uCi/ml for ^{237}Np) was exceeded multiple times in 2002. Using these samples, the maximum air concentration of alpha-emitting particles was calculated. Using a conservative approach, 10 percent of the alpha particles were assumed to be ^{237}Np and 90 percent of the particles were assumed to be uranium. Using the air exchange rates determined from facility engineering data, the total emissions from each facility were estimated for the periods during which the samples exceeded 10 percent of the ^{237}Np DAC.

The compliance plan states that non-radiological areas will not be evaluated as an airborne radiological source due to average concentrations of radionuclides less than 10 percent of the most stringent DAC. HP sample results indicate the average radionuclide air concentrations, even in radiological areas, are usually less than 10 percent of the most stringent DAC. Therefore, building ventilation emissions from non-radiological areas will not be considered an airborne radionuclide source and emissions will not be evaluated.

Finally, the dilution factor due to dispersion at PGDP based on 1992 meteorological data is 7.9E-7. Therefore, even if the average concentration of airborne nuclides was 10 percent of the most stringent DAC, the resulting off-site dose to the public due to dispersion would not exceed 0.0004 mrem/year (0.000004 millisieverts/year).

C-400 Laundry

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Nonpoint Sources

Guidance from EPA which stated that provisions of 40 CFR 61, Subpart H, applied to fugitive and diffused emissions, was contained in correspondence dated March 24, 1992. EPA also forwarded to PGDP on September 21, 1992, questions pertaining to 1992 ambient air sampling results and their use as indications that fugitive and diffused emissions from PGDP operations were insignificant. PGDP's reply satisfied all of EPA's questions except the one pertaining to resuspension of contaminated soil that could result from such activities as well drilling activities or vehicular traffic upon contaminated earth. The question as to whether such activities actually constitute fugitive or diffused sources was forwarded to EPA headquarters for resolution. USEC has not, as of this submittal, received guidance on this question. It is not expected that any activity that would result in fugitive or diffused emissions would result in emissions that would be distinguishable from background at off-site locations.

Another minor potential fugitive or diffused source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The contaminants originate from the soil and groundwater.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Pilot Plant

On September 1, 1995, DOE began operation of a pilot groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics from water and an ion exchange unit for the removal of ^{99}Tc. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Drum Mountain
17. C-747-A Burial Area - Burial Grounds
18. Rubble Pile - South of Perimeter Fence
19. Rubble Pile - South of Plant Near Ogden Landing Road
20. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
21. Rubble Pile - East of Plant Near Outfall K002
22. C-301 Low-Level Waste Storage Area
23. C-340 Building
24. Rubble Pile - East of Plant near Outfall K010
25. KPDES Outfall 011
26. Little Bayou Creek and Dyke Road
27. Little Bayou Creek Confluent with KPDES Outfall 002
28. Little Bayou Creek Crossing and McCaw Road
29. Little Bayou Creek and Ogden Landing Road
30. North-South Diversion Ditch and Ogden Landing Road
31. Contaminated Ditch Flowing to KPDES Outfall 001
32. Contamination Area West of Plant
33. C-615 Sewage Treatment Facility
34. North-South Diversion Ditch Near Perimeter Fence
35. North-South Diversion Ditch Near Ogden Landing Road
36. C-746-U Landfill

*37. C-746-S and C-746-T Landfills
*38. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Scrap Metal Project

The Scrap Metal Project began operations to remove scrap metal from the northwest portion of the Paducah site. The project upgraded the infrastructure to support future activities. The upgrades include installation of administrative trailers, construction of haul roads and staging areas, and clearing vegetation. During 2002, airborne radionuclide emissions may have resulted from dust created by relocation of wooden materials, primarily pallets. Some of the wood may have been radiological contaminated. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Potential fugitive or diffuse sources and ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2002. Additional air monitors were installed during the year. Based on observations for CY 2002, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

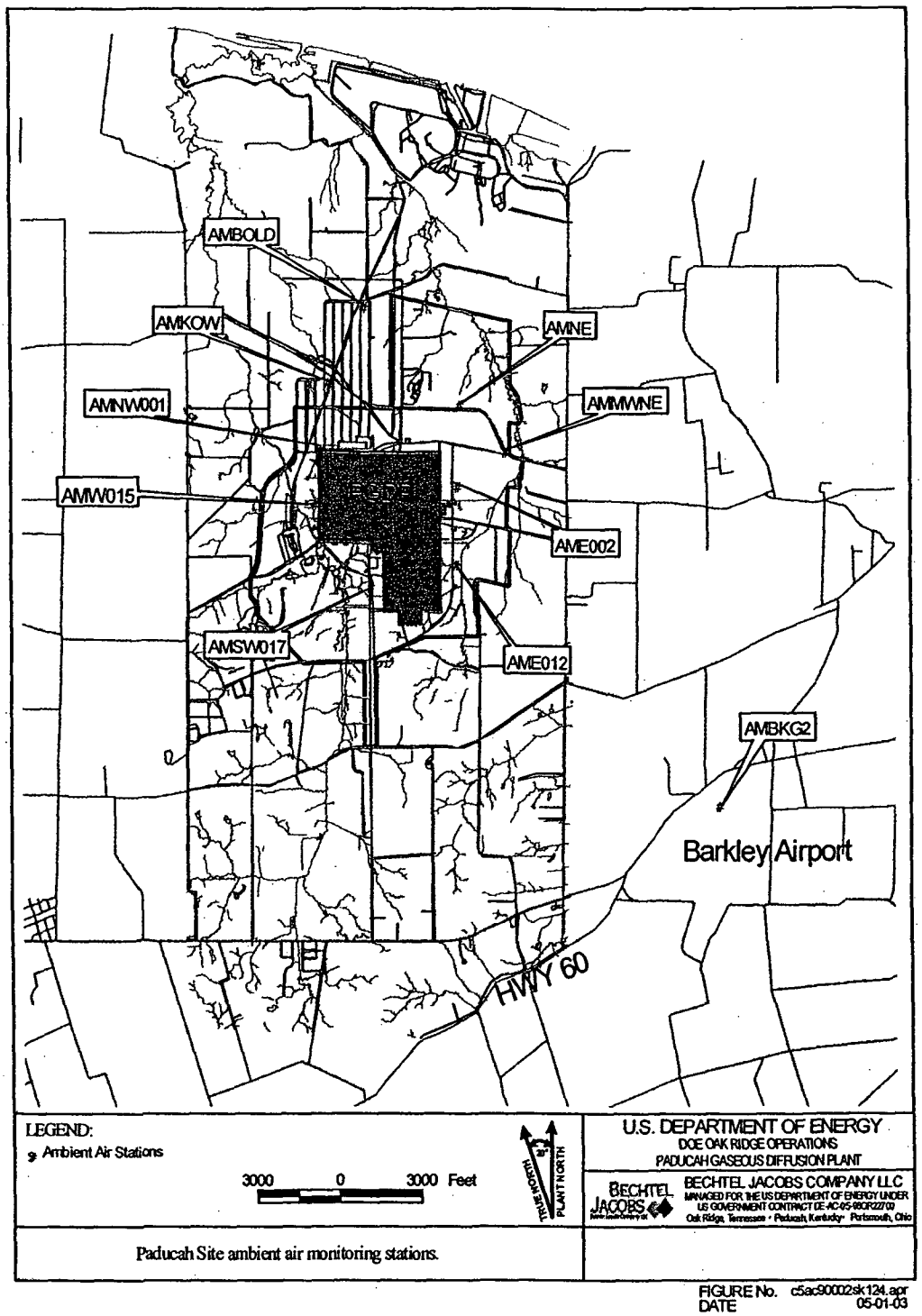

Figure 1. Location of Paducah Site fugitive and diffuse sources and ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-310 Purge Stack	NaF Traps[2]	>99.9	1740 ESE
	Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-360[3]	None	0	1180 SE
C-400 Cylinder Drying Station[3]	None	0	1900 ESE

MINOR GROUPED SOURCES

Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
Seal/Wet Air exhausts (6)	Alumina Traps[2]	~98.6	1490 ESE
Cylinder valve connection activities not included above (i.e., not serviced by a stack) (7).[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
C-400 grouped sources (3)[3]	None	0	1920 ESE
C-710 laboratory hoods (61)[3]	None	0	1960 ESE
Building ventilation (10)	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the Seal/Wet Air Exhausts Group in further analyses.

[1]Distances to receptors were resurveyed in 2002 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
						Source	Plant
C-310	Point	61.0	0.3	0	21.7	3040 NNE	2430 N
C-360	Point[1]	16.0	N/A	0	Ambient	1180 SE	2370 NNW
C-400 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C-709/C-710 Lab	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
Seal/Wet Air Exhaust Group[2]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
C-310	1740	2705	3840
C-360	1180	2000	3840
C-400 Group	1920	2819	4225
C-400 Cylinder Drying Station	1900	2819	4100
C-709/C-710 Lab	1960	2705	3900
Seal/Wet Air Exhaust Group	1490	2438	3840

[1] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

[2] Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2002									
Emission Source			C-310	C-709/ C-710 Lab	Seal/Wet Air Exhaust Grouped Sources	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-360 Sampling	Total
Nuclide	Solubility	AMAD							
^{99}Tc	W	1	2.36E-02	2.48E-04	1.22E-02	8.60E-03	4.56E-08	1.33E-04	4.48E-02
^{230}Th	W	1	4.36E-06	NA[2]	1.94E-06	1.06E-07	1.38E-08	NA[2]	6.42E-06
^{234}U	D	1	9.69E-04	3.05E-03	1.74E-02	4.50E-04	4.58E-06	1.41E-04	2.20E-02
^{235}U	D	1	3.35E-05	1.05E-04	5.97E-04	1.55E-05	1.58E-07	4.90E-06	7.56E-04
^{238}U	D	1	7.01E-05	2.82E-04	3.94E-03	1.04E-04	1.19E-06	1.23E-05	4.41E-03
^{237}Np	W	1	3.33E-05	1.35E-05	3.79E-04	5.10E-06	4.33E-09	1.76E-05	4.49E-04
^{239}Pu	W	1	1.65E-06	NA[2]	1.18E-06	4.34E-08	1.12E-08	NA[2]	2.88E-06
Total Ci/year			2.47E-02	3.69E-03	3.45E-02	9.18E-03	6.01E-06	3.09E-04	7.24E-02
Check Totals									7.24E-02

[1] 1 Curie = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
Scrap Metal Project	None	0	1234 N

Radionuclide Emissions (Ci)[2] During 2002		
Emission Source	Northwest Plume Treatment Facility	Scrap Metal Project
^{99}Tc	1.59E-2	1.1E-7
^{238}U	N/A	2.8E-4
Total Ci/year	**1.59E-2**	**2.8E-4**
DOE Total Ci/year	**1.62E-2**	

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
Scrap Metal Project	1234	3033	5800

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
Scrap Metal Project	Point	1		0	Ambient	1205 NNE

[1]Distances to receptors were resurveyed in CY 2002 due to residential construction in the vicinity of the plant.

[2]1 Curie = 3.7×10^{10} Becquerels.

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	121 centimeters/year
Average air temperature:	20° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce[1]:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources	Maximum for Source	Maximum for Plant
C-310	2.20E-03	2.10E-03
C-360	1.50E-03	6.70E-03
C-400 Group	1.30E-03	1.30E-03
C-400 Cylinder Drying Station	5.20E-06	5.20E-06
C-709/C-710 Lab	2.50E-03	2.50E-03
Seal/Wet Air Exhaust Group	2.70E-02	2.70E-02
Total From USEC Sources	**N/A**	**3.96E-02**
DOE Emission Sources	**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility	3.20E-03	3.20E-03
Scrap Metal Project	4.80E-04	4.80E-04
Total From DOE Sources	**N/A**	**3.68E-03**
Total From All Sources	**N/A**	**4.33E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 4.33E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2002 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.2 person-rem.

[1] 1 mrem=0.01 millisieverts.

CERTIFICATION

This certification pertains to the following USEC emission sources:

C-310 Purge and Vent Stack
C-360
C-400 Group
C-400 Cylinder Drying Station
C-709/C-710 Lab
Seal Exhaust/Wet Air Group

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

United States Enrichment Corporation

6/17/03
Date

CERTIFICATION

This certification pertains to the following DOE emission source:

Northwest Plume Treatment Facility
Scrap Metal Project
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

Department of Energy

06-24-03
Date

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were approximately 6 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2002. The estimated total quantity of uranium released was less than 22g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan.* This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2002. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

Because ^{241}Am and ^{234}Th were not detected, plutonium and uranium isotopic analyses were not performed on the quarterly composites. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2002, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides during CY 2002. The concentration detected is less than the 40 CFR 61 Appendix E, Table 2 value for environmental compliance.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1. The sum of the ratio of the ambient air result to the corresponding Table 2 value for each monitoring location for each quarter is also included in Table A-1.

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[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results

		Max allowed	AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3
1	Am-241	1.9E-15	1.52E-16	1.91E-16	1.88E-17	9.3E-17	2.39E-17	1.80E-16	-2.68E-16	-9.52E-17	6.82E-17	7.89E-17
	Np-237	1.2E-15	-1.51E-16	-5.2E-17	5.19E-16	3.50E-16	-9.59E-17	-2.79E-16	-4.39E-16	4.28E-16	-2.27E-16	-3.29E-16
	Tc-99	1.4E-13	-2.30E-16	-4.65E-16	-4.34E-16	-3.32E-16	-5.16E-17	-2.28E-16	2.05E-15	-4.19E-16	-1.55E-16	-4.43E-16
	U-238	8.3E-15	1.24E-16	1.68E-16	1.93E-16	1.79E-16	1.92E-16	1.35E-16	1.37E-16	2.17E-16	1.74E-16	1.73E-16
	Sum of ratios	1	-0.03	0.07	0.46	0.36	-0.04	-0.12	-0.48	0.33	-0.13	-0.22
2	Am-241	1.9E-15	9.67E-16	-1.05E-15	8.50E-17	-1.08E-15	2.08E-16	-9.95E-16	-1.43E-15	2.03E-16	-6.58E-16	4.68E-16
	Np-237	1.2E-15	2.01E-16	-4.85E-17	-1.11E-16	-6.75E-16	2.02E-16	-2.10E-17	6.20E-17	3.10E-16	5.23E-17	7.58E-16
	Tc-99	1.4E-13	1.13E-16	-1.02E-16	-4.18E-16	1.94E-16	6.87E-17	1.42E-16	5.91E-17	2.60E-17	1.16E-16	-2.96E-16
	U-238	8.3E-15	2.41E-16	2.05E-16	2.19E-16	2.36E-16	2.04E-16	2.08E-16	1.25E-16	3.06E-16	2.74E-16	1.91E-16
	Sum of ratios	1	-0.31	-0.57	-0.02	-1.10	0.30	-0.52	-0.69	0.40	-0.27	0.90
3	Am-241	1.9E-15	1.95E-16	6.14E-17	-5.92E-16	6.46E-17	1.13E-16	5.62E-16	2.03E-16	-9.12E-19	-4.91E-16	3.57E-16
	Np-237	1.2E-15	-1.97E-17	-2.17E-17	-5.45E-16	1.56E-16	2.64E-16	1.29E-16	-5.67E-17	-2.98E-17	2.11E-16	1.2E-16
	Tc-99	1.4E-13	5.78E-16	2.92E-16	5.29E-16	2.79E-16	3.11E-16	6.85E-16	4.03E-16	6.57E-16	3.15E-16	4.31E-16
	U-238	8.3E-15	2.98E-16	3.26E-16	4.66E-16	4.49E-16	2.97E-16	2.90E-16	1.82E-16	6.10E-16	4.27E-16	2.80E-16
	Sum of ratios	1	0.13	0.06	-0.71	0.22	0.32	0.44	0.08	0.05	-0.03	0.33
4	Am-241	1.9E-15	-7.66E-16	3.76E-16	-1.08E-15	-7.00E-16	3.68E-16	-9.78E-16	-8.16E-16	4.24E-16	-5.54E-16	-6.25E-16
	Np-237	1.2E-15	-4.59E-16	-1.26E-17	-2.89E-16	5.06E-17	-2.43E-16	-2.93E-17	-7.26E-16	-1.80E-16	-2.99E-16	3.52E-17
	Tc-99	1.4E-13	9.48E-17	1.03E-16	1.07E-16	1.43E-16	2.29E-16	9.38E-17	1.23E-16	-2.76E-17	2.83E-16	2.80E-16
	U-238	8.3E-15	5.31E-16	4.53E-16	4.35E-16	6.47E-16	5.24E-16	4.66E-16	2.13E-16	7.08E-16	5.07E-16	5.87E-16
	Sum of ratios	1	-0.72	0.24	-0.75	-0.25	0.06	-0.48	-1.01	0.16	-0.48	-0.23

ATTACHMENT 2

Department of Energy
Oak Ridge Operations
Paducah Site Office
P.O. Box 1410
Paducah, KY 42001

June 24, 2003

Ms. Robin Anderson
United States Environmental Protection Agency
Mail Stop 6602J
401 M Street, S.W.
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Ms. Beverly Banister, Director
Air, Pesticides, and Toxic Management Division
United States Environmental Protection Agency
Region IV
61 Forsyth Street
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Mr. John S. Lyons
Division for Air Quality
Kentucky Department for Environmental Protection
803 Schenkel Lane
Frankfort, Kentucky 40601

Dear Sir/Ms.:

CALENDAR YEAR 2002 ANNUAL NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS REPORT, PADUCAH GASEOUS DIFFUSION PLANT, MCCRACKEN COUNTY, KENTUCKY

Enclosed is the Calendar Year (CY) 2002 Annual National Emission Standards for Hazardous Air Pollutants Report, required by 40 CFR 61, Subpart H. This report summarizes airborne radionuclide emissions from the Paducah Site, including both Department of Energy and United States Enrichment Corporation emissions for CY 2002.

The radiological dose to the most exposed member of the public resulting from site air emissions during CY 2002 is estimated as 0.0433 mrem/year.

If you have any questions or require additional information, please call W. David Tidwell at (270) 441-6807.

Sincerely,

Dianna Feireisel, Acting Site Manager
Paducah Site Office

Enclosure

cc w/enclosure:
S. Cook, KDAQ/Paducah
L. Generette/A. Barrios, EPA/Atlanta
G. A. Vazquez, EH-412
A. Wallo, EH-412

cc w/o enclosure:
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M. P. Humphreys, SE-30
W. E. Murphie, EM-1

United States Department of Energy
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2002

Site Name: Paducah Gaseous Diffusion Plant

OPERATIONS OFFICE INFORMATION

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P. O. Box 1410
Paducah, Kentucky 42002-1410

Contact: W. David Tidwell *Phone:* (270) 441-6807

SITE INFORMATION

Contractors:

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Paducah, Kentucky 42002-1410
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SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

DOE PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. The raw water treatment plant and contained landfill are the only operating areas outside of the security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 535,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, averages about 35 F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC. According to the Lease Agreement between DOE and USEC, USEC retained responsibility for quantification of airborne radionuclide emissions and preparation of the annual report required by 40 CFR 61, Subpart H. DOE remains responsible for compliance with other requirements for DOE-operated sources.

On March 3, 1997, the Nuclear Regulatory Commission assumed regulatory responsibility for the USEC-leased portion of the plant. However, because DOE owns the entire facility, both the USEC and DOE facilities are subject to 40 CFR 61, Subpart H, requirements.

USEC SOURCE DESCRIPTIONS

The following are the potential USEC airborne radionuclide sources at the Paducah Plant. Although not all of them were used in 2002, they are included in this report due to their potential for future restart.

C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of

sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily results of the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2002, there were 12 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the unlikely event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick, gummy sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002, respectively. The 2002 sampling results were used for emission estimates for CY 2002.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhaust

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet)

air is pumped from the system by the wet air pumps. In the dry air purges and the five wet air withdrawals, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts in 2002 were estimated based on results of Method 5 stack sampling performed in 2002. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a "puff" of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that any minute "whiff or puff" of UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities in CY 2002 were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).
C-360	Toll Transfer and Sampling Facility.

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Quantities of UF_6 released as observed puffs are added to the releases estimated from normal operations.

In the case of C-360, there are two stacks, one for the pigtail exhaust system and one for the sample cabinet exhaust.

Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 94 laboratory hoods and canopies in the C-709/710 buildings. Sixty-one of the hoods were used for radiological activities in CY 2002. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th). In some cases, the hood exhausts combine with other hood exhausts, creating a discrepancy between the number of hoods and actual emission points. There are also 8 laboratory hoods in the C-409 Stabilization Facility. None of these hoods were used for work with radionuclides in 2002. The list below indicates the laboratory exhaust systems at PGDP:

Building	Hoods/Canopies	Hoods/Canopies Used in Radiological Areas in 2002
C-709/710 Laboratory	94	61
C-409	8	Not used

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 separator is located in C-335 and can be used to separate relatively large amounts of CFC-114 coolant, which has entered the cascade system and mixed with UF_6. The separator was installed in 1978, and pilot tests were conducted in 1979. When in use, the separator air effluent is passed through a cold trap at 0 F which condenses approximately 98.5 percent of the gaseous UF_6. The residual UF_6 in the effluent is trapped by two NaF traps containing 900 pounds of NaF each. Uranium trapped by the NaF traps is recovered back to the gaseous diffusion cascade. The outlet of the NaF traps is monitored by a flow-through ionization chamber. The effluent passes from the NaF traps through alumina traps and a header to the C-335 wet air/seal exhaust system.

The emissions from this system also have to pass through the wet air/seal exhaust pump oil, which is an excellent scrubber of UF_6. Since this facility is used only when large amounts of CFC-114 leak into the cascade and is equipped with a two-stage control process, use of this facility is not expected to increase the emissions from the wet air/seal exhaust system. This facility was not operated in 2002.

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in the solution from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Radiological Areas

Radiological areas are established under specific criteria listed in various worker protection procedures and standards. There are a number of radiological areas at PGDP that are monitored by Health Physics (HP) low-volume air samplers. The sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing the ambient building air through a Whatman No. 41 cellulose filter. The samplers run 24-hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending upon weekend and holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for airborne radioactivity concentrations.

For the 2002 NESHAP report, PGDP estimated the building ventilation grouped source according to the method stated in Section 3.1 of the revised PGDP NESHAP Compliance Plan submitted to EPA in January 1992.

According to PGDP's compliance plan, building emissions from non-radiological areas are not estimated due to their lack of potential for airborne radiological emissions.

For CY 2002, the following is a list of PGDP's radiological areas from which emissions were evaluated using HP data:

- C-310 Product Withdrawal Building
- C-315 Tails Withdrawal Building
- C-331 Uranium Enrichment Process Building
- C-333 Uranium Enrichment Process Building
- C-333-A Uranium Feed Facility
- C-335 Uranium Enrichment Process Building
- C-337 Uranium Enrichment Process Building
- C-337-A Uranium Feed Facility
- C-360 Toll Transfer/Sampling Building
- C-400 Decontamination Building
- C-710 Laboratory
- C-720 Maintenance Building This building is the primary maintenance building at PGDP. Maintenance on contaminated and uncontaminated machinery is performed here. Transferable contamination has been removed prior to maintenance; however, there is a potential for airborne radionuclide emissions from fixed contamination during maintenance procedures. Portable negative air machines, which are equipped with HEPA filters, are utilized whenever there is a potential for airborne radionuclide emissions.

Buildings C-754, C-757, and the USEC-controlled side of C-746-Q are also categorized as radiological areas. However, these buildings have no ventilation system. Any emissions from these buildings would be fugitive or diffuse in nature. Fugitive and diffused emissions are discussed later in this report.

Data from HP air sampling in radiological areas indicated that the trigger level of 10 percent of the most restrictive Derived Air Concentration (DAC) guideline in 10 CFR 20, Appendix B, (2E-12 uCi/ml for ^{237}Np) was exceeded multiple times in 2002. Using these samples, the maximum air concentration of alpha-emitting particles was calculated. Using a conservative approach, 10 percent of the alpha particles were assumed to be ^{237}Np and 90 percent of the particles were assumed to be uranium. Using the air exchange rates determined from facility engineering data, the total emissions from each facility were estimated for the periods during which the samples exceeded 10 percent of the ^{237}Np DAC.

The compliance plan states that non-radiological areas will not be evaluated as an airborne radiological source due to average concentrations of radionuclides less than 10 percent of the most stringent DAC. HP sample results indicate the average radionuclide air concentrations, even in radiological areas, are usually less than 10 percent of the most stringent DAC. Therefore, building ventilation emissions from non-radiological areas will not be considered an airborne radionuclide source and emissions will not be evaluated.

Finally, the dilution factor due to dispersion at PGDP based on 1992 meteorological data is 7.9E-7. Therefore, even if the average concentration of airborne nuclides was 10 percent of the most stringent DAC, the resulting off-site dose to the public due to dispersion would not exceed 0.0004 mrem/year (0.000004 millisieverts/year).

C-400 Laundry

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Nonpoint Sources

Guidance from EPA which stated that provisions of 40 CFR 61, Subpart H, applied to fugitive and diffused emissions, was contained in correspondence dated March 24, 1992. EPA also forwarded to PGDP on September 21, 1992, questions pertaining to 1992 ambient air sampling results and their use as indications that fugitive and diffused emissions from PGDP operations were insignificant. PGDP's reply satisfied all of EPA's questions except the one pertaining to resuspension of contaminated soil that could result from such activities as well drilling activities or vehicular traffic upon contaminated earth. The question as to whether such activities actually constitute fugitive or diffused sources was forwarded to EPA headquarters for resolution. USEC has not, as of this submittal, received guidance on this question. It is not expected that any activity that would result in fugitive or diffused emissions would result in emissions that would be distinguishable from background at off-site locations.

Another minor potential fugitive or diffused source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The contaminants originate from the soil and groundwater.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Pilot Plant

On September 1, 1995, DOE began operation of a pilot groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics from water and an ion exchange unit for the removal of ^{99}Tc. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Drum Mountain
17. C-747-A Burial Area - Burial Grounds
18. Rubble Pile - South of Perimeter Fence
19. Rubble Pile - South of Plant Near Ogden Landing Road
20. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
21. Rubble Pile - East of Plant Near Outfall K002
22. C-301 Low-Level Waste Storage Area
23. C-340 Building
24. Rubble Pile - East of Plant near Outfall K010
25. KPDES Outfall 011
26. Little Bayou Creek and Dyke Road
27. Little Bayou Creek Confluent with KPDES Outfall 002
28. Little Bayou Creek Crossing and McCaw Road
29. Little Bayou Creek and Ogden Landing Road
30. North-South Diversion Ditch and Ogden Landing Road
31. Contaminated Ditch Flowing to KPDES Outfall 001
32. Contamination Area West of Plant
33. C-615 Sewage Treatment Facility
34. North-South Diversion Ditch Near Perimeter Fence
35. North-South Diversion Ditch Near Ogden Landing Road
36. C-746-U Landfill

*37. C-746-S and C-746-T Landfills
*38. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Scrap Metal Project

The Scrap Metal Project began operations to remove scrap metal from the northwest portion of the Paducah site. The project upgraded the infrastructure to support future activities. The upgrades include installation of administrative trailers, construction of haul roads and staging areas, and clearing vegetation. During 2002, airborne radionuclide emissions may have resulted from dust created by relocation of wooden materials, primarily pallets. Some of the wood may have been radiological contaminated. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Potential fugitive or diffuse sources and ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2002. Additional air monitors were installed during the year. Based on observations for CY 2002, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

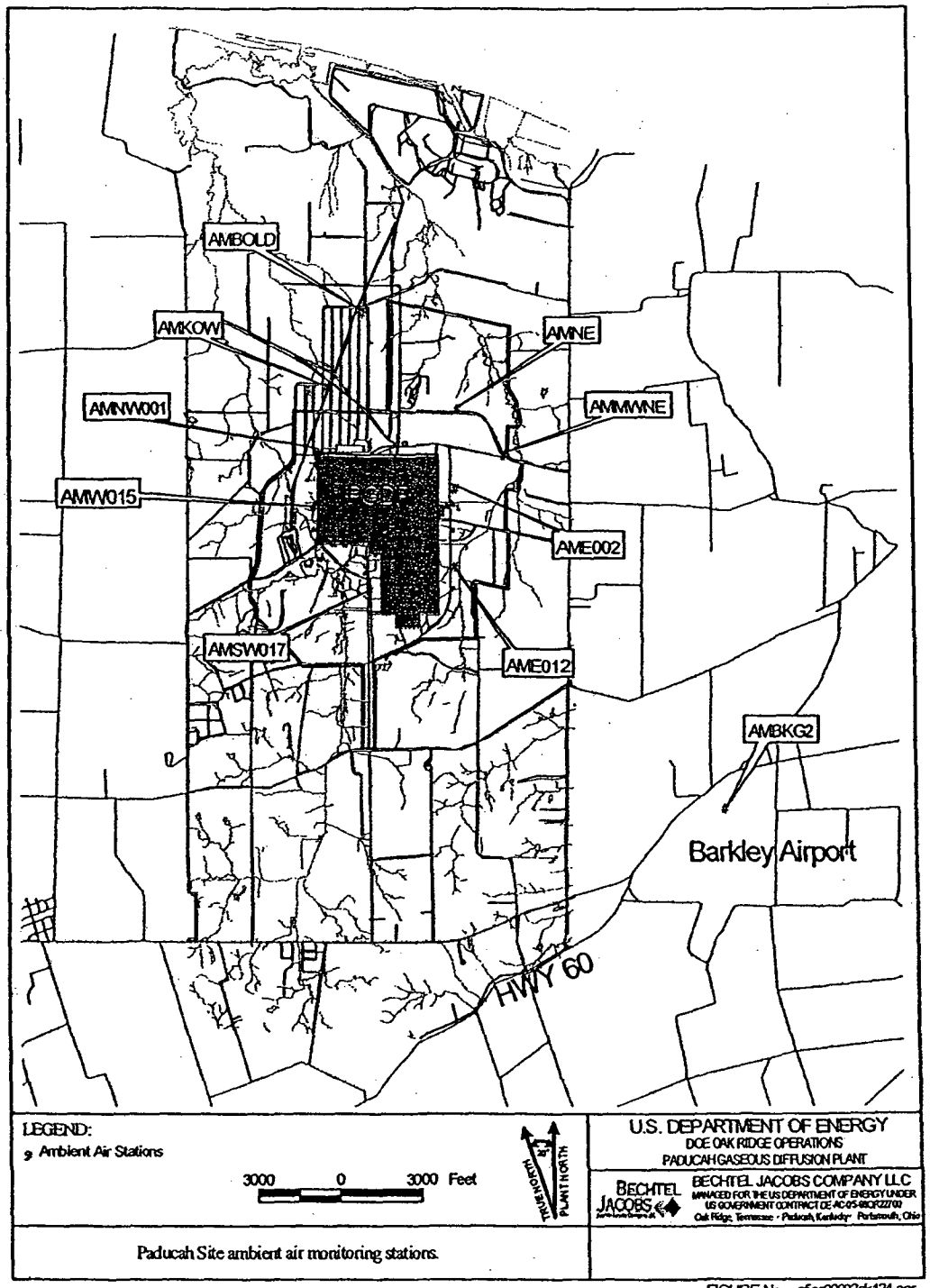

Figure 1. Location of Paducah Site fugitive and diffuse sources and ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-310 Purge Stack	NaF Traps[2]	>99.9	1740 ESE
	Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-360[3]	None	0	1180 SE
C-400 Cylinder Drying Station[3]	None	0	1900 ESE

MINOR GROUPED SOURCES

Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
Seal/Wet Air exhausts (6)	Alumina Traps[2]	~98.6	1490 ESE
Cylinder valve connection activities not included above (i.e., not serviced by a stack) (7).[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
C-400 grouped sources (3)[3]	None	0	1920 ESE
C-710 laboratory hoods (61)[3]	None	0	1960 ESE
Building ventilation (10)	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the Seal/Wet Air Exhausts Group in further analyses.

[1]Distances to receptors were resurveyed in 2002 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
						Source	Plant
C-310	Point	61.0	0.3	0	21.7	3040 NNE	2430 N
C-360	Point[1]	16.0	N/A	0	Ambient	1180 SE	2370 NNW
C-400 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C-709/C-710 Lab	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
Seal/Wet Air Exhaust Group[2]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
C-310	1740	2705	3840
C-360	1180	2000	3840
C-400 Group	1920	2819	4225
C-400 Cylinder Drying Station	1900	2819	4100
C-709/C-710 Lab	1960	2705	3900
Seal/Wet Air Exhaust Group	1490	2438	3840

[1] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

[2] Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2002									
Emission Source			C-310	C-709/ C-710 Lab	Seal/Wet Air Exhaust Grouped Sources	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-360 Sampling	Total
Nuclide	Solubility	AMAD							
^{99}Tc	W	1	2.36E-02	2.48E-04	1.22E-02	8.60E-03	4.56E-08	1.33E-04	4.48E-02
^{230}Th	W	1	4.36E-06	NA[2]	1.94E-06	1.06E-07	1.38E-08	NA[2]	6.42E-06
^{234}U	D	1	9.69E-04	3.05E-03	1.74E-02	4.50E-04	4.58E-06	1.41E-04	2.20E-02
^{235}U	D	1	3.35E-05	1.05E-04	5.97E-04	1.55E-05	1.58E-07	4.90E-06	7.56E-04
^{238}U	D	1	7.01E-05	2.82E-04	3.94E-03	1.04E-04	1.19E-06	1.23E-05	4.41E-03
^{237}Np	W	1	3.33E-05	1.35E-05	3.79E-04	5.10E-06	4.33E-09	1.76E-05	4.49E-04
^{239}Pu	W	1	1.65E-06	NA[2]	1.18E-06	4.34E-08	1.12E-08	NA[2]	2.88E-06
Total Ci/year			2.47E-02	3.69E-03	3.45E-02	9.18E-03	6.01E-06	3.09E-04	7.24E-02
Check Totals									7.24E-02

[1] 1 Curie = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
Scrap Metal Project	None	0	1234 N

Radionuclide Emissions (Ci)[2] During 2002		
Emission Source	Northwest Plume Treatment Facility	Scrap Metal Project
^{99}Tc	1.59E-2	1.1E-7
^{238}U	N/A	2.8E-4
Total Ci/year	**1.59E-2**	**2.8E-4**
DOE Total Ci/year	**1.62E-2**	

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
Scrap Metal Project	1234	3033	5800

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
Scrap Metal Project	Point	1		0	Ambient	1205 NNE

[1]Distances to receptors were resurveyed in CY 2002 due to residential construction in the vicinity of the plant.

[2]1 Curie = 3.7×10^{10} Becquerels.

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	121 centimeters/year
Average air temperature:	20° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce[1]:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources	Maximum for Source	Maximum for Plant
C-310	2.20E-03	2.10E-03
C-360	1.50E-03	6.70E-03
C-400 Group	1.30E-03	1.30E-03
C-400 Cylinder Drying Station	5.20E-06	5.20E-06
C-709/C-710 Lab	2.50E-03	2.50E-03
Seal/Wet Air Exhaust Group	2.70E-02	2.70E-02
Total From USEC Sources	**N/A**	**3.96E-02**
DOE Emission Sources	**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility	3.20E-03	3.20E-03
Scrap Metal Project	4.80E-04	4.80E-04
Total From DOE Sources	**N/A**	**3.68E-03**
Total From All Sources	**N/A**	**4.33E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 4.33E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2002 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.2 person-rem.

[1] 1 mrem=0.01 millisieverts.

CERTIFICATION

This certification pertains to the following USEC emission sources:

C-310 Purge and Vent Stack
C-360
C-400 Group
C-400 Cylinder Drying Station
C-709/C-710 Lab
Seal Exhaust/Wet Air Group

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

United States Enrichment Corporation

6/17/03
Date

CERTIFICATION

This certification pertains to the following DOE emission source:

Northwest Plume Treatment Facility
Scrap Metal Project
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

Department of Energy

06-24-03
Date

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were approximately 6 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2002. The estimated total quantity of uranium released was less than 22g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan*. This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2002. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

Because ^{241}Am and ^{234}Th were not detected, plutonium and uranium isotopic analyses were not performed on the quarterly composites. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2002, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides during CY 2002. The concentration detected is less than the 40 CFR 61 Appendix E, Table 2 value for environmental compliance.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1. The sum of the ratio of the ambient air result to the corresponding Table 2 value for each monitoring location for each quarter is also included in Table A-1.

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[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results

		Max allowed	AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3
1	Am-241	1.9E-15	1.52E-16	1.91E-16	1.88E-17	9.3E-17	2.39E-17	1.80E-16	-2.68E-16	-9.52E-17	6.82E-17	7.89E-17
	Np-237	1.2E-15	-1.51E-16	-5.2E-17	5.19E-16	3.50E-16	-9.59E-17	-2.79E-16	-4.39E-16	4.28E-16	-2.27E-16	-3.29E-16
	Tc-99	1.4E-13	-2.30E-16	-4.65E-16	-4.34E-16	-3.32E-16	-5.16E-17	-2.28E-16	2.05E-15	-4.19E-16	-1.55E-16	-4.43E-16
	U-238	8.3E-15	1.24E-16	1.68E-16	1.93E-16	1.79E-16	1.92E-16	1.35E-16	1.37E-16	2.17E-16	1.74E-16	1.73E-16
	Sum of ratios	1	-0.03	0.07	0.46	0.36	-0.04	-0.12	-0.48	0.33	-0.13	-0.22
2	Am-241	1.9E-15	9.67E-16	-1.05E-15	8.50E-17	-1.08E-15	2.08E-16	-9.95E-16	-1.43E-15	2.03E-16	-6.58E-16	4.68E-16
	Np-237	1.2E-15	2.01E-16	-4.85E-17	-1.11E-16	-6.75E-16	2.02E-16	-2.10E-17	6.20E-17	3.10E-16	5.23E-17	7.58E-16
	Tc-99	1.4E-13	1.13E-16	-1.02E-16	-4.18E-16	1.94E-16	6.87E-17	1.42E-16	5.91E-17	2.60E-17	1.16E-16	-2.96E-16
	U-238	8.3E-15	2.41E-16	2.05E-16	2.19E-16	2.36E-16	2.04E-16	2.08E-16	1.25E-16	3.06E-16	2.74E-16	1.91E-16
	Sum of ratios	1	-0.31	-0.57	-0.02	-1.10	0.30	-0.52	-0.69	0.40	-0.27	0.90
3	Am-241	1.9E-15	1.95E-16	6.14E-17	-5.92E-16	6.46E-17	1.13E-16	5.62E-16	2.03E-16	-9.12E-19	-4.91E-16	3.57E-16
	Np-237	1.2E-15	-1.97E-17	-2.17E-17	-5.45E-16	1.56E-16	2.64E-16	1.29E-16	-5.67E-17	-2.98E-17	2.11E-16	1.2E-16
	Tc-99	1.4E-13	5.78E-16	2.92E-16	5.29E-16	2.79E-16	3.11E-16	6.85E-16	4.03E-16	6.57E-16	3.15E-16	4.31E-16
	U-238	8.3E-15	2.98E-16	3.26E-16	4.66E-16	4.49E-16	2.97E-16	2.90E-16	1.82E-16	6.10E-16	4.27E-16	2.80E-16
	Sum of ratios	1	0.13	0.06	-0.71	0.22	0.32	0.44	0.08	0.05	-0.03	0.33
4	Am-241	1.9E-15	-7.66E-16	3.76E-16	-1.08E-15	-7.00E-16	3.68E-16	-9.78E-16	-8.16E-16	4.24E-16	-5.54E-16	-6.25E-16
	Np-237	1.2E-15	-4.59E-16	-1.26E-17	-2.89E-16	5.06E-17	-2.43E-16	-2.93E-17	-7.26E-16	-1.80E-16	-2.99E-16	3.52E-17
	Tc-99	1.4E-13	9.48E-17	1.03E-16	1.07E-16	1.43E-16	2.29E-16	9.38E-17	1.23E-16	-2.76E-17	2.83E-16	2.80E-16
	U-238	8.3E-15	5.31E-16	4.53E-16	4.35E-16	6.47E-16	5.24E-16	4.66E-16	2.13E-16	7.08E-16	5.07E-16	5.87E-16
	Sum of ratios	1	-0.72	0.24	-0.75	-0.25	0.06	-0.48	-1.01	0.16	-0.48	-0.23

USEC
A Global Energy Company

June 28, 2004

Mr. John S. Lyons, Director
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Dear Mr. Lyons, Mr. Smith, and Ms. Thornton:

2003 National Emission Standards for Hazardous Air Pollutants (NESHAP) Annual Report for United States Enrichment Corporation (USEC) Operations at the Paducah Gaseous Diffusion Plant (PGDP)

Attached is the annual NESHAP report (Attachment 1) required by 40 CFR 61, Subpart H, as adopted by the Commonwealth of Kentucky by reference in 401 KAR 57:002. This report summarizes airborne radionuclide emissions from USEC operations during CY 2003. Attached for reference is a copy of the DOE report for CY 2003 (Attachment 2).

The PGDP site is owned by the Department of Energy (DOE). USEC and DOE conduct independent operations at the site. As the regulations apply to the total quantity of radionuclides emitted from the site, the USEC report also includes emissions from DOE operations. Separate certifications are provided for USEC and DOE operations.

If you have any questions, please contact Dennis Reiter at (270) 441-6685.

Sincerely,

V. J. Shanks for

T. Michael Taimi
Director, Environmental Affairs

TMT:SLC:mjl

Attachments (2)

cc: William Murphie – DOE/PGDP
Steve Penrod/Mark Keef – USEC/PGDP
Russ Starkey – USEC/PGDP

cc/att: Vernon Shanks/Dennis Reiter – USEC/PGDP
√WM/EC – RC

cc/att (1): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

United States Enrichment Corporation
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2003

SITE INFORMATION

Site Name:

Paducah Gaseous Diffusion Plant

Operating Contractor:

United States Enrichment Corporation

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Paducah, Kentucky 42002-1410

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SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 531,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC. According to the Lease Agreement between DOE and USEC, USEC retained responsibility for quantification of airborne radionuclide emissions and preparation of the annual report required by 40 CFR 61, Subpart H. DOE remains responsible for compliance with other requirements for DOE-operated sources.

On March 3, 1997, the Nuclear Regulatory Commission assumed regulatory responsibility for the USEC-leased portion of the plant. However, because DOE owns the entire facility, both the USEC and DOE facilities are subject to 40 CFR 61, Subpart H, requirements.

USEC SOURCE DESCRIPTIONS

The following are the potential USEC airborne radionuclide sources at the Paducah Plant. Although not all of them were used in 2003, they are included in this report due to their potential for future restart.

C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute

quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily results of the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2003, there were 6 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick, gummy sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002 respectively. The 2002 sampling results were used for emission estimates for CY 2003.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhaust

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept

in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. In the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts in 2002 were estimated based on results of Method 5 stack sampling performed in 2002. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a "puff" of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that any minute "whiff or puff" of UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities in CY 2003 were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).
C-360	Toll Transfer and Sampling Facility.

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Quantities of UF_6 released as observed puffs are added to the releases estimated from normal operations.

In the case of C-360, there are two stacks, one for the pigtail exhaust system and one for the sample cabinet exhaust.

Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 94 laboratory hoods and canopies in the C-709/710 buildings. Fifty-two of the hoods were used for radiological activities in CY 2003. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th). In some cases, the hood exhausts combine with other hood exhausts, creating a discrepancy between the number of hoods and actual emission points. There are also 8 laboratory hoods in the C-409 Stabilization Facility. None of these hoods were used for work with radionuclides in 2003. The list below indicates the laboratory exhaust systems at PGDP:

Building	Hoods/Canopies	Hoods/Canopies Used in Radiological Areas in 2003
C-709/710 Laboratory	94	52
C-409	8	Not used

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 separator is located in C-335 and can be used to separate relatively large amounts of CFC-114 coolant, which has entered the cascade system and mixed with UF_6. The separator was installed in 1978 and initial operations were conducted in 1979. When in use, the separator effluent is passed through a cold trap at minus 30°F which condenses approximately 98.5% of the gaseous UF_6. The residual UF_6 in the effluent is trapped by two pairs of NaF traps. Uranium trapped by the NaF traps is recovered back to the gaseous diffusion cascade. The effluent passes from the NaF traps through alumina traps and a header to the C-335 wet air/seal exhaust system. The outlet of the alumina traps is monitored by a flow-through ionization chamber.

The emissions from this system also have to pass through the wet air/seal exhaust pump oil, which is an excellent scrubber of UF_6. Since this facility is used only when large amounts of CFC-114 leak into the cascade and is equipped with a two-stage control process, use of this facility is not expected to increase the emissions from the wet air/seal exhaust system. This facility was not operated in 2003.

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Radiological Areas

Radiological areas are established under specific criteria listed in various worker protection procedures and standards. There are a number of radiological areas at PGDP that are monitored by Health Physics (HP) low-volume air samplers. The sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing the ambient building air through a Whatman No. 41 cellulose filter. The samplers run 24-hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending upon weekend and holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for airborne radioactivity concentrations.

For the 2003 NESHAP report, PGDP estimated the building ventilation grouped source according to the method stated in Section 3.1 of the revised PGDP NESHAP Compliance Plan submitted to EPA in January 1992.

According to PGDP's compliance plan, building emissions from non-radiological areas are not estimated due to their lack of potential for airborne radiological emissions.

For CY 2003, the following is a list of PGDP's radiological areas from which emissions were evaluated using HP data:

C-310	Product Withdrawal Building
C-315	Tails Withdrawal Building
C-331	Uranium Enrichment Process Building
C-333	Uranium Enrichment Process Building
C-333-A	Uranium Feed Facility
C-335	Uranium Enrichment Process Building
C-337	Uranium Enrichment Process Building
C-337-A	Uranium Feed Facility
C-360	Toll Transfer/Sampling Building
C-400	Decontamination Building
C-710	Laboratory
C-720	Maintenance Building This building is the primary maintenance building at PGDP. Maintenance on contaminated and uncontaminated machinery is performed here. Transferable contamination has been removed prior to maintenance; however, there is a potential for airborne radionuclide emissions from fixed contamination during maintenance procedures. Portable negative air machines, which are equipped with HEPA filters, are utilized whenever there is a potential for airborne radionuclide emissions.

Buildings C-754, C-757, and the USEC-controlled side of C-746-Q are also categorized as radiological areas. However, these buildings have no ventilation systems. Any emissions from these buildings would be fugitive or diffuse in nature. Fugitive and diffused emissions are discussed later in this report.

Data from HP air sampling in radiological areas indicated that the trigger level of 10 percent of the most restrictive Derived Air Concentration (DAC) guideline in 10 CFR 20, Appendix B, (2E-12 uCi/ml for ^{237}Np) was exceeded multiple times in 2003. Using these samples, the maximum air concentration of alpha-emitting particles was calculated. Using a conservative approach, 10 percent of the alpha particles were assumed to be ^{237}Np and 90 percent of the particles were assumed to be uranium. Using the air exchange rates determined from facility engineering data, the total emissions from each facility were estimated for the periods during which the samples exceeded 10 percent of the ^{237}Np DAC.

The compliance plan states that non-radiological areas will not be evaluated as an airborne radiological source due to average concentrations of radionuclides less than 10 percent of the most stringent DAC. HP sample results indicate the average radionuclide air concentrations, even in radiological areas, are usually less than 10 percent of the most stringent DAC. Therefore, building ventilation emissions from non-radiological areas will not be considered an airborne radionuclide source and emissions will not be evaluated.

Finally, the dilution factor due to dispersion at PGDP based on 1992 meteorological data is 7.9E-7. Therefore, even if the average concentration of airborne nuclides was 10 percent of the most stringent DAC, the resulting off-site dose to the public due to dispersion would not exceed 0.0004 mrem/year (0.000004 millisieverts/year).

C-400 Laundry

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Nonpoint Sources

Guidance from EPA which stated that provisions of 40 CFR 61, Subpart H, applied to fugitive and diffused emissions, was contained in correspondence dated March 24, 1992. EPA also forwarded to PGDP on September 21, 1992, questions pertaining to 1992 ambient air sampling results and their use as indications that fugitive and diffused emissions from PGDP operations were insignificant. PGDP's reply satisfied all of EPA's questions except the one pertaining to resuspension of contaminated soil that could result from such activities as well drilling activities or vehicular traffic upon contaminated earth. The question as to whether such activities actually constitute fugitive or diffused sources was forwarded to EPA headquarters for resolution. USEC has not, as of this submittal, received guidance on this question. It is not expected that any activity that would result in fugitive or diffused emissions would result in emissions that would be distinguishable from background at off-site locations.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Project

On September 1, 1995, DOE began operation of a groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics from water and an ion exchange unit for the removal of ^{99}Tc. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Drum Mountain
17. C-747-A Burial Area - Burial Grounds
18. Rubble Pile - South of Perimeter Fence
19. Rubble Pile - South of Plant Near Ogden Landing Road
20. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
21. Rubble Pile - East of Plant Near Outfall K002
22. C-301 Low-Level Waste Storage Area
23. C-340 Building
24. Rubble Pile - East of Plant near Outfall K010
25. KPDES Outfall 011
26. Little Bayou Creek and Dyke Road
27. Little Bayou Creek Confluent with KPDES Outfall 002
28. Little Bayou Creek Crossing and McCaw Road
29. Little Bayou Creek and Ogden Landing Road
30. North-South Diversion Ditch and Ogden Landing Road
31. Contaminated Ditch Flowing to KPDES Outfall 001
32. Contamination Area West of Plant
33. C-615 Sewage Treatment Facility
34. North-South Diversion Ditch Near Perimeter Fence
35. North-South Diversion Ditch Near Ogden Landing Road
36. C-746-U Landfill

*37. C-746-S and C-746-T Landfills
*38. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Scrap Metal Project

The Scrap Metal Project removed scrap metal from the northwest portion of the Paducah Site as well as the C-746-D yard in the eastern portion of the site. During 2003, airborne radionuclide emissions may have resulted from dust created by removal, size reduction, and loading the scrap into transportation containers. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

North/South Ditch Basin Construction

Remediation of the North/South Ditch has begun. Activities include construction of a surge basin inside the plant. Airborne radionuclide emissions may have been created by moving contaminated soil. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

C-752-A Waste Treatment

Corrosive waste was neutralized in C-752-A during 2003. The waste contained radionuclides that may have become airborne during the neutralization. The airborne concentration of radionuclides was monitored during the project. This monitoring information was used to estimate the quantity of radionuclides emitted.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Potential fugitive or diffuse sources and ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2003. Based on observations for CY 2003, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

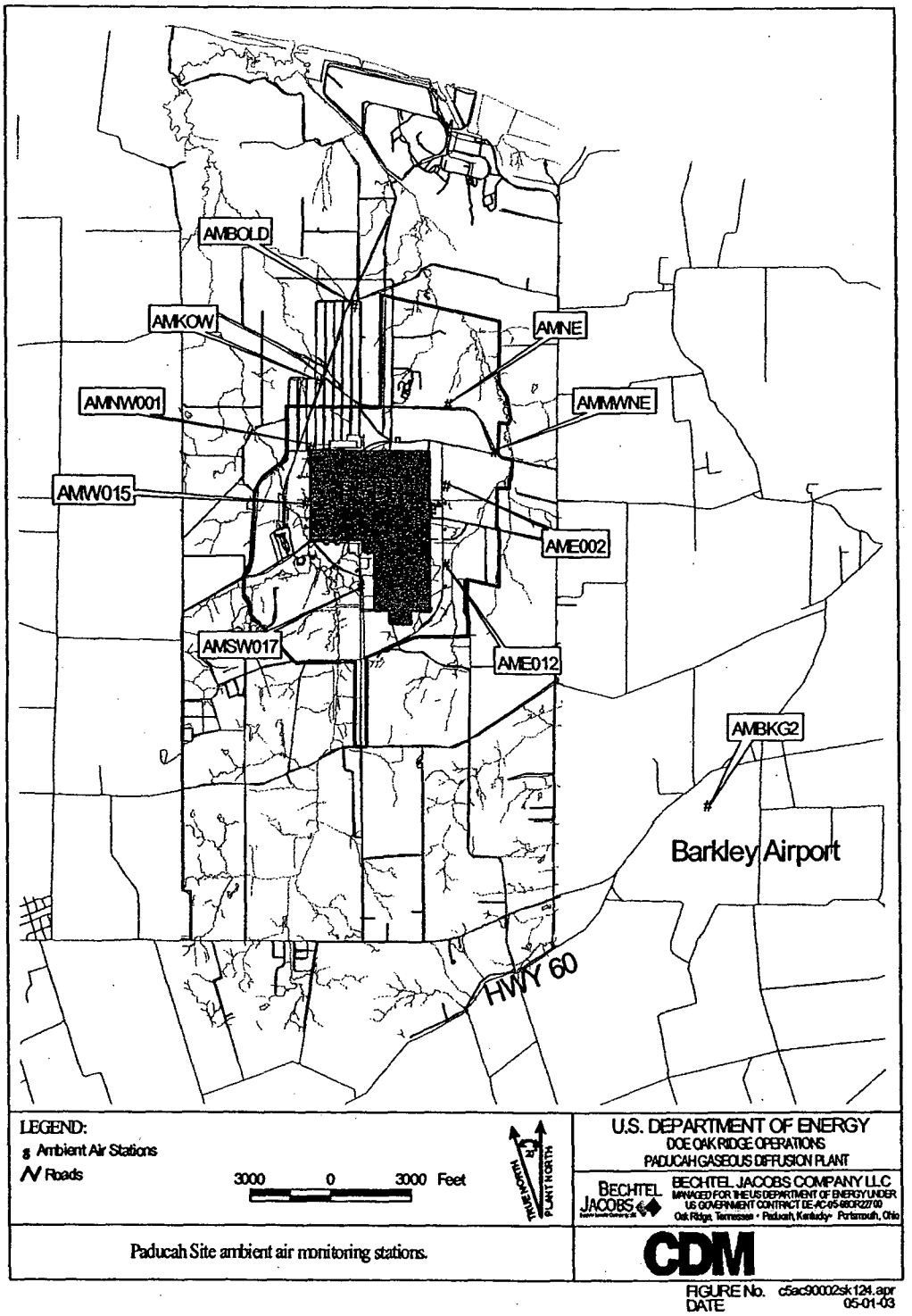

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-310 Purge Stack	NaF Traps[2]	>99.9	1740 ESE
	Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-360[3]	None	0	1180 SE
C-400 Cylinder Drying Station[3]	None	0	1900 ESE

MINOR GROUPED SOURCES

Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
Seal/Wet Air exhausts (6)	Alumina Traps[2]	~98.6	1490 ESE
Cylinder valve connection activities not included above (i.e., not serviced by a stack) (7).[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
C-400 grouped sources (3)[3]	None	0	1920 ESE
C-710 laboratory hoods (61)[3]	None	0	1960 ESE
Building ventilation (10)	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the Seal/Wet Air Exhausts Group in further analyses.

[1]Distances to receptors were resurveyed in 2003 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
						Source	Plant
C-310	Point	61.0	0.3	0	21.7	3040 NNE	2430 N
C-360	Point[1]	16.0	N/A	0	Ambient	1180 SE	2370 NNW
C-400 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C-709/C-710 Lab	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
Seal/Wet Air Exhaust Group[2]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
C-310	1740	2705	3840
C-360	1180	2000	3840
C-400 Group	1920	2819	4225
C-400 Cylinder Drying Station	1900	2819	4100
C-709/C-710 Lab	1960	2705	3900
Seal/Wet Air Exhaust Group	1490	2438	3840

[1] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

[2] Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2003									
Emission Source			C-310	C-709/ C-710 Lab	Seal/Wet Air Exhaust Grouped Sources	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-360 Sampling	Total
Nuclide	Solubility	AMAD							
^{99}Tc	W	1	1.86E-03	3.07E-05	8.36E-03	7.97E-03	6.19E-06	5.52E-05	1.83E-02
^{230}Th	W	1	5.76E-06	NA[2]	1.94E-06	2.00E-11	3.65E-12	NA[2]	7.70E-06
^{234}U	D	1	5.00E-04	2.26E-03	1.67E-02	5.28E-04	4.15E-04	5.20E-06	2.04E-02
^{235}U	D	1	1.73E-05	7.84E-05	5.73E-04	1.83E-05	1.43E-05	1.81E-07	7.01E-04
^{238}U	D	1	4.57E-05	2.10E-04	4.20E-03	1.21E-04	1.08E-04	4.56E-07	4.69E-03
^{237}Np	W	1	6.79E-06	3.74E-06	3.26E-04	6.70E-05	5.28E-05	6.44E-07	4.57E-04
^{239}Pu	W	1	1.29E-06	NA[2]	1.18E-06	5.30E-12	3.39E-13	NA[2]	2.47E-06
Total Ci/year			2.44E-03	2.58E-03	3.02E-02	8.70E-03	5.96E-04	6.17E-05	4.46E-02

[1] 1 Curie = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
C-746 P Scrap Metal Project	None	0	1234 N
C-746 D Scrap Metal	None	0	1220 ESE
C-752 A Waste Treatment	HEPA	99.9	1695 N
N/S Ditch Basin Construction	None	0	1525 NNW

Radionuclide Emissions (Ci)[2] During 2003					
Emission Source	NW Plume Treatment Facility	C-746 P Scrap Metal Project	C-746 D Scrap Metal Project	C-752 A Waste Treatment	N/S Ditch Basin Construction
^{99}Tc	9.7E-5	1.8E-5	7.2E-9	2.6E-11	8.2E-5
^{234}U		2.6E-6	1.0E-11	2.6E-12	6.0E-6
^{235}U		1.0E-7	3.0E-10	2.0E-12	7.0E-7
^{238}U		7.7E-7	3.0E-10	2.6E-12	8.6E-6
^{237}Np		2.5E-7	9.9E-11	3.5E-12	1.7E-6
^{239}Pu		5.5E-7	8.6E-11	9.6E-14	5.4E-6
^{241}Am				3.9E-12	
^{214}Bi				1.1E-17	
^{134}Cs				4.7E-15	
^{137}Cs				2.0E-14	
^{60}Co				5.8E-15	
^{238}Pu				7.7E-15	
^{40}K				2.7E-16	
^{233}Pa				1.8E-16	
^{226}Ra				7.3E-17	
^{228}Th				1.6E-15	
^{230}Th				2.0E-13	
^{231}Th				5.5E-17	
^{232}Th				1.7E-15	
^{234}Th				4.4E-15	
$^{233/234}U$				5.1E-15	
Total Ci/year	**9.7E-5**	**2.23E-05**	**8.00E-09**	**4.09E-11**	**1.04E-04**

[1]Distances to receptors were resurveyed in CY 2003 due to residential construction in the vicinity of the plant.

[2]1 Curie = 3.7×10^{10} Becquerels.

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
C-746 P Scrap Metal Project	1234	3033	5490
C-746 D Scrap Metal	1220	2105	3873
C-752 A Waste Treatment	1695	3202	4270
N/S Ditch Basin Construction	1525	3020	5033

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
C-746 P Scrap Metal Project	Point	1	NA	0	Ambient	1205 NNE
C-746 D Scrap Metal	Point	1	NA	0	Ambient	2750 SSE
C-752 A Waste Treatment	Point	5.5	0.3	0	Ambient	1700 N
N/S Ditch Basin Construction	Area	1	119	0	Ambient	1530 NNW

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	121 centimeters/year
Average air temperature:	20° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce[1]:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources	Maximum for Source	Maximum for Plant
C-310	5.00E-04	4.80E-04
C-360	6.10E-05	2.70E-05
C-400 Group	5.00E-03	5.00E-03
C-400 Cylinder Drying Station	3.50E-03	3.50E-03
C-709/C-710 Lab	1.60E-03	1.60E-03
Seal/Wet Air Exhaust Group	2.40E-02	2.40E-02
Total From USEC Sources	**N/A**	**3.46E-02**
DOE Emission Sources	**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility	1.80E-05	1.80E-05
C-746 P Scrap Metal Project	1.60E-04	1.60E-04
C-746 D Scrap Metal	2.40E-08	7.00E-09
C-752 A Waste Treatment	7.00E-10	7.00E-10
N/S Ditch Basin Construction	6.00E-4	6.00E-04
Total From DOE Sources	**N/A**	**7.78E-04**
Total From All Sources	**N/A**	**3.54E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 3.54E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2003 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.2 person-rem.

[1] 1 mrem=0.01 millisieverts.

CERTIFICATION

This certification pertains to the following USEC emission sources:

C-310 Purge and Vent Stack
C-360
C-400 Group
C-400 Cylinder Drying Station
C-709/C-710 Lab
Seal Exhaust/Wet Air Group

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

WS Stanley Jr
United States Enrichment Corporation

6/28/04
Date

CERTIFICATION

This certification pertains to the following DOE emission source:

C-746-D Scrap Metal Project
C-746-P Scrap Metal Project
C-752-A Waste Treatment
N/S Ditch Basin Construction
Northwest Plume Treatment Facility
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

Department of Energy

6/25/04
Date

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were 4 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2003. The estimated total quantity of uranium released was less than 20g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan*. This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2003. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

Because ^{241}Am and ^{234}Th were not detected, plutonium and uranium isotopic analyses were not performed on the quarterly composites. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2003, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP, which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey, which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides during CY 2003. The concentration detected is less than the 40 CFR 61 Appendix E, Table 2 value for environmental compliance.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1 of this report. The ratio of each isotopic concentration to the standard for that isotope in 40 CFR 61, Appendix E, Table 2, was calculated. The sum of all of these ratios should be less than one to meet the standard. The sum of the ratios is listed for each monitoring station for each quarter in Table A–1.

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[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results[1]

		AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3
1	Am-241	4.64E-16	1.65E-16	2.61E-16	1.87E-16	1.05E-16	4.53E-16	4.30E-16	4.85E-16	1.18E-16	3.34E-16
	Np-237	9.00E-17	9.93E-17	-3.06E-16	2.85E-16	-3.60E-17	-2.16E-16	-5.73E-17	-3.74E-17	1.29E-16	1.74E-16
	Tc-99	1.47E-16	4.85E-17	-1.89E-17	7.57E-18	1.62E-16	-1.89E-17	2.45E-16	2.80E-16	1.47E-16	-6.81E-17
	U-238	2.04E-16	2.13E-16	2.81E-16	2.77E-16	2.40E-16	2.35E-16	2.16E-16	2.44E-16	2.69E-16	2.46E-16
	Sum of ratios	0.35	0.20	-0.08	0.37	0.06	0.09	0.21	0.26	0.20	0.35
2	Am-241	-3.23E-16	1.66E-16	3.06E-16	3.90E-17	2.09E-16	-6.50E-17	-2.62E-16	-3.10E-16	2.82E-16	4.49E-17
	Np-237	-9.72E-17	-8.36E-17	5.32E-16	-1.86E-16	-2.93E-16	6.26E-17	-1.94E-17	1.32E-16	7.34E-17	1.92E-16
	Tc-99	3.00E-16	1.81E-16	-3.18E-17	6.52E-16	5.89E-16	3.47E-17	5.47E-16	2.01E-16	8.96E-17	3.88E-16
	U-238	3.28E-16	2.76E-16	2.39E-16	3.63E-16	3.80E-16	3.81E-16	2.67E-16	2.61E-16	2.54E-16	2.98E-16
	Sum of ratios	-0.21	0.05	0.63	-0.09	-0.08	0.06	-0.12	-0.02	0.24	0.22
3	Am-241	-6.53E-16	4.02E-16	2.01E-16	2.96E-16	-8.62E-17	-1.13E-16	3.60E-17	-1.03E-15	1.86E-16	2.50E-16
	Np-237	-3.03E-16	-2.67E-16	-8.69E-17	-2.42E-16	-2.59E-16	-2.86E-16	3.48E-16	3.02E-16	-1.04E-16	2.20E-16
	Tc-99	-1.87E-16	2.44E-16	3.10E-16	1.17E-16	2.07E-16	2.08E-16	-2.69E-16	-2.38E-16	1.77E-16	3.70E-16
	U-238	2.34E-16	2.70E-16	3.42E-16	3.34E-16	2.83E-16	2.68E-16	1.89E-16	3.35E-16	2.43E-16	2.65E-16
	Sum of ratios	-0.57	0.02	0.08	0.0	-0.23	-0.26	0.33	-0.25	0.04	0.35
4	Am-241		6.36E-18	1.50E-16	1.56E-16	-8.35E-16	-1.20E-16	-8.04E-16	3.51E-16	-1.81E-16	1.76E-16
	Np-237	2.54E-16	9.25E-17	-5.46E-16	-5.11E-17	-1.71E-17	3.60E-17	1.58E-16	-2.61E-16	-1.23E-16	-1.46E-16
	Tc-99	2.92E-17	9.46E-16	8.54E-16	3.03E-16	-7.35E-18	2.80E-16	-3.00E-16	5.03E-16	2.26E-16	2.81E-16
	U-238	1.85E-16	1.61E-16	1.98E-16	2.03E-16	1.95E-16	1.67E-16	1.89E-16	1.76E-16	2.65E-16	1.51E-16
	Sum of ratios	0.23	0.11	-0.35	0.07	-0.43	-0.01	-0.27	-0.01	-0.16	-0.01

[1] 40 CFR 61, Table 2, Limiting Values (Ci/m3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U 8.3E-15.

United States Department of Energy
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2003

Site Name: Paducah Gaseous Diffusion Plant

OPERATIONS OFFICE INFORMATION

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SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 531,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC. According to the Lease Agreement between DOE and USEC, USEC retained responsibility for quantification of airborne radionuclide emissions and preparation of the annual report required by 40 CFR 61, Subpart H. DOE remains responsible for compliance with other requirements for DOE-operated sources.

On March 3, 1997, the Nuclear Regulatory Commission assumed regulatory responsibility for the USEC-leased portion of the plant. However, because DOE owns the entire facility, both the USEC and DOE facilities are subject to 40 CFR 61, Subpart H, requirements.

USEC SOURCE DESCRIPTIONS

The following are the potential USEC airborne radionuclide sources at the Paducah Plant. Although not all of them were used in 2003, they are included in this report due to their potential for future restart.

C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute

quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily results of the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2003, there were 6 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick, gummy sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002 respectively. The 2002 sampling results were used for emission estimates for CY 2003.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhaust

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept

in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. In the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts in 2002 were estimated based on results of Method 5 stack sampling performed in 2002. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a "puff" of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that any minute "whiff or puff" of UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities in CY 2003 were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).
C-360	Toll Transfer and Sampling Facility.

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Quantities of UF_6 released as observed puffs are added to the releases estimated from normal operations.

In the case of C-360, there are two stacks, one for the pigtail exhaust system and one for the sample cabinet exhaust.

Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 94 laboratory hoods and canopies in the C-709/710 buildings. Fifty-two of the hoods were used for radiological activities in CY 2003. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th). In some cases, the hood exhausts combine with other hood exhausts, creating a discrepancy between the number of hoods and actual emission points. There are also 8 laboratory hoods in the C-409 Stabilization Facility. None of these hoods were used for work with radionuclides in 2003. The list below indicates the laboratory exhaust systems at PGDP:

Building	Hoods/Canopies	Hoods/Canopies Used in Radiological Areas in 2003
C-709/710 Laboratory	94	52
C-409	8	Not used

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 separator is located in C-335 and can be used to separate relatively large amounts of CFC-114 coolant, which has entered the cascade system and mixed with UF_6. The separator was installed in 1978 and initial operations were conducted in 1979. When in use, the separator effluent is passed through a cold trap at minus 30°F which condenses approximately 98.5% of the gaseous UF_6. The residual UF_6 in the effluent is trapped by two pairs of NaF traps. Uranium trapped by the NaF traps is recovered back to the gaseous diffusion cascade. The effluent passes from the NaF traps through alumina traps and a header to the C-335 wet air/seal exhaust system. The outlet of the alumina traps is monitored by a flow-through ionization chamber.

The emissions from this system also have to pass through the wet air/seal exhaust pump oil, which is an excellent scrubber of UF_6. Since this facility is used only when large amounts of CFC-114 leak into the cascade and is equipped with a two-stage control process, use of this facility is not expected to increase the emissions from the wet air/seal exhaust system. This facility was not operated in 2003.

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Radiological Areas

Radiological areas are established under specific criteria listed in various worker protection procedures and standards. There are a number of radiological areas at PGDP that are monitored by Health Physics (HP) low-volume air samplers. The sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing the ambient building air through a Whatman No. 41 cellulose filter. The samplers run 24-hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending upon weekend and holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for airborne radioactivity concentrations.

For the 2003 NESHAP report, PGDP estimated the building ventilation grouped source according to the method stated in Section 3.1 of the revised PGDP NESHAP Compliance Plan submitted to EPA in January 1992.

According to PGDP's compliance plan, building emissions from non-radiological areas are not estimated due to their lack of potential for airborne radiological emissions.

For CY 2003, the following is a list of PGDP's radiological areas from which emissions were evaluated using HP data:

C-310	Product Withdrawal Building
C-315	Tails Withdrawal Building
C-331	Uranium Enrichment Process Building
C-333	Uranium Enrichment Process Building
C-333-A	Uranium Feed Facility
C-335	Uranium Enrichment Process Building
C-337	Uranium Enrichment Process Building
C-337-A	Uranium Feed Facility
C-360	Toll Transfer/Sampling Building
C-400	Decontamination Building
C-710	Laboratory
C-720	Maintenance Building This building is the primary maintenance building at PGDP. Maintenance on contaminated and uncontaminated machinery is performed here. Transferable contamination has been removed prior to maintenance; however, there is a potential for airborne radionuclide emissions from fixed contamination during maintenance procedures. Portable negative air machines, which are equipped with HEPA filters, are utilized whenever there is a potential for airborne radionuclide emissions.

Buildings C-754, C-757, and the USEC-controlled side of C-746-Q are also categorized as radiological areas. However, these buildings have no ventilation systems. Any emissions from these buildings would be fugitive or diffuse in nature. Fugitive and diffused emissions are discussed later in this report.

Data from HP air sampling in radiological areas indicated that the trigger level of 10 percent of the most restrictive Derived Air Concentration (DAC) guideline in 10 CFR 20, Appendix B, (2E-12 uCi/ml for ^{237}Np) was exceeded multiple times in 2003. Using these samples, the maximum air concentration of alpha-emitting particles was calculated. Using a conservative approach, 10 percent of the alpha particles were assumed to be ^{237}Np and 90 percent of the particles were assumed to be uranium. Using the air exchange rates determined from facility engineering data, the total emissions from each facility were estimated for the periods during which the samples exceeded 10 percent of the ^{237}Np DAC.

The compliance plan states that non-radiological areas will not be evaluated as an airborne radiological source due to average concentrations of radionuclides less than 10 percent of the most stringent DAC. HP sample results indicate the average radionuclide air concentrations, even in radiological areas, are usually less than 10 percent of the most stringent DAC. Therefore, building ventilation emissions from non-radiological areas will not be considered an airborne radionuclide source and emissions will not be evaluated.

Finally, the dilution factor due to dispersion at PGDP based on 1992 meteorological data is 7.9E-7. Therefore, even if the average concentration of airborne nuclides was 10 percent of the most stringent DAC, the resulting off-site dose to the public due to dispersion would not exceed 0.0004 mrem/year (0.000004 millisieverts/year).

C-400 Laundry

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Nonpoint Sources

Guidance from EPA which stated that provisions of 40 CFR 61, Subpart H, applied to fugitive and diffused emissions, was contained in correspondence dated March 24, 1992. EPA also forwarded to PGDP on September 21, 1992, questions pertaining to 1992 ambient air sampling results and their use as indications that fugitive and diffused emissions from PGDP operations were insignificant. PGDP's reply satisfied all of EPA's questions except the one pertaining to resuspension of contaminated soil that could result from such activities as well drilling activities or vehicular traffic upon contaminated earth. The question as to whether such activities actually constitute fugitive or diffused sources was forwarded to EPA headquarters for resolution. USEC has not, as of this submittal, received guidance on this question. It is not expected that any activity that would result in fugitive or diffused emissions would result in emissions that would be distinguishable from background at off-site locations.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Project

On September 1, 1995, DOE began operation of a groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics from water and an ion exchange unit for the removal of ^{99}Tc. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Drum Mountain
17. C-747-A Burial Area - Burial Grounds
18. Rubble Pile - South of Perimeter Fence
19. Rubble Pile - South of Plant Near Ogden Landing Road
20. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
21. Rubble Pile - East of Plant Near Outfall K002
22. C-301 Low-Level Waste Storage Area
23. C-340 Building
24. Rubble Pile - East of Plant near Outfall K010
25. KPDES Outfall 011
26. Little Bayou Creek and Dyke Road
27. Little Bayou Creek Confluent with KPDES Outfall 002
28. Little Bayou Creek Crossing and McCaw Road
29. Little Bayou Creek and Ogden Landing Road
30. North-South Diversion Ditch and Ogden Landing Road
31. Contaminated Ditch Flowing to KPDES Outfall 001
32. Contamination Area West of Plant
33. C-615 Sewage Treatment Facility
34. North-South Diversion Ditch Near Perimeter Fence
35. North-South Diversion Ditch Near Ogden Landing Road
36. C-746-U Landfill

*37. C-746-S and C-746-T Landfills
*38. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Scrap Metal Project

The Scrap Metal Project removed scrap metal from the northwest portion of the Paducah Site as well as the C-746-D yard in the eastern portion of the site. During 2003, airborne radionuclide emissions may have resulted from dust created by removal, size reduction, and loading the scrap into transportation containers. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

North/South Ditch Basin Construction

Remediation of the North/South Ditch has begun. Activities include construction of a surge basin inside the plant. Airborne radionuclide emissions may have been created by moving contaminated soil. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

C-752-A Waste Treatment

Corrosive waste was neutralized in C-752-A during 2003. The waste contained radionuclides that may have become airborne during the neutralization. The airborne concentration of radionuclides was monitored during the project. This monitoring information was used to estimate the quantity of radionuclides emitted.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Potential fugitive or diffuse sources and ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2003. Based on observations for CY 2003, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

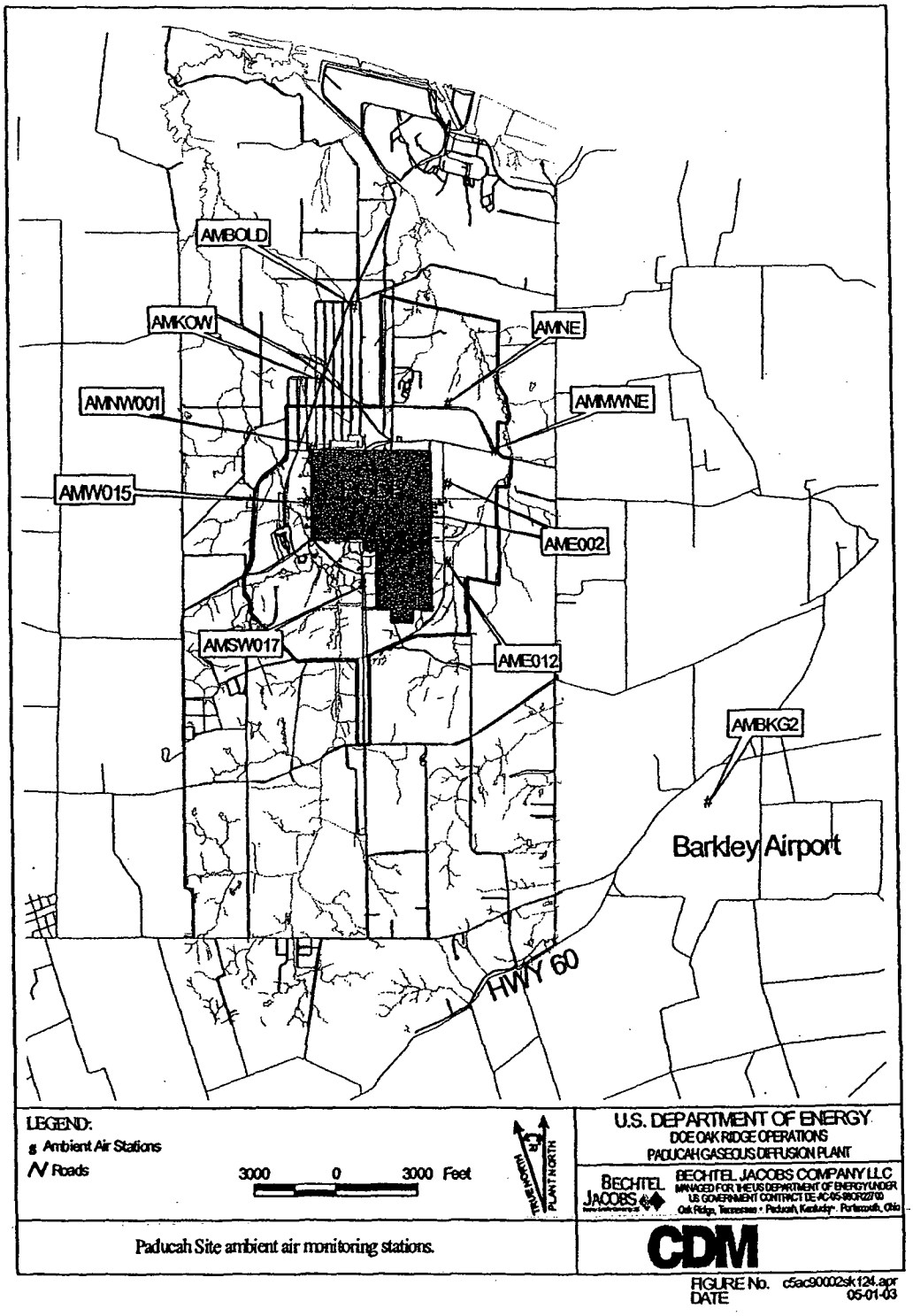

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-310 Purge Stack	NaF Traps[2]	>99.9	1740 ESE
	Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
C-360[3]	None	0	1180 SE
C-400 Cylinder Drying Station[3]	None	0	1900 ESE

MINOR GROUPED SOURCES

Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
Seal/Wet Air exhausts (6)	Alumina Traps[2]	~98.6	1490 ESE
Cylinder valve connection activities not included above (i.e., not serviced by a stack) (7).[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
C-400 grouped sources (3)[3]	None	0	1920 ESE
C-710 laboratory hoods (61)[3]	None	0	1960 ESE
Building ventilation (10)	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the Seal/Wet Air Exhausts Group in further analyses.

[1]Distances to receptors were resurveyed in 2003 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
						Source	Plant
C-310	Point	61.0	0.3	0	21.7	3040 NNE	2430 N
C-360	Point[1]	16.0	N/A	0	Ambient	1180 SE	2370 NNW
C-400 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C-709/C-710 Lab	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
Seal/Wet Air Exhaust Group[2]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
C-310	1740	2705	3840
C-360	1180	2000	3840
C-400 Group	1920	2819	4225
C-400 Cylinder Drying Station	1900	2819	4100
C-709/C-710 Lab	1960	2705	3900
Seal/Wet Air Exhaust Group	1490	2438	3840

[1] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

[2] Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2003									
Emission Source			C-310	C-709/ C-710 Lab	Seal/Wet Air Exhaust Grouped Sources	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-360 Sampling	Total
Nuclide	Solubility	AMAD							
^{99}Tc	W	1	1.86E-03	3.07E-05	8.36E-03	7.97E-03	6.19E-06	5.52E-05	1.83E-02
^{230}Th	W	1	5.76E-06	NA[2]	1.94E-06	2.00E-11	3.65E-12	NA[2]	7.70E-06
^{234}U	D	1	5.00E-04	2.26E-03	1.67E-02	5.28E-04	4.15E-04	5.20E-06	2.04E-02
^{235}U	D	1	1.73E-05	7.84E-05	5.73E-04	1.83E-05	1.43E-05	1.81E-07	7.01E-04
^{238}U	D	1	4.57E-05	2.10E-04	4.20E-03	1.21E-04	1.08E-04	4.56E-07	4.69E-03
^{237}Np	W	1	6.79E-06	3.74E-06	3.26E-04	6.70E-05	5.28E-05	6.44E-07	4.57E-04
^{239}Pu	W	1	1.29E-06	NA[2]	1.18E-06	5.30E-12	3.39E-13	NA[2]	2.47E-06
Total Ci/year			2.44E-03	2.58E-03	3.02E-02	8.70E-03	5.96E-04	6.17E-05	4.46E-02

[1] 1 Curie = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
C-746 P Scrap Metal Project	None	0	1234 N
C-746 D Scrap Metal	None	0	1220 ESE
C-752 A Waste Treatment	HEPA	99.9	1695 N
N/S Ditch Basin Construction	None	0	1525 NNW

Radionuclide Emissions (Ci)[2] During 2003					
Emission Source	NW Plume Treatment Facility	C-746 P Scrap Metal Project	C-746 D Scrap Metal Project	C-752 A Waste Treatment	N/S Ditch Basin Construction
^{99}Tc	9.7E-5	1.8E-5	7.2E-9	2.6E-11	8.2E-5
^{234}U		2.6E-6	1.0E-11	2.6E-12	6.0E-6
^{235}U		1.0E-7	3.0E-10	2.0E-12	7.0E-7
^{238}U		7.7E-7	3.0E-10	2.6E-12	8.6E-6
^{237}Np		2.5E-7	9.9E-11	3.5E-12	1.7E-6
^{239}Pu		5.5E-7	8.6E-11	9.6E-14	5.4E-6
^{241}Am				3.9E-12	
^{214}Bi				1.1E-17	
^{134}Cs				4.7E-15	
^{137}Cs				2.0E-14	
^{60}Co				5.8E-15	
^{238}Pu				7.7E-15	
^{40}K				2.7E-16	
^{233}Pa				1.8E-16	
^{226}Ra				7.3E-17	
^{228}Th				1.6E-15	
^{230}Th				2.0E-13	
^{231}Th				5.5E-17	
^{232}Th				1.7E-15	
^{234}Th				4.4E-15	
$^{233/234}U$				5.1E-15	
Total Ci/year	**9.7E-5**	**2.23E-05**	**8.00E-09**	**4.09E-11**	**1.04E-04**

[1]Distances to receptors were resurveyed in CY 2003 due to residential construction in the vicinity of the plant.

[2]1 Curie = 3.7×10^{10} Becquerels.

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
C-746 P Scrap Metal Project	1234	3033	5490
C-746 D Scrap Metal	1220	2105	3873
C-752 A Waste Treatment	1695	3202	4270
N/S Ditch Basin Construction	1525	3020	5033

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
C-746 P Scrap Metal Project	Point	1	NA	0	Ambient	1205 NNE
C-746 D Scrap Metal	Point	1	NA	0	Ambient	2750 SSE
C-752 A Waste Treatment	Point	5.5	0.3	0	Ambient	1700 N
N/S Ditch Basin Construction	Area	1	119	0	Ambient	1530 NNW

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	121 centimeters/year
Average air temperature:	20° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce[1]:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources	Maximum for Source	Maximum for Plant
C-310	5.00E-04	4.80E-04
C-360	6.10E-05	2.70E-05
C-400 Group	5.00E-03	5.00E-03
C-400 Cylinder Drying Station	3.50E-03	3.50E-03
C-709/C-710 Lab	1.60E-03	1.60E-03
Seal/Wet Air Exhaust Group	2.40E-02	2.40E-02
Total From USEC Sources	**N/A**	**3.46E-02**
DOE Emission Sources	**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility	1.80E-05	1.80E-05
C-746 P Scrap Metal Project	1.60E-04	1.60E-04
C-746 D Scrap Metal	2.40E-08	7.00E-09
C-752 A Waste Treatment	7.00E-10	7.00E-10
N/S Ditch Basin Construction	6.00E-4	6.00E-04
Total From DOE Sources	**N/A**	**7.78E-04**
Total From All Sources	**N/A**	**3.54E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 3.54E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2003 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.2 person-rem.

[1] 1 mrem=0.01 millisieverts.

CERTIFICATION

This certification pertains to the following USEC emission sources:

C-310 Purge and Vent Stack
C-360
C-400 Group
C-400 Cylinder Drying Station
C-709/C-710 Lab
Seal Exhaust/Wet Air Group

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

WS Stanley Jr
United States Enrichment Corporation

6/28/04
Date

CERTIFICATION

This certification pertains to the following DOE emission source:

C-746-D Scrap Metal Project
C-746-P Scrap Metal Project
C-752-A Waste Treatment
N/S Ditch Basin Construction
Northwest Plume Treatment Facility
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C1001.)

Department of Energy

4/25/04
Date

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were 4 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2003. The estimated total quantity of uranium released was less than 20g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan*. This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2003. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

Because ^{241}Am and ^{234}Th were not detected, plutonium and uranium isotopic analyses were not performed on the quarterly composites. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2003, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP, which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey, which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides during CY 2003. The concentration detected is less than the 40 CFR 61 Appendix E, Table 2 value for environmental compliance.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1 of this report. The ratio of each isotopic concentration to the standard for that isotope in 40 CFR 61, Appendix E, Table 2, was calculated. The sum of all of these ratios should be less than one to meet the standard. The sum of the ratios is listed for each monitoring station for each quarter in Table A–1.

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[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results[1]

		AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3	Ci/m3
1	Am-241	4.64E-16	1.65E-16	2.61E-16	1.87E-16	1.05E-16	4.53E-16	4.30E-16	4.85E-16	1.18E-16	3.34E-16
	Np-237	9.00E-17	9.93E-17	-3.06E-16	2.85E-16	-3.60E-17	-2.16E-16	-5.73E-17	-3.74E-17	1.29E-16	1.74E-16
	Tc-99	1.47E-16	4.85E-17	-1.89E-17	7.57E-18	1.62E-16	-1.89E-17	2.45E-16	2.80E-16	1.47E-16	-6.81E-17
	U-238	2.04E-16	2.13E-16	2.81E-16	2.77E-16	2.40E-16	2.35E-16	2.16E-16	2.44E-16	2.69E-16	2.46E-16
	Sum of ratios	0.35	0.20	-0.08	0.37	0.06	0.09	0.21	0.26	0.20	0.35
2	Am-241	-3.23E-16	1.66E-16	3.06E-16	3.90E-17	2.09E-16	-6.50E-17	-2.62E-16	-3.10E-16	2.82E-16	4.49E-17
	Np-237	-9.72E-17	-8.36E-17	5.32E-16	-1.86E-16	-2.93E-16	6.26E-17	-1.94E-17	1.32E-16	7.34E-17	1.92E-16
	Tc-99	3.00E-16	1.81E-16	-3.18E-17	6.52E-16	5.89E-16	3.47E-17	5.47E-16	2.01E-16	8.96E-17	3.88E-16
	U-238	3.28E-16	2.76E-16	2.39E-16	3.63E-16	3.80E-16	3.81E-16	2.67E-16	2.61E-16	2.54E-16	2.98E-16
	Sum of ratios	-0.21	0.05	0.63	-0.09	-0.08	0.06	-0.12	-0.02	0.24	0.22
3	Am-241	-6.53E-16	4.02E-16	2.01E-16	2.96E-16	-8.62E-17	-1.13E-16	3.60E-17	-1.03E-15	1.86E-16	2.50E-16
	Np-237	-3.03E-16	-2.67E-16	-8.69E-17	-2.42E-16	-2.59E-16	-2.86E-16	3.48E-16	3.02E-16	-1.04E-16	2.20E-16
	Tc-99	-1.87E-16	2.44E-16	3.10E-16	1.17E-16	2.07E-16	2.08E-16	-2.69E-16	-2.38E-16	1.77E-16	3.70E-16
	U-238	2.34E-16	2.70E-16	3.42E-16	3.34E-16	2.83E-16	2.68E-16	1.89E-16	3.35E-16	2.43E-16	2.65E-16
	Sum of ratios	-0.57	0.02	0.08	0.0	-0.23	-0.26	0.33	-0.25	0.04	0.35
4	Am-241		6.36E-18	1.50E-16	1.56E-16	-8.35E-16	-1.20E-16	-8.04E-16	3.51E-16	-1.81E-16	1.76E-16
	Np-237	2.54E-16	9.25E-17	-5.46E-16	-5.11E-17	-1.71E-17	3.60E-17	1.58E-16	-2.61E-16	-1.23E-16	-1.46E-16
	Tc-99	2.92E-17	9.46E-16	8.54E-16	3.03E-16	-7.35E-18	2.80E-16	-3.00E-16	5.03E-16	2.26E-16	2.81E-16
	U-238	1.85E-16	1.61E-16	1.98E-16	2.03E-16	1.95E-16	1.67E-16	1.89E-16	1.76E-16	2.65E-16	1.51E-16
	Sum of ratios	0.23	0.11	-0.35	0.07	-0.43	-0.01	-0.27	-0.01	-0.16	-0.01

[1] 40 CFR 61, Table 2, Limiting Values (Ci/m3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U 8.3E-15.

USEC
A Global Energy Company

June 28, 2005

Ms. Beverly Banister, Director
Air, Pesticides, and Toxic Management Division
United States Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960
CERTIFIED MAIL – 7000 0600 0023 8878 3172

Mr. John S. Lyons, Director
Division for Air Quality
Kentucky Department for Environmental Protection
803 Schenkel Lane
Frankfort, Kentucky 40601-1403
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Mr. Behram Shraff
Office of Air and Radiation
MS6608J, Ariel Rios Building
United States Environmental Protection Agency Headquarters
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
CERTIFIED MAIL – 7000 0600 0023 8878 3158

Dear Ms. Banister, Mr. Lyons, and Mr. Shraff:

2004 National Emission Standards for Hazardous Air Pollutants (NESHAP) Annual Report for United States Enrichment Corporation (USEC) Operations at the Paducah Gaseous Diffusion Plant (PGDP)

Attached is the annual NESHAP report (Attachment 1) required by 40 CFR 61, Subpart H, as adopted by the Commonwealth of Kentucky by reference in 401 KAR 57:002. This report summarizes airborne radionuclide emissions from USEC operations during CY 2004. Attached for reference is a copy of the DOE report for CY 2004 (Attachment 2).

The PGDP site is owned by the Department of Energy (DOE). USEC and DOE conduct independent operations at the site. As the regulations apply to the total quantity of radionuclides emitted from the site, the USEC report also includes emissions from DOE operations. Separate certifications are provided for USEC and DOE operations.

If you have any questions, please contact Greg Herndon at (270) 441-6076.

Sincerely,

V. J. Shanks for

T. Michael Taimi
Director, Environmental Affairs

TMT:GLH:mjw

Attachments (2)

cc: Mark Keef/Keith Ahern – USEC/PGDP
William Murphie – DOE/PGDP
Steve Penrod – USEC/PGDP

cc/att: Greg Herndon
Vernon Shanks/Dennis Reiter – USEC/PGDP
WM/EC – RC

cc/att (1): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

ATTACHMENT 1

United States Enrichment Corporation
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2004

SITE INFORMATION

Site Name:

Paducah Gaseous Diffusion Plant

Operating Contractor:

United States Enrichment Corporation

Address:

Post Office Box 1410
Paducah, Kentucky 42002-1410

Contact:

Vernon J. Shanks

Contact's Phone:

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SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 531,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC.

USEC SOURCE DESCRIPTIONS

Based on historical emission data, USEC has identified only one release point (C-310 stack) which requires continuous monitoring per the radionuclide NESHAP regulations because of potential to emit radionuclides resulting in an Effective Dose Equivalent (EDE) to off-site personnel exceeding the regulatory threshold of 0.1 mrem/yr (1 percent of the standard). Based on evaluation of current and historical stack monitoring data and process knowledge, all other USEC source emissions are expected to contribute to doses less than the radionuclide NESHAP threshold limit for continuous monitoring.

Section 61.93 of 40 CFR 61 requires continuous emission measurements for sources with a potential (assuming no controls exist, but the facility operations are normal) to emit radionuclides which would result in an EDE of 0.1 mrem to any member of the public. For the purposes of this report, any source with a potential to emit radionuclides that would result in an annual EDE of 0.1 mrem is defined as a *major* source. A *minor* source is a source or group of sources that do not have the potential to emit radionuclides, that would result in an annual EDE of less than 0.1 mrem to the maximally affected resident. A sources potential to emit is calculated by assuming the source is operating normally, but control devices do not exist.

There are a number of minor, unmonitored radionuclide air sources at PGDP. Since these sources are not equipped with effluent samplers or monitors, emissions must be estimated using EPA-approved methods. Minor sources were identified during a 1991–1992 vent stack survey. For the purpose of estimating releases and submitting the annual report, minor sources may be grouped according to similar characteristics (e.g., general location, type of activity, or type of control, etc.). The number of minor sources may change from year to year due to cessation or start-up of operations.

Group A/G—C-400/C-409 Group

C-400 Decontamination Spray Booth (Group A)

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter (Group A)

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-400 Laundry (Group A)

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

C-409 Dissolver/Rotary Vacuum Filter (Group G)

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

Group B—C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Group C—C-720

The motor burnout facility in C-720 is used to remove insulation from process motors in preparation for rebuilding. Administrative controls, such as limiting the level of radioactive contamination on the motors, are used to minimize emissions from this system. Emissions from the motor burnout facility are estimated using the results of radiological surveys of the motors placed in the facility. This facility was not operated in 2004.

Group D—C-709/C-710 Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 77 laboratory hoods and canopies in the C-709/710 buildings that could be used for radiological activities. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th).

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Group E—C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the

atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily emission samples from the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2004, there were 6 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Group F—Seal Exhaust/Wet Air Group

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002 respectively. The seal exhaust/wet air system for the C-335 Process Building was sampled in 2004 as part of the CFC-114/UF_6 separator modifications. The latest sampling results were used for emission estimates for CY 2004.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhausts

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. In the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts are estimated based on the most recent Method 5 stack sampling performed on this system. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 Separation System is located in C-335 and is used to freeze out UF_6 from process gas that has been significantly contaminated with R-114 coolant. Such mixtures usually results from equipment failure, but may also result from abnormal cascade operation. The surge drums are used to store these mixtures until they can be separated. The primary purpose of the CFC-114/UF_6 separation system is to remove the coolant and return the UF_6 to the cascade.

The separation system operates by freezing out the UF_6 from the process gas. To freeze out the UF_6, the UF_6/R-114 mixture is transferred from the surge drum (via pressure differential or process gas pumps) through a refrigerated set of favorable geometry cold traps. The gas stream then passes through NaF traps and alumina traps to absorb any residual UF_6. Typically, the gas stream flows through the alumina traps, although these traps can be bypassed. The trap discharge is connected to the SX/WA pump system and to atmosphere through the existing common discharge header. The UF_6 is sublimed back to cascade after the processing of the coolant-laden gas has been completed.

Modifications to the CFC-114/UF_6 Separation System to improve nuclear criticality safety characteristics were performed and initial baseline emissions testing completed in 2004. The modification reduced potential radionuclide emissions.

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a small amount of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Estimated quantities of UF_6 released during pigtail disconnections are added to the releases estimated from normal operations.

Building Ventilation

Radiological areas at PGDP are established under specific criteria defined in USEC Health Physics procedures and comply with the regulatory guidelines detailed in CFRs. As such, a radiological area is any area where: (1) an individual can receive a dose equivalent greater than 5 mrem in 1 hour, or (2) airborne radioactivity concentrations are greater than 10 percent of a derived air concentration (DAC); which is defined as the airborne concentrations of radionuclides in the workplace which would cause a maximum internal radiation dose of 5,000 mrem/year (regulatory exposure limit) to workers breathing the air over a normal year), or (3) surface contamination is present in excess of specified guidelines. Of the criteria for establishing radiological areas, the limits for airborne radioactivity relate directly to the potential exposure of the public from air emissions and are evaluated for radionuclide NESHAP considerations under the *Building Ventilation* Source category.

There are a number of radiological areas at PGDP with potential airborne radioactivity concentrations that could exceed threshold values. These areas are monitored by the Health Physics (HP) Group through the use of low-volume air samplers. These sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing ambient building air through a filter. The samplers run 24

hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending on filter loading and weekend/holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for radioactivity concentrations.

For radionuclide NESHAP considerations, building ventilation sources from C-315, C-331, C-333, C-334, C-335, C-337, and C-337A are grouped with the Seal Exhaust/Wet Air Group. Building ventilation sources from C-310, C-360, C-400, C-709/C-710, and C-720 are grouped with the respective building emissions. Results from HP air sampling is evaluated based on the most restrictive DAC, applicable to PGDP, listed in 10 CFR 20, Appendix B (2E-12uCi/ml for ^{237}Np). Only air sampling results exceeding 10% of the designated DAC are used in radionuclide NESHAP source emission calculations.

Group H—C-360

The primary sources of potential radionulide air emissions are cylinder valve connection activities and building ventilation. Emissions from the cylinder valve connections were estimated by determining the total number of pigtail disconnections. An estimated quantity of UF_6 in each pigtail multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released. Emissions from the building ventilitation were estimated by the results from HP air sampling based on the most restrictive DAC, applicable to PGDP, listed in 10 CFR 20, Appendix B (2E-12uCi/ml for ^{237}Np). Only air sampling results exceeding 10% of the designated DAC are used in radionuclide NESHAP source emission calculations.

USEC FUGITIVE AND DIFFUSED SOURCES

Radionuclide NESHAP evaluations have not identified potential fugitive or diffused sources of radionuclides that would result in emissions that would be distinguishable from background at off-site locations. On-going ambient air monitoring at the site validates these evaluations. Therefore, USEC fugitive or diffused source emissions are not currently included in radionuclide NESHAP reporting.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Project

On September 1, 1995, DOE began operation of a groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics and an ion exchange unit to remove of ^{99}Tc from the groundwater. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Scrap Metal Projects

The Scrap Metal Projects removed scrap metal from the northwest portion of the Paducah Site as well as the C-746-D yard in the eastern portion of the site. During 2004, fugitive airborne radionuclide emissions may have resulted from dust created by removal, size reduction, and loading the scrap into transportation containers. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

C-410 Decontamination and Decommissioning Activities

DOE constructed a new source in 2004 in support of C-410 decontamination and decommissioning. Fluorine cells were removed and prepared for off-site shipment. This preparation required removal of the paint on the exterior of the cells due to concerns about possible contaminants in the paint. The paint was removed by a sponge blasting process. A small amount of radionuclide contamination was present in the paint removed. The blasting occurred within the facility however room ventilation was exhausted through a HEPA filter. The amount of radionuclides released was estimated based on paint sampling data and 40 CFR Subpart H Appendix D emission factors.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Burial Grounds
17. Rubble Pile - South of Perimeter Fence
18. Rubble Pile - North of Plant Near Ogden Landing Road
19. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
20. Rubble Pile - East of Plant Near Outfall K002
21. C-301 Low-Level Waste Storage Area
22. C-340 Building
23. Rubble Pile - East of Plant near Outfall K010
24. KPDES Outfall 011
25. Little Bayou Creek and Dyke Road
26. Little Bayou Creek Confluent with KPDES Outfall 002
27. Little Bayou Creek Crossing and McCaw Road
28. Little Bayou Creek and Ogden Landing Road
29. North-South Diversion Ditch and Ogden Landing Road
30. Contaminated Ditch Flowing to KPDES Outfall 001
31. Contamination Area West of Plant
32. C-615 Sewage Treatment Facility
33. North-South Diversion Ditch Near Perimeter Fence
34. North-South Diversion Ditch Near Ogden Landing Road
35. C-746-U Landfill

*36. C-746-S and C-746-T Landfills
*37. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2004. Based on observations for CY 2004, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

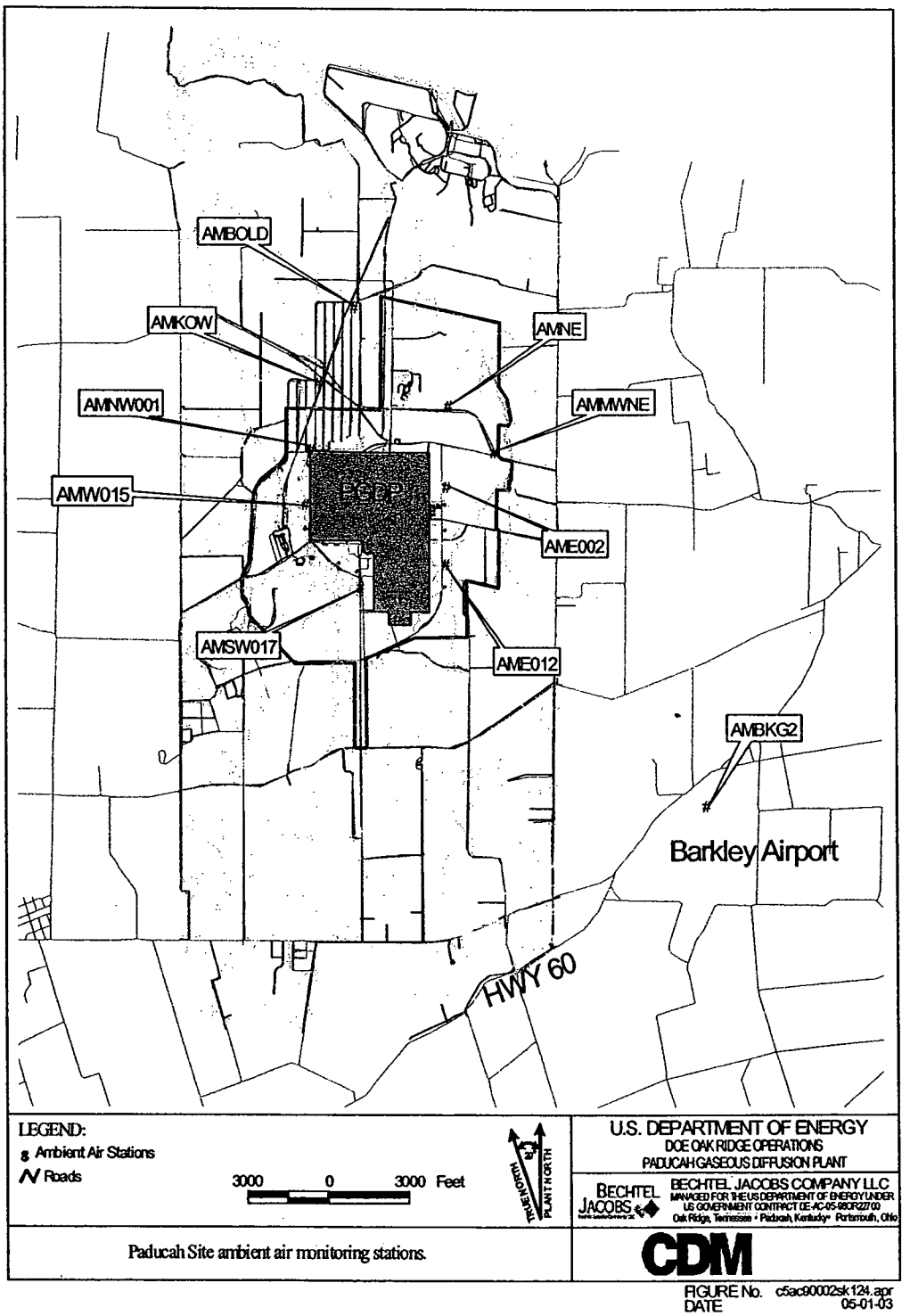

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Group	Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
E	C-310 Stack	NaF Traps[2]	>99.9	1740 ESE
		Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Group	Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
B	C-400 Cylinder Drying Station[3]	None	0	1900 ESE
H	C-360[3]	None	0	1180 SE

MINOR GROUPED SOURCES

Group	Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
A/G	C-400/C-409 Group[3]	None	0	1920 ESE
C	C-720 Motor Burnout Ovens	None	0	1960ESE
D	C-709/C-710 Laboratory Hoods[3]	None	0	1960 ESE
F	Seal Exhaust/Wet Air Group • Seal Exhausts; Wet Air Exhausts; CFC-114/UF_6 Separation System	Alumina Traps[2]	~98.6	1490 ESE
	• Cylinder Valve Connection Activities[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
	• Building Ventilation	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the SX/WA Group or respective building.

[1]Distances to receptors were resurveyed in 2004 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Group	Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
							Source	Plant
A/G	C-400/C-409 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
B	C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C	C-720 Motor Burnout Ovens	Point	15.8	0.5	0	Ambient	NA	NA
D	C-709/C-710 Laboratory Hoods	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
E	C-310 Stack	Point	61.0	0.3	0	21.7	2430 N	2430 N
F	Seal Exhaust/ Wet Air Group[1]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N
H	C-360	Point[2]	16.0	N/A	0	Ambient	1180 SE	2370 NNW

Group	Source Name	Distances (m) to Selected Receptors		
		Nearest Individual/Farm	Nearest Business	Nearest School
A/G	C-400/C-409 Group	1920	2819	4225
B	C-400 Cylinder Drying Station	1900	2819	4100
C	C-720 Motor Burnout Ovens	1960	2705	3900
D	C-709/C-710 Laboratory Hoods	1960	2705	3900
E	C-310 Stack	1740	2705	3840
F	Seal Exhaust/Wet Air Group	1490	2438	3840
H	C-360	1180	2000	3840

[1]Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

[2] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2004									
			Emission Sources						
			Group A/G	Group B	Group D	Group E	Group F	Group H	
Nuclide	Solubility	AMAD	C-400/ C-409 Group	C-400 Cylinder Drying Station	C-709/ C-710 Laboratory Hoods	C-310 Stack	Seal Exhaust/ Wet Air Group	C-360	Total
^{99}Tc	W	1	7.61E-03	NA[2]	9.05E-06	3.55E-03	2.44E-04	1.12E-04	1.15E-02
^{230}Th	W	1	5.32E-11	NA[2]	NA[2]	6.13E-06	ND[3]	NA[2]	6.13E-06
^{234}U	D	1	5.80E-04	1.17E-07	1.62E-03	5.60E-04	1.27E-02	3.41E-05	1.55E-02
^{235}U	D	1	2.00E-05	2.54E-06	5.61E-05	1.95E-05	4.40E-04	1.18E-06	5.39E-04
^{238}U	D	1	1.29E-04	3.37E-06	1.50E-04	5.20E-05	3.74E-03	3.16E-06	4.08E-03
^{237}Np	W	1	7.34E-05	6.03E-07	3.23E-06	4.78E-05	1.59E-05	4.26E-06	1.45E-04
^{239}Pu	W	1	2.02E-12	NA[2]	NA[2]	1.32E-06	ND[3]	NA[2]	1.32E-06
Total Ci/year			8.41E-03	6.63E-06	1.83E-03	4.24E-03	4.24E-03	1.55E-04	1.55E-04

[1] 1 Curie (Ci) = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed
[3] ND = Not Detected

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
C-746 P Scrap Metal Project	None	0	1205 NNE
C-746 D Scrap Metal	None	0	1220 ESE
C-410 Emissions	HEPA	99.7	1820 ESE

Emission Source	NW Plume Treatment Facility	C-746 P Scrap Metal Project	C-746 D Scrap Metal Project	C-410 Emissions
^{99}Tc	9.85E-05	2.40E-11	2.38E-06	1.00E-07
^{234}U		3.39E-11	4.36E-04	4.50E-08
^{235}U		1.33E-12	1.71E-05	8.20E-10
^{238}U		1.01E-11	1.30E-04	4.40E-08
^{237}Np			3.29E-08	2.40E-10
^{239}Pu			2.86E-08	2.60E-10
^{241}Am				3.00E-10
Total Ci/year	**9.85E-05**	**6.93E-11**	**5.86E-04**	**1.91E-07**

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
C-746 P Scrap Metal Project	1234	3033	5490
C-746 D Scrap Metal	1220	2105	3873
C-410 Emissions	1820	2814	4360

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) & Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
C-746 P Scrap Metal Project	Point	1	NA	0	Ambient	1205 NNE
C-746 D Scrap Metal	Point	1	NA	0	Ambient	1220 SE
C-410 Emissions	Point	4.6	NA	0	Ambient	2220 N

[1]Distances to receptors were resurveyed in CY 2004 due to residential construction in the vicinity of the plant.

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	116.3 centimeters/year
Average air temperature:	14.7° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from[1]:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides (including fugitive and diffuse sources) is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources		Maximum for Source	Maximum for Plant
A/G	C-400/C-409 Group	5.4E-03	5.4E-03
B	C-400 Cylinder Drying Station	4.1E-05	4.1E-05
C	C-720 Motor Burnout Ovens	0	0
D	C-709/C-710 Laboratory Hoods	1.1E-03	1.1E-03
E	C-310 Stack	1.5E-03	1.5E-03
F	Seal Exhaust/Wet Air Group	8.5E-03	8.5E-03
H	C-360	3.8E-04	1.7E-04
Total From USEC Sources		**N/A**	**1.7E-02**
DOE Emission Sources		**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility		1.8E-05	1.8E-05
C-746 P Scrap Metal Project		8.5E-11	8.5E-11
C-746 D Scrap Metal		6.0E-04	2.2E-04
C-410 Emissions		1.1E-07	1.1E-07
Total From DOE Sources		**N/A**	**2.4E-04**
Total From All Sources		**N/A**	**1.7E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 1.7E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2000 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.09 person-rem.

[1] 1 mrem=0.01 millisieverts.

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were 2 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2004. The estimated total quantity of uranium released was less than 45g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan*. This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I of the NESHAP Management Plan provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2004. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

In accordance with the Radiation Health and Toxic Agents Branch's protocol, plutonium and uranium isotopic analyses were not performed on the quarterly composites since ^{241}Am and ^{234}Th were not detected. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2004, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP, which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey, which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides above background levels during CY 2004. Therefore, the facility is in compliance with 40 CFR 61 Appendix E, Table 2 values.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1 of this report. The ratio of each isotopic concentration to the standard for that isotope in 40 CFR 61, Appendix E, Table 2, was calculated. The sum of all of these ratios should be less than one to meet the standard. The sum of the ratios is listed for each monitoring station for each quarter in Table A–1.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results[1]

Quarter	Nuclide	AMSW017 Ci/m3	AMW015 Ci/m3	AMNW001 Ci/m3	AMNE Ci/m3	AME002 Ci/m3	AME012 Ci/m3	AMBKG2 Ci/m3	AMBOLD Ci/m3	AMKOW Ci/m3	AMMWNE Ci/m3
1	Am-241	2.088E-17	7.723E-18	7.927E-18	1.275E-17	3.104E-17	1.521E-17	1.186E-17	1.663E-17	1.784E-17	1.095E-17
	Np-237	1.933E-17	4.094E-17	5.958E-17	1.145E-16	2.284E-16	-1.495E-16	-1.826E-16	-2.087E-16	1.761E-16	6.421E-16
	Tc-99	5.248E-16	4.258E-16	-1.217E-16	2.6205E-16	5.5104E-17	1.982E-16	3.586E-16	2.1831E-16	3.1062E-16	3.1506E-16
	U-238	2.09E-16	2.161E-16	2.074E-16	1.702E-16	2.222E-16	1.83E-16	1.931E-16	1.615E-16	2.216E-16	2.098E-16
	Sum of ratios	0.06	0.07	0.08	0.12	0.23	-0.09	-0.12	-0.14	0.19	0.57
2	Am-241	-9.845E-18	0	9.151E-18	1.06E-17	4.987E-18	1.437E-17	2.027E-17	6.661E-18	6.752E-18	7.315E-18
	Np-237	-5.641E-17	-2.134E-17	-7.087E-16	1.415E-16	1E-16	-3.808E-16	6.04E-17	-1.689E-16	4.975E-16	4.555E-17
	Tc-99	-1.2774E-16	-2.117E-16	-3.137E-16	-1.876E-16	1.8035E-16	-2.618E-16	-5.329E-17	-4.364E-16	-4.096E-16	-2.404E-16
	U-238	1.76E-16	1.659E-16	1.809E-16	1.45E-16	1.8E-16	3.01E-16	-4.25E-15[2]	2.037E-16	1.513E-16	1.529E-16
	Sum of ratios	-0.03	0.00	-0.57	0.14	0.11	-0.28	-0.45	-0.12	0.43	0.06
3	Am-241	-4.107E-18	9.702E-18	1.696E-17	4.818E-18	3.127E-18	0	7.967E-18	2.945E-17	0	1.497E-17
	Np-237	1.853E-16	-1.184E-16	-3.054E-16	5.096E-16	-2.048E-16	3.668E-16	2.964E-16	8.433E-16	1.571E-16	1.894E-16
	Tc-99	3.4272E-16	4.0101E-16	5.6235E-16	1.703E-16	4.2447E-16	1.1667E-16	-1.075E-16	1.2821E-15	2.9592E-16	1.4694E-16
	U-238	2.168E-16	2.866E-16	2.766E-16	2.414E-16	2.543E-16	2.126E-16	1.91E-16	5.571E-16	2.693E-16	2.461E-16
	Sum of ratios	0.18	-0.06	-0.21	0.46	-0.14	0.33	0.27	0.79	0.17	0.20
4	Am-241	-4.238E-18	-7.073E-18	8.502E-18	4.939E-18	-5.713E-18[3]	1.823E-17[3]	-4.797E-18[3]	7.405E-18	-8.099E-17[3]	-1.872E-17[3]
	Np-237	-2.537E-16	8.748E-17	-4.843E-16	-4.74E-16	-2.366E-18[3]	9.505E-18[3]	2.861E-16[3]	-2.627E-16	6.776E-16[3]	-9.845E-17[3]
	Tc-99	3.5596E-16	3.2114E-16	3.5716E-16	4.5585E-16	5.8117E-16[3]	2.5258E-16[3]	3.2692E-16[3]	6.2239E-16	5.0536E-16[3]	3.5282E-16[3]
	U-238	2.372E-16	2.904E-16	3.244E-16	2.419E-16	2.834E-16[4]	1.698E-16[4]	1.429E-16[4]	2.052E-16	5.745E-16[4]	2.149E-16[4]
	Sum of ratios	-0.18	0.11	-0.36	-0.36	0.03[3]	0.04[3]	0.26[3]	-0.19	0.59[3]	-0.06[3]

[1] 40 CFR 61, Table 2, Limiting Values (Ci/m3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U 8.3E-15.
[2] Indicates alpha spectroscopy number was unavailable and gamma spectroscopy number was used instead. Gamma spectroscopy MDC was 6.03E-15 Ci/m^3 which is still below the 40 CFR 61, Table 2, limit.
[3] Indicates there is a "UJ" analysis code associated with this data.
[4] Indicates there is a "J" analysis code associated with this data.

CERTIFICATION

This certification pertains to the following USEC emission sources:

Group A/G	C-400/C-409 Group
Group B	C-400 Cylinder Drying Station
Group C	C-720 Motor Burnout Ovens
Group D	C-709/C-710 Laboratory Hoods
Group E	C-310 Stack
Group F	Seal Exhaust/Wet Air Group
Group H	C-360

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

Steven Perkins

United States Enrichment Corporation

6-28-05

Date

CERTIFICATION

This certification pertains to the following DOE emission source:

C-410 D&D Activities
C-746-D Scrap Metal Project
C-746-P Scrap Metal Project
Northwest Plume Treatment Facility
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

Department of Energy

6/27/05
Date

ATTACHMENT 2

Paducah Gaseous Diffusion Plant
United States Department of Energy
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2004

Site Name: Paducah Gaseous Diffusion Plant

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SECTION I FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 1,350 acres in western McCracken County approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 740 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 2,100 acres either deeded or leased to the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with about 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 531,000 persons. Of these, approximately 36,500 live within 10 miles of the plant and approximately 104,000 within 20 miles. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79 F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC.

USEC SOURCE DESCRIPTIONS

Based on historical emission data, USEC has identified only one release point (C-310 stack) which requires continuous monitoring per the radionuclide NESHAP regulations because of potential to emit radionuclides resulting in an Effective Dose Equivalent (EDE) to off-site personnel exceeding the regulatory threshold of 0.1 mrem/yr (1 percent of the standard). Based on evaluation of current and historical stack monitoring data and process knowledge, all other USEC source emissions are expected to contribute to doses less than the radionuclide NESHAP threshold limit for continuous monitoring.

Section 61.93 of 40 CFR 61 requires continuous emission measurements for sources with a potential (assuming no controls exist, but the facility operations are normal) to emit radionuclides which would result in an EDE of 0.1 mrem to any member of the public. For the purposes of this report, any source with a potential to emit radionuclides that would result in an annual EDE of 0.1 mrem is defined as a *major* source. A *minor* source is a source or group of sources that do not have the potential to emit radionuclides, that would result in an annual EDE of less than 0.1 mrem to the maximally affected resident. A sources potential to emit is calculated by assuming the source is operating normally, but control devices do not exist.

There are a number of minor, unmonitored radionuclide air sources at PGDP. Since these sources are not equipped with effluent samplers or monitors, emissions must be estimated using EPA-approved methods. Minor sources were identified during a 1991–1992 vent stack survey. For the purpose of estimating releases and submitting the annual report, minor sources may be grouped according to similar characteristics (e.g., general location, type of activity, or type of control, etc.). The number of minor sources may change from year to year due to cessation or start-up of operations.

Group A/G—C-400/C-409 Group

C-400 Decontamination Spray Booth (Group A)

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The potential of radionuclide emissions arises from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water multiplied by the total volume of water was considered as the curies "used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter (Group A)

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent should be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume were considered as the curies "used."

C-400 Laundry (Group A)

The C-400 Laundry washes and dries coveralls and clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

C-409 Dissolver/Rotary Vacuum Filter (Group G)

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium that forms a slurry. The slurry is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The possibility for radionuclide emissions arises from the vent on the pump that pulls the slurry through the rotary vacuum filter. Emissions from this vent are expected to be minimal because the pump and its vent are downstream of the rotary vacuum filter that should trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate multiplied by the filtrate volume are considered as the curies "used."

Group B—C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry "plant air" is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to hydrostatically test the cylinders prior to drying, multiplied by the total volume of water used in the hydrostatic test, were considered as the curies "used."

Group C—C-720

The motor burnout facility in C-720 is used to remove insulation from process motors in preparation for rebuilding. Administrative controls, such as limiting the level of radioactive contamination on the motors, are used to minimize emissions from this system. Emissions from the motor burnout facility are estimated using the results of radiological surveys of the motors placed in the facility. This facility was not operated in 2004.

Group D—C-709/C-710 Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 77 laboratory hoods and canopies in the C-709/710 buildings that could be used for radiological activities. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th).

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods (e.g., if an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to loose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Group E—C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the

atmosphere via the C-310 purge vent stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and thorium-230 (^{230}Th) are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent the low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, minute quantities of transuranics, and ^{230}Th. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily emission samples from the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2004, there were 6 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods; emissions immediately prior to and after the dates in question indicated that they were within normal ranges.

Group F—Seal Exhaust/Wet Air Group

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and in no way is included for emission control. The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

Emissions from the seal exhaust grouped source were originally estimated based on results of Method 5 stack sampling performed in 1992. The seal exhausts were resampled in 1997 and 2002 respectively. The seal exhaust/wet air system for the C-335 Process Building was sampled in 2004 as part of the CFC-114/UF_6 separator modifications. The latest sampling results were used for emission estimates for CY 2004.

A discussion of the potential to emit from the seal exhausts and wet air exhausts, and the conclusion that the alumina traps which protect the pump oil are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Wet Air Exhausts

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept in a series of purges with "dry" plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. In the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil, and then to an exhaust vent. In process buildings C-310, C-333, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. Emissions from the wet air exhausts are estimated based on the most recent Method 5 stack sampling performed on this system. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building (same as seal exhaust)
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 Separation System is located in C-335 and is used to freeze out UF_6 from process gas that has been significantly contaminated with R-114 coolant. Such mixtures usually results from equipment failure, but may also result from abnormal cascade operation. The surge drums are used to store these mixtures until they can be separated. The primary purpose of the CFC-114/UF_6 separation system is to remove the coolant and return the UF_6 to the cascade.

The separation system operates by freezing out the UF_6 from the process gas. To freeze out the UF_6, the UF_6/R-114 mixture is transferred from the surge drum (via pressure differential or process gas pumps) through a refrigerated set of favorable geometry cold traps. The gas stream then passes through NaF traps and alumina traps to absorb any residual UF_6. Typically, the gas stream flows through the alumina traps, although these traps can be bypassed. The trap discharge is connected to the SX/WA pump system and to atmosphere through the existing common discharge header. The UF_6 is sublimed back to cascade after the processing of the coolant-laden gas has been completed.

Modifications to the CFC-114/UF_6 Separation System to improve nuclear criticality safety characteristics were performed and initial baseline emissions testing completed in 2004. The modification reduced potential radionuclide emissions.

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a small amount of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that UF_6 which is emitted from the pigtail disconnect process is captured by the HEPA vac.

Cylinder disconnection activities were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Estimated quantities of UF_6 released during pigtail disconnections are added to the releases estimated from normal operations.

Building Ventilation

Radiological areas at PGDP are established under specific criteria defined in USEC Health Physics procedures and comply with the regulatory guidelines detailed in CFRs. As such, a radiological area is any area where: (1) an individual can receive a dose equivalent greater than 5 mrem in 1 hour, or (2) airborne radioactivity concentrations are greater than 10 percent of a derived air concentration (DAC); which is defined as the airborne concentrations of radionuclides in the workplace which would cause a maximum internal radiation dose of 5,000 mrem/year (regulatory exposure limit) to workers breathing the air over a normal year), or (3) surface contamination is present in excess of specified guidelines. Of the criteria for establishing radiological areas, the limits for airborne radioactivity relate directly to the potential exposure of the public from air emissions and are evaluated for radionuclide NESHAP considerations under the *Building Ventilation* Source category.

There are a number of radiological areas at PGDP with potential airborne radioactivity concentrations that could exceed threshold values. These areas are monitored by the Health Physics (HP) Group through the use of low-volume air samplers. These sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing ambient building air through a filter. The samplers run 24

hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending on filter loading and weekend/holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for radioactivity concentrations.

For radionuclide NESHAP considerations, building ventilation sources from C-315, C-331, C-333, C-334, C-335, C-337, and C-337A are grouped with the Seal Exhaust/Wet Air Group. Building ventilation sources from C-310, C-360, C-400, C-709/C-710, and C-720 are grouped with the respective building emissions. Results from HP air sampling is evaluated based on the most restrictive DAC, applicable to PGDP, listed in 10 CFR 20, Appendix B (2E-12uCi/ml for ^{237}Np). Only air sampling results exceeding 10% of the designated DAC are used in radionuclide NESHAP source emission calculations.

Group H—C-360

The primary sources of potential radionulide air emissions are cylinder valve connection activities and building ventilation. Emissions from the cylinder valve connections were estimated by determining the total number of pigtail disconnections. An estimated quantity of UF_6 in each pigtail multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released. Emissions from the building ventilitation were estimated by the results from HP air sampling based on the most restrictive DAC, applicable to PGDP, listed in 10 CFR 20, Appendix B (2E-12uCi/ml for ^{237}Np). Only air sampling results exceeding 10% of the designated DAC are used in radionuclide NESHAP source emission calculations.

USEC FUGITIVE AND DIFFUSED SOURCES

Radionuclide NESHAP evaluations have not identified potential fugitive or diffused sources of radionuclides that would result in emissions that would be distinguishable from background at off-site locations. On-going ambient air monitoring at the site validates these evaluations. Therefore, USEC fugitive or diffused source emissions are not currently included in radionuclide NESHAP reporting.

DOE SOURCE DESCRIPTION

Northwest Plume Interim Remedial Action Project

On September 1, 1995, DOE began operation of a groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics and an ion exchange unit to remove of ^{99}Tc from the groundwater. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Scrap Metal Projects

The Scrap Metal Projects removed scrap metal from the northwest portion of the Paducah Site as well as the C-746-D yard in the eastern portion of the site. During 2004, fugitive airborne radionuclide emissions may have resulted from dust created by removal, size reduction, and loading the scrap into transportation containers. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

C-410 Decontamination and Decommissioning Activities

DOE constructed a new source in 2004 in support of C-410 decontamination and decommissioning. Fluorine cells were removed and prepared for off-site shipment. This preparation required removal of the paint on the exterior of the cells due to concerns about possible contaminants in the paint. The paint was removed by a sponge blasting process. A small amount of radionuclide contamination was present in the paint removed. The blasting occurred within the facility however room ventilation was exhausted through a HEPA filter. The amount of radionuclides released was estimated based on paint sampling data and 40 CFR Subpart H Appendix D emission factors.

Fugitive and Diffuse Sources

DOE has identified the areas listed below as potential fugitive and diffuse sources. Based on prior health physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify this position. In addition, some of these sources are listed due to posting of direct radiation, not airborne radiation emissions.

List of DOE Fugitive and Diffuse Potential Emission Sources

1. C-745-T Cylinder Storage Yard
2. Area From C-745-U to East Perimeter Fence to Cylinder Yard
3. C-745-K Cylinder Storage Yard
4. Dirt Storage Area Near C-333
5. C-740 Material Yard
6. C-747 and C-748-B Burial Area
7. C-745-A Southeast Contamination Area
8. C-745-A Southwest Contamination Area
9. C-746-H3 Storage Area
10. C-410 Building
11. C-745-C
    C-749 Cylinder Storage Yards
    C-404 Burial Ground
12. C-746-P Scrap Material Storage Area
13. C-746-A and B Warehouses
    C-746-C Scrap Material Storage Yard
14. Burial Area North of C-746-F
15. C-746-P Burial Area
16. C-747-A Burial Area - Burial Grounds
17. Rubble Pile - South of Perimeter Fence
18. Rubble Pile - North of Plant Near Ogden Landing Road
19. Rubble Pile - Southeast Between Perimeter Fence and Dyke Road
20. Rubble Pile - East of Plant Near Outfall K002
21. C-301 Low-Level Waste Storage Area
22. C-340 Building
23. Rubble Pile - East of Plant near Outfall K010
24. KPDES Outfall 011
25. Little Bayou Creek and Dyke Road
26. Little Bayou Creek Confluent with KPDES Outfall 002
27. Little Bayou Creek Crossing and McCaw Road
28. Little Bayou Creek and Ogden Landing Road
29. North-South Diversion Ditch and Ogden Landing Road
30. Contaminated Ditch Flowing to KPDES Outfall 001
31. Contamination Area West of Plant
32. C-615 Sewage Treatment Facility
33. North-South Diversion Ditch Near Perimeter Fence
34. North-South Diversion Ditch Near Ogden Landing Road
35. C-746-U Landfill

*36. C-746-S and C-746-T Landfills
*37. C-746-S and C-746-T Landfill Area

* DOE monitored the C-746-S Landfill vents for radionuclides on October 6, 1999. No radionuclides were detected either in air emissions or smears of the inside surface of the vent pipe surfaces.

Miscellaneous Sources

Another minor potential fugitive or diffuse source of radionuclides results from the decontamination of machinery and equipment used in remediation activities such as well drilling. The equipment is washed with high-powered sprayers to remove any contaminants (radiological or non-radiological). The cleansing solutions and wash products could contain small amounts of radionuclides. No emission controls are used during the decontamination process. The contaminants originate from the soil and groundwater.

In accordance with PGDP DOE NESHAP Management Plan (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Ambient air monitoring locations are shown in Fig. 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has operated the ambient air monitors during CY 2004. Based on observations for CY 2004, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

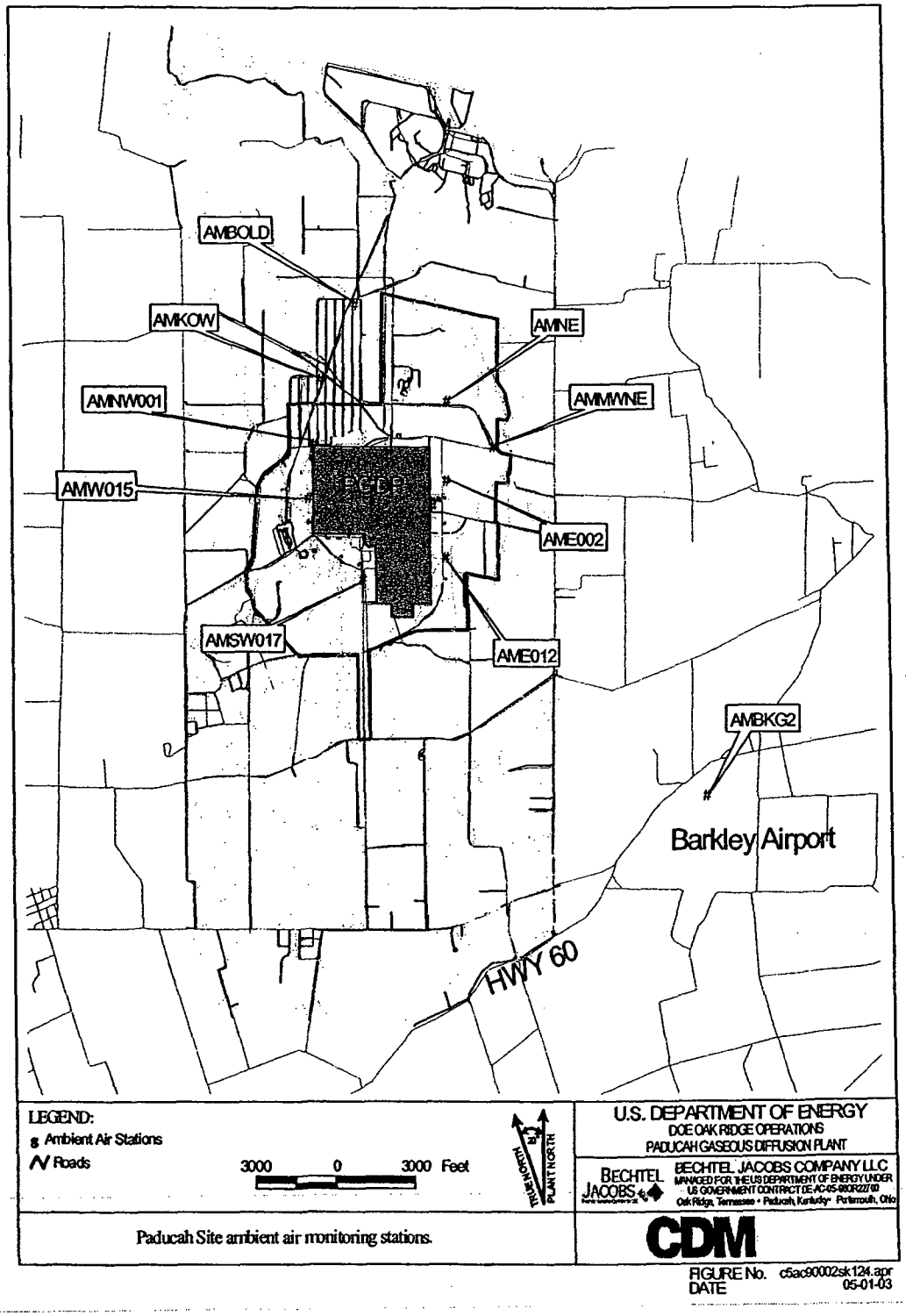

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Group	Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
E	C-310 Stack	NaF Traps[2]	>99.9	1740 ESE
		Alumina Traps[3]	~98.6	

MINOR POINT AND AREA SOURCES

Group	Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
B	C-400 Cylinder Drying Station[3]	None	0	1900 ESE
H	C-360[3]	None	0	1180 SE

MINOR GROUPED SOURCES

Group	Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor[1]
A/G	C-400/C-409 Group[3]	None	0	1920 ESE
C	C-720 Motor Burnout Ovens	None	0	1960ESE
D	C-709/C-710 Laboratory Hoods[3]	None	0	1960 ESE
F	Seal Exhaust/Wet Air Group • Seal Exhausts; Wet Air Exhausts; CFC-114/UF_6 Separation System	Alumina Traps[2]	~98.6	1490 ESE
	• Cylinder Valve Connection Activities[3]	HEPA Vacuums[4]	99.0 (Appendix D)	1490 ESE
	• Building Ventilation	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the SX/WA Group or respective building.

[1]Distances to receptors were resurveyed in 2004 due to residential construction in the vicinity of the plant.

[2]See January 28, 1994 correspondence from D. F. Hutcheson to W. A. Smith discussing "Potential to Emit."

[3] Emissions estimated in accordance with 40 CFR 61, Appendix D.

[4]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Group	Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
							Source	Plant
A/G	C-400/C-409 Group	Point[1]	11.3	N/A	0	Ambient	2040 N	2040 N
B	C-400 Cylinder Drying Station	Point[1]	2.4	0.5	0	Ambient	2120 N	2120 N
C	C-720 Motor Burnout Ovens	Point	15.8	0.5	0	Ambient	NA	NA
D	C-709/C-710 Laboratory Hoods	Point[1]	7.1	N/A	0	Ambient	2370 N	2370 N
E	C-310 Stack	Point	61.0	0.3	0	21.7	2430 N	2430 N
F	Seal Exhaust/ Wet Air Group[1]	Point[1]	21.0	N/A	0	Ambient	2350 N	2350 N
H	C-360	Point[2]	16.0	N/A	0	Ambient	1180 SE	2370 NNW

Group	Source Name	Distances (m) to Selected Receptors		
		Nearest Individual/Farm	Nearest Business	Nearest School
A/G	C-400/C-409 Group	1920	2819	4225
B	C-400 Cylinder Drying Station	1900	2819	4100
C	C-720 Motor Burnout Ovens	1960	2705	3900
D	C-709/C-710 Laboratory Hoods	1960	2705	3900
E	C-310 Stack	1740	2705	3840
F	Seal Exhaust/Wet Air Group	1490	2438	3840
H	C-360	1180	2000	3840

[1]Grouped source includes building ventilation and cylinder valve disconnections from systems not served by permanent HEPA filter systems.

[2] Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

PGDP USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci)[1] During 2004									
			Emission Sources						
			Group A/G	Group B	Group D	Group E	Group F	Group H	
Nuclide	Solubility	AMAD	C-400/ C-409 Group	C-400 Cylinder Drying Station	C-709/ C-710 Laboratory Hoods	C-310 Stack	Seal Exhaust/ Wet Air Group	C-360	Total
^{99}Tc	W	1	7.61E-03	NA[2]	9.05E-06	3.55E-03	2.44E-04	1.12E-04	1.15E-02
^{230}Th	W	1	5.32E-11	NA[2]	NA[2]	6.13E-06	ND[3]	NA[2]	6.13E-06
^{234}U	D	1	5.80E-04	1.17E-07	1.62E-03	5.60E-04	1.27E-02	3.41E-05	1.55E-02
^{235}U	D	1	2.00E-05	2.54E-06	5.61E-05	1.95E-05	4.40E-04	1.18E-06	5.39E-04
^{238}U	D	1	1.29E-04	3.37E-06	1.50E-04	5.20E-05	3.74E-03	3.16E-06	4.08E-03
^{237}Np	W	1	7.34E-05	6.03E-07	3.23E-06	4.78E-05	1.59E-05	4.26E-06	1.45E-04
^{239}Pu	W	1	2.02E-12	NA[2]	NA[2]	1.32E-06	ND[3]	NA[2]	1.32E-06
Total Ci/year			8.41E-03	6.63E-06	1.83E-03	4.24E-03	4.24E-03	1.55E-04	1.55E-04

[1] 1 Curie (Ci) = 3.7×10^{10} Becquerels
[2] NA = Not Analyzed
[3] ND = Not Detected

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor[1]
Northwest Plume Treatment Facility	None	0	1080 NNE
C-746 P Scrap Metal Project	None	0	1205 NNE
C-746 D Scrap Metal	None	0	1220 ESE
C-410 Emissions	HEPA	99.7	1820 ESE

Emission Source	NW Plume Treatment Facility	C-746 P Scrap Metal Project	C-746 D Scrap Metal Project	C-410 Emissions
^{99}Tc	9.85E-05	2.40E-11	2.38E-06	1.00E-07
^{234}U		3.39E-11	4.36E-04	4.50E-08
^{235}U		1.33E-12	1.71E-05	8.20E-10
^{238}U		1.01E-11	1.30E-04	4.40E-08
^{237}Np			3.29E-08	2.40E-10
^{239}Pu			2.86E-08	2.60E-10
^{241}Am				3.00E-10
Total Ci/year	**9.85E-05**	**6.93E-11**	**5.86E-04**	**1.91E-07**

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
C-746 P Scrap Metal Project	1234	3033	5490
C-746 D Scrap Metal	1220	2105	3873
C-410 Emissions	1820	2814	4360

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) & Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
C-746 P Scrap Metal Project	Point	1	NA	0	Ambient	1205 NNE
C-746 D Scrap Metal	Point	1	NA	0	Ambient	1220 SE
C-410 Emissions	Point	4.6	NA	0	Ambient	2220 N

[1]Distances to receptors were resurveyed in CY 2004 due to residential construction in the vicinity of the plant.

SECTION III DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act (CAA) Assessment Package-88 of computer codes. This package contains EPA's most recent version of the AIRDOS-EPA computer code which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to radionuclides deposited in the environment. The human exposure values are then used by EPA's latest version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors in the latest version of the RADRISK data file, which is provided by EPA with CAA Assessment Package-88.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and databases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	116.3 centimeters/year
Average air temperature:	14.7° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from[1]:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides (including fugitive and diffuse sources) is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem)[1] to maximally exposed individual for each individual source and the plant:

USEC Emission Sources		Maximum for Source	Maximum for Plant
A/G	C-400/C-409 Group	5.4E-03	5.4E-03
B	C-400 Cylinder Drying Station	4.1E-05	4.1E-05
C	C-720 Motor Burnout Ovens	0	0
D	C-709/C-710 Laboratory Hoods	1.1E-03	1.1E-03
E	C-310 Stack	1.5E-03	1.5E-03
F	Seal Exhaust/Wet Air Group	8.5E-03	8.5E-03
H	C-360	3.8E-04	1.7E-04
Total From USEC Sources		**N/A**	**1.7E-02**
DOE Emission Sources		**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility		1.8E-05	1.8E-05
C-746 P Scrap Metal Project		8.5E-11	8.5E-11
C-746 D Scrap Metal		6.0E-04	2.2E-04
C-410 Emissions		1.1E-07	1.1E-07
Total From DOE Sources		**N/A**	**2.4E-04**
Total From All Sources		**N/A**	**1.7E-02**

Maximum effective dose equivalent to the maximum exposed individual for the plant = 1.7E-02 mrem.

Location of maximally exposed individual: 2,350 meters north of greatest contributor to dose which is the SX/WA Group Source.

NOTE: Based on estimated 2000 census data, the total collective effective dose equivalent (CEDE) to the 50-mile population (approximately 531,000 persons) was 0.09 person-rem.

[1] 1 mrem=0.01 millisieverts.

SECTION IV ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There were 2 unplanned releases in USEC facilities occurring outside of a building not included in HP air sampling program during CY 2004. The estimated total quantity of uranium released was less than 45g. These releases were included in the seal/wet air exhaust group.

DIFFUSE/FUGITIVE EMISSIONS – DOE

Diffuse/fugitive sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Diffuse/fugitive sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment.

EPA has not identified a methodology or requirements for determining airborne radionuclide source terms for many unique fugitive and diffuse emission sources characteristic of DOE facilities, nor does the Paducah Site currently have any available methods to selectively and accurately quantify airborne radionuclide source terms from specific fugitive emission sources. However, consistent with the April 1995 memoranda of understanding between DOE and EPA Headquarters, information on diffuse/fugitive emissions is being provided to EPA as additional information. On February 8, 2000, DOE submitted to Kentucky Division for Air Quality and EPA Region IV the *Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan.* This plan outlined the DOE Paducah Site plans for using ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard. Section I of the NESHAP Management Plan provides a list of potential fugitive/diffuse sources on the Paducah Site.

The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services has conducted ambient air monitoring around the Paducah Site during CY 2004. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

In accordance with the Radiation Health and Toxic Agents Branch's protocol, plutonium and uranium isotopic analyses were not performed on the quarterly composites since ^{241}Am and ^{234}Th were not detected. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Based on observations for CY 2004, plant derived radionuclides were not detected by the Radiation Health and Toxic Agents Branch's air monitoring network.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

The status of compliance with the new NESHAP monitoring requirements is described in the revised NESHAP Compliance Plan which was submitted to EPA January 1992. PGDP has only one stack subject to the continuous monitoring requirements of Subpart H, the C-310 Stack.[1] Particulate stack sampling was performed on the C-310 Purge Cascade Stack February 1992. Results of the sampling project were forwarded to EPA by March 31, 1992. Documentation from EPA[2] stated that PGDP is exempted from the requirement to install an isokinetic sampling system.

Minor Sources: The periodic confirmatory measurement plan for minor sources is outlined in detail in the Revised NESHAP Compliance Plan for PGDP, which was submitted to EPA on January 15, 1992. The initial plan for confirmatory measurements is to estimate emissions using Appendix D and/or mass balance methods on an annual basis, and to stack sample those sources for which stack sampling is the only feasible estimation method on a five-year basis.

On May 26, 1992, PGDP and EPA entered into a Federal Facility Compliance Agreement (FFCA) to bring PGDP into compliance with the sampling provisions established in accordance with 40 CFR 61, Subpart H. Appendix A of the FFCA contains a schedule establishing compliance commitments. The major effort of the compliance schedule was the site evaluation in which all potential sources of airborne radionuclides were identified and emissions were determined. The radionuclide sources were identified through a preliminary stack vent survey, which was completed in 1991. In November 1992, a more in-depth survey was completed which did not discover any previously unknown airborne radionuclide sources. In September 1992, representatives from EPA inspected PGDP for NESHAP compliance. Correspondence from EPA summarizing the inspection stated there were no NESHAP violations identified during the inspection. PGDP fulfilled all commitments in accordance with Appendix A of the FFCA in June 1992; submitted results of the updated, in-depth vent stack survey in December 1992; and officially requested a Certification of Completion of the FFCA on March 11, 1993. EPA issued the Certification of Completion on March 26, 1993. Certification of Completion of the FFCA indicates that PGDP is in compliance with the provisions in accordance with 40 CFR 61, Subpart H.

[1]See correspondence from D. F. Hutcheson to D. C. Booher, dated January 28, 1994, discussing "Potential to Emit."

[2]See correspondence from W. A. Smith to D. C. Booher, dated April 20, 1992.

DOE has remained in compliance since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides above background levels during CY 2004. Therefore, the facility is in compliance with 40 CFR 61 Appendix E, Table 2 values.

The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1 of this report. The ratio of each isotopic concentration to the standard for that isotope in 40 CFR 61, Appendix E, Table 2, was calculated. The sum of all of these ratios should be less than one to meet the standard. The sum of the ratios is listed for each monitoring station for each quarter in Table A–1.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results[1]

Quarter	Nuclide	AMSW017 Ci/m3	AMW015 Ci/m3	AMNW001 Ci/m3	AMNE Ci/m3	AME002 Ci/m3	AME012 Ci/m3	AMBKG2 Ci/m3	AMBOLD Ci/m3	AMKOW Ci/m3	AMMWNE Ci/m3
1	Am-241	2.088E-17	7.723E-18	7.927E-18	1.275E-17	3.104E-17	1.521E-17	1.186E-17	1.663E-17	1.784E-17	1.095E-17
	Np-237	1.933E-17	4.094E-17	5.958E-17	1.145E-16	2.284E-16	-1.495E-16	-1.826E-16	-2.087E-16	1.761E-16	6.421E-16
	Tc-99	5.248E-16	4.258E-16	-1.217E-16	2.6205E-16	5.5104E-17	1.982E-16	3.586E-16	2.1831E-16	3.1062E-16	3.1506E-16
	U-238	2.09E-16	2.161E-16	2.074E-16	1.702E-16	2.222E-16	1.83E-16	1.931E-16	1.615E-16	2.216E-16	2.098E-16
	Sum of ratios	0.06	0.07	0.08	0.12	0.23	-0.09	-0.12	-0.14	0.19	0.57
2	Am-241	-9.845E-18	0	9.151E-18	1.06E-17	4.987E-18	1.437E-17	2.027E-17	6.661E-18	6.752E-18	7.315E-18
	Np-237	-5.641E-17	-2.134E-17	-7.087E-16	1.415E-16	1E-16	-3.808E-16	6.04E-17	-1.689E-16	4.975E-16	4.555E-17
	Tc-99	-1.2774E-16	-2.117E-16	-3.137E-16	-1.876E-16	1.8035E-16	-2.618E-16	-5.329E-17	-4.364E-16	-4.096E-16	-2.404E-16
	U-238	1.76E-16	1.659E-16	1.809E-16	1.45E-16	1.8E-16	3.01E-16	-4.25E-15[2]	2.037E-16	1.513E-16	1.529E-16
	Sum of ratios	-0.03	0.00	-0.57	0.14	0.11	-0.28	-0.45	-0.12	0.43	0.06
3	Am-241	-4.107E-18	9.702E-18	1.696E-17	4.818E-18	3.127E-18	0	7.967E-18	2.945E-17	0	1.497E-17
	Np-237	1.853E-16	-1.184E-16	-3.054E-16	5.096E-16	-2.048E-16	3.668E-16	2.964E-16	8.433E-16	1.571E-16	1.894E-16
	Tc-99	3.4272E-16	4.0101E-16	5.6235E-16	1.703E-16	4.2447E-16	1.1667E-16	-1.075E-16	1.2821E-15	2.9592E-16	1.4694E-16
	U-238	2.168E-16	2.866E-16	2.766E-16	2.414E-16	2.543E-16	2.126E-16	1.91E-16	5.571E-16	2.693E-16	2.461E-16
	Sum of ratios	0.18	-0.06	-0.21	0.46	-0.14	0.33	0.27	0.79	0.17	0.20
4	Am-241	-4.238E-18	-7.073E-18	8.502E-18	4.939E-18	-5.713E-18[3]	1.823E-17[3]	-4.797E-18[3]	7.405E-18	-8.099E-17[3]	-1.872E-17[3]
	Np-237	-2.537E-16	8.748E-17	-4.843E-16	-4.74E-16	-2.366E-18[3]	9.505E-18[3]	2.861E-16[3]	-2.627E-16	6.776E-16[3]	-9.845E-17[3]
	Tc-99	3.5596E-16	3.2114E-16	3.5716E-16	4.5585E-16	5.8117E-16[3]	2.5258E-16[3]	3.2692E-16[3]	6.2239E-16	5.0536E-16[3]	3.5282E-16[3]
	U-238	2.372E-16	2.904E-16	3.244E-16	2.419E-16	2.834E-16[4]	1.698E-16[4]	1.429E-16[4]	2.052E-16	5.745E-16[4]	2.149E-16[4]
	Sum of ratios	-0.18	0.11	-0.36	-0.36	0.03[3]	0.04[3]	0.26[3]	-0.19	0.59[3]	-0.06[3]

[1] 40 CFR 61, Table 2, Limiting Values (Ci/m3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U 8.3E-15.
[2] Indicates alpha spectroscopy number was unavailable and gamma spectroscopy number was used instead. Gamma spectroscopy MDC was 6.03E-15 Ci/m^3 which is still below the 40 CFR 61, Table 2, limit.
[3] Indicates there is a "UJ" analysis code associated with this data.
[4] Indicates there is a "J" analysis code associated with this data.

CERTIFICATION

This certification pertains to the following USEC emission sources:

Group A/G	C-400/C-409 Group
Group B	C-400 Cylinder Drying Station
Group C	C-720 Motor Burnout Ovens
Group D	C-709/C-710 Laboratory Hoods
Group E	C-310 Stack
Group F	Seal Exhaust/Wet Air Group
Group H	C-360

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

Steven Perrel

United States Enrichment Corporation

6-28-05

Date

CERTIFICATION

This certification pertains to the following DOE emission source:

C-410 D&D Activities
C-746-D Scrap Metal Project
C-746-P Scrap Metal Project
Northwest Plume Treatment Facility
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

WE Murf
Department of Energy

6/27/05
Date

USEC
A Global Energy Company

June 29, 2006

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Dear Mr. Farmer, Mr. Lyons, and Mr. Shroff:

National Emission Standards for Hazardous Air Pollutants (NESHAP) Annual Report for United States Enrichment Corporation (USEC) Operations at the Paducah Gaseous Diffusion Plant (PGDP)

Attached is the USEC annual NESHAP report required by 40 CFR 61, Subpart H, adopted by reference in 401 KAR 57:002. The PGDP site is owned by the Department of Energy (DOE). USEC leases and is responsible for the uranium enrichment operations, while DOE is responsible for the non-leased operations. Since Subpart H applies to total emissions from the PGDP facility, the USEC report also includes emissions from DOE operations. Calendar year 2005 radiological emissions from the facility, including USEC and DOE operations, resulted in a public effective dose equivalent of 0.022 millirem. This dose is well below the 10 millirem standard. Separate certifications are provided for USEC and DOE operations.

If you have any questions, please contact Dennis Reiter at (270) 441-6685.

Sincerely,

Vernon J. Shanks, Manager
Regulatory Compliance

VJS:DLR:mjw

Attachment

cc: Henry Armstrong – KDEP/PADUCAH
Tracey Brindley/Stan Knaus – PRS/PGDP
William Murphie – DOE/PGDP
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Dennis Reiter – USEC/PGDP
✓Regulatory Compliance – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

Paducah Gaseous Diffusion Plant
United States Department of Energy
Air Emissions Annual Report
(40 CFR 61, Subpart H)
Calendar Year 2005

Site Name: Paducah Gaseous Diffusion Plant

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EXECUTIVE SUMMARY

The Environmental Protection Agency (EPA) regulates air emissions of radionuclides, other than radon, from the United States Department of Energy (DOE) facilities under 40 CFR 61, Subpart H. Since DOE owns the Paducah Gaseous Diffusion Plant (PGDP), all regulated airborne radionuclide emissions are subject to the regulation, whether they originate from the United States Enrichment Corporation (USEC) operations or DOE operations. The public effective dose equivalent (EDE) standard is 10 millirem (mrem) per year from the PGDP site. The EDE to the public is calculated using a computer modeling program (CAP-88) specified in 40 CFR 61.93. Inputs to the computer program are obtained through continuous monitoring, periodic confirmatory measurements, engineering estimates, emission factors, and other EPA-approved methods. Subpart H requires an annual compliance report covering site emissions from the previous year. This report meets the annual reporting requirements and establishes the total annual EDE to the maximally exposed member of the public in 2005 at 0.022 mrem, including USEC and DOE contributions. This EDE is well below the annual limit of 10 mrem per year. Since this report represents both DOE and USEC emissions, the report contains dual certifications.

SECTION I: FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC and DOE portions of the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 3,423 acres in western McCracken County, approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 748 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 6,800 acres managed by the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with approximately 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a physical separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. During enriching operations from 1953 to 1975, feed material (called "reactor tails") from government reactors was also used intermittently in addition to the UF_6 typically used. Reactor tails were the spent fuel from nuclear reactors that is depleted in ^{235}U content and has been reprocessed to remove most of the fission products. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed) and the enriched uranium and the remaining fission products were fed into the PGDP cascade system. Use of the reactor tails resulted in the introduction of technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu), into the cascade. ^{99}Tc is a man-made radioactive substance (radionuclide) having a half-life estimated at between 212,000 and 250,000 years. ^{99}Tc decays by emitting beta radiation.

Extensive support facilities are required to maintain the diffusion process. Some of the major support facilities include a steam plant, four major electrical switchyards, four cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blow down treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. The population within the 50-mile radius is approximately 520,000 persons. Of these, approximately 44,000 live within 10 miles of the plant and approximately 104,000 live within 20 miles of the plant. Population data were determined from the LandView 6 Census 2000 population estimator computer program. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 air miles east of the plant; Cape Girardeau, Missouri, located approximately 40 air miles to the west; and Metropolis, Illinois, located approximately 6 air miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79° F. Yearly precipitation averages approximately 49 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns all the facilities at PGDP, the uranium enrichment enterprise is now the responsibility of USEC.

USEC SOURCE DESCRIPTIONS

The 40 CFR 61.92 standard states emissions to the ambient air shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent (EDE) of 10 mrem/yr. The continuous emission monitoring requirements are listed in 40 CFR 61.93. Continuous radionuclide emission measurements must be made at all release points that have a potential to discharge radionuclides into the air in quantities that could cause an EDE in excess of one percent of the standard (0.1 mrem/yr). To determine if a release point is subject to the continuous emission monitoring requirements, the potential to emit radionuclides must be made assuming no pollution control existed, but the facility is operated normally. USEC has determined the only release point requiring continuous monitoring is the C-310 stack. For the purposes of this report, any radionuclide release point requiring continuous emission monitoring is a *major* source. A *minor* source is a source or group of sources that does not exceed the annual EDE 0.1 mrem/yr continuous monitoring requirement. The C-310 stack is the only major source.

There are a number of minor, unmonitored radionuclide air sources at PGDP. Since these sources are not equipped with effluent samplers or monitors, emissions must be estimated using EPA-approved methods. Minor sources were identified during a 1991–1992 plant-wide vent stack survey. The source listing is maintained through internal review processes. For the purpose of estimating releases and submitting the annual report, minor sources may be grouped according to similar characteristics (e.g., general location, type of activity, or type of control, etc.). The number of minor sources may change from year to year due to cessation or start-up of operations.

Group A - C-400 Group

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The radionuclide emissions result from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water, multiplied by the total volume of water, was considered as the "curies used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from C-710. The solution is chemically treated to precipitate the uranium forming a slurry solution. The solution is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal, leaving the filtrate. After sampling, the filtrate is discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The radionuclide emissions come from the vent on the pump pulling the slurry solution through the rotary vacuum filter. Emissions from this vent are minimal because the pump and its vent are downstream of the rotary vacuum filter, which trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentration of radionuclides in the filtrate multiplied by the filtrate volume was considered as the "curies used."

C-400 Laundry

The C-400 Laundry washes and dries protective clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Group B—C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry plant air is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to wash the cylinders prior to drying, multiplied by the total volume of water used in the washing, were considered as the "curies used."

Group C—C-720

The motor burnout facility in C-720 is used to remove insulation from process motors in preparation for rebuilding. Administrative controls, such as limiting the level of radioactive contamination on the motors, are used to minimize emissions from this system. Emissions from the motor burnout facility are estimated using the results of radiological surveys of the motors placed in the facility. This facility was not operated in 2005.

Group D—C-709/C-710 Laboratory Hoods

The C-709/710 Laboratories are operated by Production Support and are the main facilities for sample analysis and research at PGDP. There are a total of 54 laboratory hoods and canopies in the C-709/710 Buildings that were used for radiological activities in 2005. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th).

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods. (If an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to lose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Group E—C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and ^{230}Th are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps. Each trap contains approximately 200 pounds of alumina.

The cylinder burp facility, located on the east side of C-310, is used to vent low molecular weight gases from product cylinders. This facility is also a potential source of uranium, ^{99}Tc, and minute quantities of transuranics. The effluent from the burp facility is routed through a bank of sodium fluoride

(NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. These traps contain approximately 130 pounds of NaF each. Uranium is recovered from the NaF traps back to the enrichment cascade.

Emissions from the C-310 stack were estimated based on daily emission samples from the continuous potassium hydroxide bubbler stack sampling system, which was approved by the Environmental Protection Agency (EPA) in 1992.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2005, there were 13 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods. Emissions immediately prior to and after the dates in question indicated they were within normal ranges.

Group F—Seal Exhaust/Wet Air Group

Seal Exhausts

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil also serves as an excellent uranium emission control device; however, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and is not included for emission control.
The list below indicates locations of the six seal exhausts at PGDP:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

An evaluation of the potential to emit radionuclides from the seal exhaust and wet air exhaust systems, and the conclusion that the alumina traps, which protect the pump oil, are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Periodic confirmatory measurements are made on each type of seal exhaust and wet air system to verify low emissions. Emissions from these systems were originally estimated based on results of a modified 40 CFR 60 Method 5 stack sampling performed in 1992. The systems were resampled in 1997 and 2002. The seal exhaust/wet air system for the C-335 Process Building was sampled in 2004 as part of the CFC-114/UF_6 separator modifications. The most recent sampling results were used for emission estimates for CY 2005.

Wet Air Exhausts

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The subject equipment and piping are swept in a series of purges with dry plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. During the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil and then to an exhaust vent. In process buildings C-310, C-335, and C-337, the exhaust vent is the same one that services the seal exhaust system for those buildings. As discussed under seal exhausts, emissions from the wet air exhausts are estimated based on the most recent Method 5 stack sampling performed on this system. The list below indicates locations of the five wet air exhausts at PGDP:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Chlorofluorocarbon-114 (CFC-114) UF_6 Separator

The CFC-114/UF_6 Separation System is located in C-335 and is used to freeze out UF_6 from process gas that has been significantly contaminated with R-114 coolant. Such mixtures usually result from equipment failure, but may also result from abnormal cascade operation. Surge drums are used to store these mixtures until they can be separated. The primary purpose of the CFC-114/UF_6 separation system is to remove the coolant and return the UF_6 to the cascade.

The separation system operates by freezing out the UF_6 from the process gas. To freeze out the UF_6, the UF_6/R-114 mixture is transferred from the surge drum (via pressure differential or process gas pumps) through a refrigerated set of favorable geometry cold traps. The gas stream then passes through NaF traps and alumina traps to absorb any residual UF_6. Typically, the gas stream flows through the alumina traps, although these traps can be bypassed. The trap discharge is connected to the seal exhaust/wet air (SX/WA) pump system and to atmosphere through the existing common discharge header. The UF_6 is sublimed back to cascade after the processing of the coolant-laden gas has been completed.

Modifications to the CFC-114/UF_6 Separation System to improve nuclear criticality safety characteristics were performed and initial baseline emissions testing completed in 2004. The modification reduced potential radionuclide emissions.

Cylinder Valve Connection Activities

Activities involving the connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a small amount of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed so that UF_6, which is emitted from the pigtail disconnect process, is captured by the HEPA vac.

Cylinder disconnection activities were serviced by HEPA filter-equipped vac systems. The list below indicates the locations of the pigtail systems:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail (based on the system volume, temperature, and pressure) multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes that each pigtail has been evacuated or purged in accordance with operating procedures. Estimated quantities of UF_6 released during pigtail disconnections are added to the releases estimated from normal operations.

Building Ventilation

Radiological areas at PGDP are established under specific criteria defined in USEC Health Physics procedures and comply with the regulatory guidelines detailed in CFRs. As such, a radiological area is any area where: (1) an individual can receive a dose equivalent greater than 5 mrem in 1 hour, or (2) airborne radioactivity concentrations are greater than 10 percent of a derived air concentration (DAC); which is defined as the airborne concentrations of radionuclides in the workplace which would cause a maximum internal radiation dose of 5,000 mrem/year (regulatory exposure limit) to workers breathing the air over a normal year), or (3) surface contamination is present in excess of specified guidelines. Of the criteria for establishing radiological areas, the limits for airborne radioactivity relate directly to the potential exposure of the public from air emissions and are evaluated for radionuclide NESHAP considerations under the Building Ventilation Source category.

There are a number of radiological areas at PGDP with potential airborne radioactivity concentrations that could exceed threshold values. These areas are monitored by the Health Physics Group through the use of low-volume air samplers. These sampling systems consist of a low-volume pump (20 to 40 liters per minute) drawing ambient building air through a filter. The samplers run 24

hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending on filter loading and weekend/holiday schedules. Typically, a minimum of 2 days of sample air is collected on each filter. After sample collection, the filters are counted for radioactivity concentrations.

For radionuclide NESHAP considerations, building ventilation sources from C-315, C-331, C-333, C-333A, C-335, C-337, C-337A, and C-720 are grouped with the Seal Exhaust/Wet Air Group. Building ventilation sources from C-310, C-360, C-400, and C-709/C-710 are grouped with the respective building emissions. Alpha and beta results from Health Physics air sampling are evaluated based on the most restrictive DAC applicable to PGDP, listed in 10 CFR 20. For alpha emissions, ^{237}Np is used. For beta emissions, ^{99}Tc is used. Only air sampling results exceeding 10 percent of the designated DAC are used in radionuclide NESHAP source emission calculations.

Group G—C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium forming a slurry solution. The solution is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal, leaving the filtrate. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The radionuclide emissions come from the vent on the pump that pulls the slurry solution through the rotary vacuum filter. Emissions from this vent are minimal because the pump and its vent are downstream of the rotary vacuum filter, which trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate, multiplied by the filtrate volume, are considered as the "curies used."

Group H—C-360

The primary sources of radionuclide air emissions are cylinder valve connection activities and building ventilation. Emissions from the cylinder valve connections were estimated by determining the total number of pigtail disconnections. An estimated quantity of UF_6 in each pigtail multiplied by the number of disconnections was used to estimate the total quantity of UF_6 released.

CONSTRUCTION AND MODIFICATION ACTIVITIES

During the calendar year, there were no USEC construction or modification activities which were waived under 40 CFR 61.96.

USEC FUGITIVE AND DIFFUSE SOURCES

Site emissions of fugitive or diffuse sources of radionuclides are discussed in the DOE Fugitive/Diffuse Emissions section. A network of ambient air monitors is maintained at the PGDP site. Based on ambient air monitoring observations for CY 2005, plant derived radionuclides were not detected.

DOE SOURCE DESCRIPTION

New or Modified Sources

The Northeast Plume Treatment System was a new source for 2005. While no construction or modification occurred, radionuclide emissions began due to changing groundwater conditions as described below.

Northeast Plume Treatment Facility

DOE began normal operation of a groundwater treatment system on February 28, 1997 as an interim remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The system extracts contaminated groundwater and pumps it to the C-637 Cooling Towers operated by USEC. Initially the contaminated groundwater did not contain radionuclides; however during 2005, ^{99}Tc was detected in the groundwater and consequently emitted to the air. Emissions of ^{99}Tc were estimated using 40 CFR Subpart H, Appendix D, emission factors and the analysis of both the influent groundwater and the basin water in the cooling tower.

Northwest Plume Treatment Facility

On September 1, 1995, DOE began operation of a groundwater treatment plant designed for the removal of trichloroethylene and ^{99}Tc. The facility is located at the northwest corner of the PGDP site security area and is part of an interim remedial action under CERCLA. The facility consists of an air stripper to remove volatile organics and an ion exchange unit to remove of ^{99}Tc from the groundwater. The air stripper is located upstream of the ion exchange unit.

Emissions of ^{99}Tc were estimated using the analysis of the influent groundwater and the effluent water leaving the air stripper. Comparison of the ^{99}Tc concentration in the influent and effluent of the air stripper and the quantity of the water passing through the stripper were used to estimate the total quantity of ^{99}Tc emitted from the facility. The exhaust from the air stripper is passed through a carbon adsorption unit prior to exhaust. Extensive sampling has shown that ^{99}Tc is not retained in the carbon; therefore, no reduction in ^{99}Tc emissions due to the use of the adsorption unit were assumed.

Scrap Metal Projects

The Scrap Metal Projects removed scrap metal from the northwest portion of the Paducah Site (C-746-P yard) as well as the C-746-D yard in the eastern portion of the site. During 2005, fugitive airborne radionuclide emissions may have resulted from dust created by removal, size reduction, and loading the scrap into transportation containers. The amount of radionuclides released was estimated based on emission factors from the Environmental Protection Agency, Document AP-42.

C-410 Decontamination and Decommissioning Activities

DOE continued preparation of fluorine cells for off-site shipment. This preparation required removal of the paint on the exterior of the cells due to concerns about possible contaminants in the paint. The paint was removed by a sponge blasting process. A small amount of radionuclide contamination was present in the paint removed. The blasting occurred within the facility; however, room ventilation was exhausted through a HEPA filter. The amount of radionuclides released was estimated based on paint sampling data and 40 CFR Subpart H, Appendix D, emission factors.

Fugitive and Diffuse Sources

DOE has identified many areas, such as inactive facilities, building roofs, scrap metal storage yards, landfills, equipment decontamination, and various contamination areas, as potential fugitive and diffuse sources. Based on prior Health Physics data and historical ambient air monitoring, it is unlikely that any of these potential sources are significant; however, ambient air monitoring has been conducted around the Paducah Site to verify this conclusion.

In accordance with *The Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan* (BJC/PAD-141, dated February 2000), DOE utilized ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources including fugitive and diffuse. Ambient air monitoring locations are shown in Figure 1. The Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services operated the ambient air monitors during CY 2005. Based on observations for CY 2005, plant derived radionuclides were not detected. The results of the ambient air monitoring are in Table A-1 of this report.

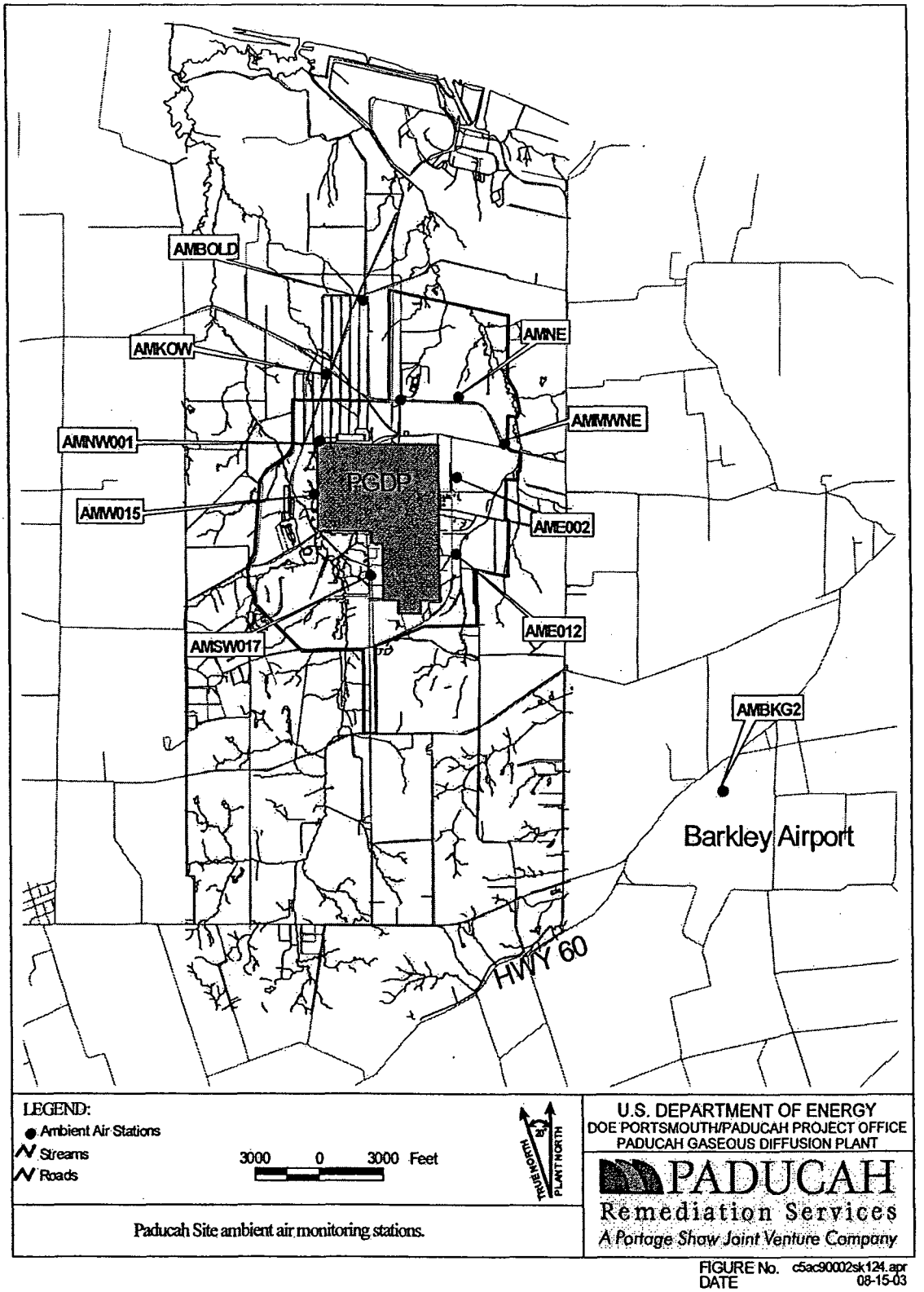

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II: SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

USEC SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS

MAJOR POINT SOURCE

Group	Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
E	C-310 Stack	NaF Traps	>99.9	1740 ESE
		Alumina Traps	~98.6	

MINOR POINT AND AREA SOURCES

Group	Minor Point and Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
B	C-400 Cylinder Drying Station	None	0	1900 ESE
G	C-409 Dissolver	None	0	2060 ESE
H	C-360	None	0	1180 SE

MINOR GROUPED SOURCES

Group	Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
A	C-400 Group	None	0	1920 ESE
C	C-720 Motor Burnout Ovens	None	0	1960 ESE
D	C-709/C-710 Laboratory Hoods	None	0	1960 ESE
F	Seal Exhaust/Wet Air Group • Seal Exhausts; Wet Air Exhausts; CFC-114/UF_6 Separation System	Alumina Traps	~98.6	1490 ESE
	• Cylinder Valve Connection Activities	HEPA Vacuums[1]	99.0 (Appendix D)	1490 ESE
	• Building Ventilation	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the SX/WA Group or respective building.

[1]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

USEC SOURCE CHARACTERISTICS

Group	Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
							Source	Plant
A	C-400 Group	Point	11.3	N/A	0	Ambient	2040 N	2040 N
B	C-400 Cylinder Drying Station	Point	2.4	0.5	0	Ambient	2120 N	2120 N
C	C-720 Motor Burnout Ovens	Point	15.8	0.5	0	Ambient	NA	NA
D	C-709/C-710 Laboratory Hoods	Point	7.1	N/A	0	Ambient	2370 N	2370 N
E	C-310 Stack	Point	61.0	0.3	0	21.7	2430 N	2430 N
F	Seal Exhaust/ Wet Air Group	Point	21.0	N/A	0	Ambient	2350 N	2350 N
G	C-409 Dissolver	Point	2.3	0.08	0	Ambient	2134 N	2134 N
H	C-360	Point	16.0	N/A	0	Ambient	1180 SE	2370 NNW

Group	Source Name	Distances (m) to Selected Receptors		
		Nearest Individual/Farm	Nearest Business	Nearest School
A	C-400 Group	1920	2819	4225
B	C-400 Cylinder Drying Station	1900	2819	4100
C	C-720 Motor Burnout Ovens	1960	2705	3900
D	C-709/C-710 Laboratory Hoods	1960	2705	3900
E	C-310 Stack	1740	2705	3840
F	Seal Exhaust/Wet Air Group	1490	2438	3840
G	C-409 Dissolver	2060	2900	4040
H	C-360	1180	2000	3840

Note: Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

USEC RADIONUCLIDE EMISSIONS

Radionuclide Emissions (Ci) - CY 2005										
			Emission Source							
			Group A	Group B	Group D	Group E	Group F	Group G	Group H	
Nuclide	Solubility	AMAD*	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-709/ C-710 Lab Hoods	C-310 Stack	Seal Exhaust/ Wet Air Group	C-409 Dissolver	C-360	Total
^{234}U	D	1.0	3.52E-04	1.85E-06	5.99E-04	2.04E-04	1.10E-02	2.55E-07	1.91E-05	1.22E-02
^{235}U	D	1.0	1.22E-05	6.42E-08	2.08E-05	7.10E-06	3.82E-04	8.84E-09	6.64E-07	4.23E-04
^{238}U	D	1.0	4.29E-05	1.40E-06	5.55E-05	2.34E-05	3.80E-03	4.87E-08	1.98E-06	3.93E-03
^{99}Tc	W	1.0	9.98E-03	6.70E-07	0.00E+00	9.26E-04	3.34E-05	2.28E-06	0.00E+00	1.09E-02
^{230}Th	W	1.0	1.14E-07	2.22E-05	0.00E+00	6.30E-06	0.00E+00	6.07E-09	0.00E+00	2.86E-05
^{237}Np	W	1.0	4.48E-05	3.31E-07	2.97E-06	2.61E-05	1.05E-04	2.58E-08	2.41E-06	1.82E-04
^{239}Pu	W	1.0	1.36E-08	3.28E-09	0.00E+00	1.19E-06	0.00E+00	1.17E-09	0.00E+00	1.21E-06
Total Ci/year			1.04E-02	2.65E-05	6.78E-04	1.19E-03	1.53E-02	2.63E-06	2.42E-05	**2.77E-02**

*AMAD – Activity Median Aerodynamic Diameter

Note: The C-720 motor burnout facility, Group C, did not operate during 2005.

DOE SOURCE CHARACTERISTICS AND RADIONUCLIDE EMISSIONS DATA

Minor Point and Area Sources	Type Control	Efficiency%	Distance (m) and Direction to Nearest Receptor
Northwest Plume Treatment Facility	None	0	1080 NNE
C-746-P Scrap Metal Project	None	0	1205 NNE
C-746-D Scrap Metal	None	0	1220 ESE
C-410 Emissions	HEPA	99.7	1820 ESE
NE Plume Treatment Facility	None	0	1360 SE

Radionuclide Emissions (Ci) - CY 2005								
			Emission Source					
Nuclide	Solubility	AMAD	NW Plume Treatment Facility	C-746-P Scrap Metal Project	C-746-D Scrap Metal Project	C-410 Emissions	NE Plume Treatment Facility	Total
^{234}U	D	1.0	0.00E+00	3.39E-11	4.36E-04	4.50E-08	0.00E+00	4.36E-04
^{235}U	D	1.0	0.00E+00	1.33E-12	1.71E-05	8.20E-10	0.00E+00	1.71E-05
^{238}U	D	1.0	0.00E+00	1.01E-11	1.30E-04	4.40E-08	0.00E+00	1.30E-04
^{99}Tc	W	1.0	9.85E-05	2.40E-11	2.38E-06	1.00E-07	1.25E-04	2.26E-04
^{237}Np	W	1.0	0.00E+00	0.00E+00	3.29E-08	2.40E-10	0.00E+00	3.31E-08
^{239}Pu	W	1.0	0.00E+00	0.00E+00	2.86E-08	2.60E-10	0.00E+00	2.89E-08
^{241}Am	W	1.0	0.00E+00	0.00E+00	0.00E+00	3.00E-10	0.00E+00	3.00E-10
Total Ci/year			9.85E-05	6.93E-11	5.86E-04	1.91E-07	1.25E-04	**8.09E-04**

Source Name	Distances (m) to Selected Receptors		
	Nearest Individual/Farm	Nearest Business	Nearest School
Northwest Plume Treatment Facility	1080	2550	5150
C-746-P Scrap Metal Project	1234	3033	5490
C-746-D Scrap Metal	1220	2105	3873
C-410 Emissions	1820	2814	4360
NE Plume Treatment Facility	1268	2073	4207

Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) & Direction to Maximally Exposed Individual (MEI) Source MEI
Northwest Plume Treatment Facility	Point	7.0	0.3556	9.45	37.8	1080 NNE
C-746-P Scrap Metal Project	Point	1.0	NA	0	Ambient	1205 NNE
C-746-D Scrap Metal	Point	1.0	NA	0	Ambient	1220 SE
C-410 Emissions	Point	4.6	NA	0	Ambient	2220 N
NE Plume Treatment Facility	Point	10.22	8.18	4.84	Ambient	2573 N

SECTION III: DOSE ASSESSMENT

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the CAP-88 package of computer codes. This package contains EPA's version of the AIRDOS-EPA computer code, which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and then uses Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to the environmental concentrations. The human exposure values are then used by the EPA's version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors contained in the RADRISK data file, which is provided by the EPA with the CAP-88 package. Selection of the dose conversion factors follows guidance given by the EPA in its Federal Guidance Report No. 11.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and data bases. The meteorological information comes from either the on-site meteorological station or the Paducah National Weather Service.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	116.3 centimeters/year
Average air temperature:	14.7° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from[1]:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides (including fugitive and diffuse sources) is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem) to the maximally exposed member of the public is provided below. The maximally exposed member of the public is identified by the shortest distance in 16 different compass directions from each source. Each individual source may or may not share a public receptor with another source depending on the geographic location of the source compared to the closet public receptor. Using these public receptors, the CAP-88 computer dose modeling program determines maximum dose from each individual source and from all sources combined. Each source will produce a maximum dose, but it may not be the maximum for the plant because a different public receptor receives a greater combined dose total from the plant.

USEC Emission Sources		Maximum for Source	Maximum for Plant
A	C-400 Group	3.7E-03	3.7E-03
B	C-400 Cylinder Drying Station	8.3E-04	8.3E-04
C	C-720 Motor Burnout Ovens	0.0E+00	0.0E+00
D	C-709/C-710 Laboratory Hoods	5.1E-04	5.1E-04
E	C-310 Stack	6.1E-03	5.8E-03
F	Seal Exhaust/Wet Air Group	1.1E-02	1.1E-02
G	C-409 Dissolver	2.2E-06	2.2E-06
H	C-360	2.1E-04	9.1E-05
Total From USEC Sources		**N/A**	**2.19E-02**
DOE Emission Sources		**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility		1.8E-05	1.8E-05
C-746-P Scrap Metal Project		8.5E-11	8.5E-11
C-746-D Scrap Metal		6.0E-04	2.2E-04
C-410 Emissions		1.1E-07	1.1E-07
Northeast Plume Treatment Facility		8.5E-06	6.3E-06
Total From DOE Sources		**N/A**	**2.44E-04**
Total From All Sources		**N/A**	**2.2E-02**

The effective dose equivalent to the maximally exposed individual from plant emissions is 2.2E-02 mrem.

The maximally exposed individual is located 2,350 meters north of the SX/WA Group Source.

NOTE: Based on 2000 census data obtained from the LandView 6 computer program, the total collective effective dose equivalent (CEDE) to the 50-mile population (520,000 persons) was 0.15 person-rem.

SECTION IV: ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There was one unplanned release in USEC facilities occurring outside of a building not included in Health Physics air sampling program during the year. The estimated total quantity of uranium released was one gram. The release was included in the seal/wet air exhaust group.

UNPLANNED RELEASES – DOE

There was one unplanned release within C-410 during D&D activities. The release was contained within the building. Any release outside the building was a diffuse/fugitive release.

DOE – FUGITIVE/DIFFUSE EMISSIONS

Fugitive/diffuse sources include any source that is spatially distributed, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. Fugitive/diffuse sources also include emissions from sources where forced air is not used to transport the radionuclides to the atmosphere. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of fugitive/diffuse sources include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; leaks in piping, valves, or other process equipment; and cylinder valve changes.

The Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan, (BJC/PAD-141, dated February 2000), outlines the DOE Paducah Site use of ambient air monitors to demonstrate that total emissions (from point, diffuse, and fugitive sources) result in doses significantly less than the 10-mrem/year (0.1-mSv/year) standard.

AMBIENT AIR MONITORING

In accordance with the plan, the Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services conducted ambient air monitoring around the Paducah Site during CY 2005. The Radiation Health and Toxic Agents Branch reports that weekly air filters were screened for gross alpha and beta activity and then composited on a quarterly basis. The quarterly composites were analyzed by gamma spectroscopy using a thin window 40 percent high purity germanium detector, which allows for detection of low energy gamma emitters. Americium-241 (^{241}Am) and ^{234}Th were not detected by gamma spectroscopy for the quarterly composites.

In accordance with the Radiation Health and Toxic Agents Branch's protocol, plutonium and uranium isotopic analyses were not performed on the quarterly composites since ^{241}Am and ^{234}Th were not detected. Since ^{241}Am and ^{234}Th were not present, the quarterly composites were analyzed for ^{99}Tc. ^{99}Tc was also not detected in the quarterly composites. ^{210}Pb and ^{40}K were detected on filters, which accounts for the presence of the gross alpha and beta activities.

Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides above background levels during CY 2005. The actual results, even though less than the measurement error, of each air monitor are listed in Table A-1 of this report. The ratio of each isotopic concentration to the standard for that isotope in 40 CFR 61, Appendix E, Table 2, was calculated. The sum of all of these ratios should be less than one to meet the standard. The sum of the ratios is listed in Table A–1 for each monitoring station for each quarter.

Table A-1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results[1]

		Ambient Air Station									
		AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3
1	^{241}Am	3.03E-18	6.03E-18	0.00E+00	2.00E-18	-3.54E-18	6.25E-18	3.95E-18	3.06E-18	1.77E-18	1.12E-17
	^{237}Np	-9.52E-17	-1.60E-16	3.43E-16	2.83E-16	2.03E-16	-1.73E-16	-2.94E-16	-6.62E-17	-4.14E-16	-2.81E-16
	^{99}Tc	1.52E-17	3.55E-16	2.37E-16	1.74E-16	2.44E-16	2.19E-16	-1.11E-17	2.15E-16	-6.35E-17	2.45E-16
	^{238}U	1.73E-16	1.94E-16	2.29E-16	1.95E-16	2.07E-16	2.23E-16	1.72E-16	2.10E-16	2.22E-16	1.65E-16
	Sum of ratios	-0.06	-0.10	0.32	0.26	0.19	-0.11	-0.22	-0.03	-0.32	-0.21
2	^{241}Am	5.15E-18	-4.42E-18	7.36E-18	1.30E-17	5.38E-18	-1.84E-18	6.55E-18	2.07E-18	-1.77E-18	-3.70E-18
	^{237}Np	6.16E-18	-9.72E-17	7.55E-18	7.07E-18	7.16E-18	5.73E-18	3.90E-17	7.55E-18	-6.64E-18	-3.71E-17
	^{99}Tc	2.83E-16	3.34E-16	8.86E-16	6.90E-16	1.40E-15	8.30E-16	1.03E-15	9.69E-16	1.04E-15	6.13E-16
	^{238}U	1.75E-16	1.96E-16	1.69E-16	2.12E-16	2.00E-16	1.77E-16	1.24E-16	1.99E-16	1.67E-16	1.77E-16
	Sum of ratios	0.03	-0.06	0.04	0.04	0.04	0.03	0.06	0.04	0.02	-0.01
3	^{241}Am	9.74E-23	-6.21E-18	-5.21E-18	0.00E+00	0.00E+00	4.96E-18	0.00E+00	1.45E-17	-7.77E-18	-1.81E-18
	^{237}Np	9.58E-18	-2.75E-17	7.73E-18	9.72E-18	5.81E-18	-3.29E-18	2.22E-17	2.35E-18	-2.06E-18	-2.36E-17
	^{99}Tc	1.07E-15	2.50E-16	7.17E-16	3.10E-16	7.64E-16	4.32E-16	2.48E-16	4.17E-16	7.00E-16	3.94E-16
	^{238}U	3.12E-16	2.52E-16	2.07E-16	2.54E-16	2.85E-16	2.35E-16	1.87E-16	2.35E-16	2.42E-16	2.29E-16
	Sum of ratios	0.05	0.01	0.03	0.04	0.04	0.03	0.04	0.04	0.03	0.01
4	^{241}Am	1.2E-17	6.7E-18	8.2E-18	-1.8E-18	7.6E-18	1.3E-17	9.2E-18	-8.6E-18	1.1E-17	-1.7E-18
	^{237}Np	-2.4E-18	-4.1E-18	2.1E-18	1.2E-17	7.7E-18	2.2E-17	1.0E-17	2.2E-18	-1.5E-17	-2.6E-17
	^{99}Tc	4.9E-16	6.3E-16	1.0E-15	1.0E-15	4.5E-16	2.7E-16	1.9E-16	4.4E-16	8.8E-16	6.1E-16
	^{238}U	1.7E-16	1.7E-16	1.4E-16	1.9E-16	1.3E-16	1.7E-16	1.4E-16	2.2E-16	2.0E-16	1.6E-16
	Sum of ratios	0.03	0.03	0.03	0.04	0.03	0.05	0.03	0.03	0.02	0.00

[1] 40 CFR 61, Table 2, Limiting Values (Ci/m3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U 8.3E-15.

STATUS OF NESHAP MONITORING REQUIREMENTS, SUBPART H COMPLIANCE

DOE has remained in compliance with 40 CFR 61, Subpart H, since 1993. KDAQ received a delegation of authority to administer the NESHAP program in July 1999. A NESHAP Management Plan has been developed by DOE, which addresses fugitive and diffuse emissions. EPA Region 4 concurred with the DOE NESHAP Management Plan on September 19, 2000. In accordance with the management plan, ambient air monitoring was utilized to verify compliance of the Paducah Site with 40 CFR 61, Subpart H, for all emissions. Ambient air monitoring conducted by the Kentucky Radiation Health and Toxics Branch did not detect plant derived radionuclides above background levels during CY 2005. Therefore, the facility is in compliance with 40 CFR 61, Appendix E, Table 2 values.

Based on the results included within this report, during 2005 the facility was in compliance with 40 CFR 61, Subpart H, for all airborne radionuclide emissions.

USEC CERTIFICATION

This certification pertains to the following USEC emission sources:

Group A	C-400
Group B	C-400 Cylinder Drying Station
Group C	C-720 Motor Burnout Ovens
Group D	C-709/C-710 Laboratory Hoods
Group E	C-310 Stack
Group F	Seal Exhaust/Wet Air Group
Group G	C-409 Dissolver
Group H	C-360
Fugitive and Diffuse Sources	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

Steven Perrol
United States Enrichment Corporation

6-5-06
Date

DOE CERTIFICATION

This certification pertains to the following DOE emission source:

C-410 D&D Activities
C-746-D Scrap Metal Project
C-746-P Scrap Metal Project
Northwest Plume Treatment Facility
Northeast Plume Treatment Facility
Fugitive and Diffuse Sources

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

Department of Energy

6/29/06
Date

USEC
A Global Energy Company

May 7, 2007

Ms. Beverly Banister, Director
Air, Pesticides, and Toxic Management Division
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61 Forsyth Street, SW
Atlanta, Georgia 30303-8960
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Mr. John S. Lyons, Director
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Washington, D.C. 20460
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Dear Ms. Banister, Ms. Cotsworth., and Mr. Lyons:

National Emission Standards for Hazardous Air Pollutants (NESHAP) Annual Report for United States Enrichment Corporation (USEC) Operations at the Paducah Gaseous Diffusion Plant (PGDP)

Attached is the USEC annual NESHAP report required by 40 CFR 61, Subpart H, adopted by reference in 401 KAR 57:002. The PGDP site is owned by the Department of Energy (DOE). USEC leases and is responsible for the uranium enrichment operations, while DOE is responsible for the non-leased operations. Since Subpart H applies to total emissions from the PGDP facility, the USEC report also includes summary emission information from DOE operations. Previous annual reports included detailed information for DOE sources. Starting with this report, USEC will only provide detailed information for USEC emissions. Calendar year 2006 radiological emissions from the facility, including USEC and DOE operations, resulted in a public effective dose equivalent of 0.012 millirem. This dose is well below the 10 millirem standard. The required certification is the last page of the report.

If you have any questions, please contact Dennis Reiter at (270) 441-6685.

Sincerely,

Vernon J. Shanks, Manager
Regulatory Affairs

VJS:DLR:mjw

Attachment

cc: Henry Armstrong – KDEP/PADUCAH
Steve Penrod/Mark Keef – USEC/PGDP

cc/att: Mike Boren/Dennis Reiter – USEC/PGDP
Erskin Hickman – USEC/PGDP
Regulatory Compliance – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant

Annual 40 CFR 61 Subpart H Report

Calendar Year 2006

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EXECUTIVE SUMMARY

The Environmental Protection Agency (EPA) regulates air emissions of radionuclides, other than radon, from the United States Department of Energy (DOE) facilities under 40 CFR 61, Subpart H. Since DOE owns the Paducah Gaseous Diffusion Plant (PGDP), all regulated airborne radionuclide emissions are subject to the regulation, whether they originate from the United States Enrichment Corporation (USEC) operations or DOE operations. The public effective dose equivalent (EDE) standard is 10 millirem (mrem) per year from the PGDP facility. The EDE to the public is calculated using a computer modeling program (CAP-88) specified in 40 CFR 61.93. Inputs to the computer program are obtained through continuous monitoring, periodic confirmatory measurements, engineering estimates, emission factors, and other EPA-approved methods. Subpart H requires an annual compliance report covering site emissions from the previous year. This report meets the annual reporting requirements and establishes the total annual EDE to the maximally exposed member of the public in 2006 at 0.012 mrem, including USEC and DOE contributions. This EDE is well below the annual limit of 10 mrem per year.

Previous annual reports contained detailed source information for both DOE and USEC. Beginning with this calendar year 2006 report, each source will submit a separate report for activities under their control. EPA Region IV and the Kentucky Division for Air Quality approved individual report submission. Total EDE from the facility will continue to be reported.

SECTION I: FACILITY INFORMATION

INTRODUCTION

The Department of Energy (DOE) Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), which is leased to the United States Enrichment Corporation (USEC). DOE manages the remaining, non-leased facilities at the Paducah Site. The DOE-managed facilities consist of various waste management facilities, inactive buildings, depleted uranium storage facilities, and environmental restoration facilities. This report analyzes emissions from USEC activities at the Paducah Site.

SITE DESCRIPTION

PGDP is an active uranium enrichment facility consisting of a gaseous diffusion cascade and extensive support facilities. The cascade, including product and tails withdrawal, is housed in 6 process buildings covering a total of approximately 80 acres. The plant is located on a reservation consisting of approximately 3,423 acres in western McCracken County, approximately 10 miles west of Paducah, Kentucky, and approximately 3 miles south of the Ohio River. Roughly 748 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. Beyond the DOE-owned buffer zone is an extensive wildlife management area consisting of approximately 6,800 acres managed by the Commonwealth of Kentucky. During World War II, the Kentucky Ordnance Works (KOW), a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now the wildlife management area. The water treatment plant used by PGDP was originally a KOW facility.

Construction of the PGDP facility began in 1951 and the plant was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (^{235}U) isotope has been increased from its natural assay. Natural uranium is mostly ^{238}U with approximately 0.71 percent ^{235}U and 0.0055 percent ^{234}U. Uranium mills process the ores to produce concentrated uranium oxide (U_3O_8), which is then commercially converted to uranium hexafluoride (UF_6) for enrichment at a gaseous diffusion plant.

The Paducah Plant enriches the uranium isotope, ^{235}U, by utilizing a gaseous diffusion separation process. The separation is based on the faster rate at which ^{235}U diffuses through a barrier compared with the heavier ^{238}U isotope. From 1953 to 1975, reactor tails were processed in addition to the UF_6 feed material. The reactor tails contained technetium-99 (^{99}Tc), a fission by-product, and transuranics, most notably neptunium-237 (^{237}Np) and plutonium-239 (^{239}Pu). When the reactor tails were fed into the PGDP cascade system these radionuclides were introduced. ^{99}Tc is a man-made beta emitting radionuclide having a half-life estimated at between 212,000 and 250,000 years.

Extensive support facilities are required to maintain the gaseous diffusion process. Major support facilities include a steam plant, electrical switchyards, cooling tower complexes, a chemical cleaning and decontamination building, a water treatment plant, a cooling water blowdown treatment facility, maintenance facilities, and laboratory facilities. Several inactive facilities are also located on the plant site.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate vicinity of PGDP. Population within the 50-mile radius is approximately 520,000 persons. Of these, approximately 44,000 live within 10 miles of the plant and approximately 104,000 live within 20 miles of the plant. Population data was generated using the U.S. Census Bureau's LandView 6 software. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties, 11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee, are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located approximately 10 miles east of the plant; Cape Girardeau, Missouri, located approximately 40 miles to the west; and Metropolis, Illinois, located approximately 6 miles to the northeast.

Paducah is located in the humid continental zone. Summers are generally dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35° F. Summers are warm and humid; the average temperature in July is 79° F. Yearly precipitation averages approximately 49 inches. The prevailing wind direction is south to southwest.

In July 1993, USEC was formed as a government corporation and became a private corporation in July 1998. Although DOE still owns PGDP, the uranium enrichment enterprise is now the responsibility of USEC.

USEC SOURCE DESCRIPTIONS

The 40 CFR 61.92 standard states emissions to the ambient air shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent (EDE) of 10 millirem per year (mrem/yr). The continuous emission monitoring requirements are listed in 40 CFR 61.93. Continuous radionuclide emission measurements "shall be made at all release points which have a potential to discharge radionuclides into the air in quantities that could cause an effective dose equivalent in excess of 1% of the standard" (0.1 mrem/yr). To determine if a release point is subject to the continuous emission monitoring requirements, the potential to emit is made assuming "all pollution controls equipment did not exist, but the facility operations were otherwise normal." USEC has determined the only release point requiring continuous monitoring is the C-310 stack. For the purposes of this report, any radionuclide release point requiring continuous emission monitoring is a *major* source. A *minor* source is a source or group of sources that does not exceed the annual EDE 0.1 mrem/yr continuous monitoring requirement. The C-310 stack is the only major source.

There are a number of minor, unmonitored radionuclide air sources at PGDP. Since these sources are not equipped with effluent samplers or monitoring equipment, emissions are estimated using EPA-approved methods. Minor sources were identified during a 1991–1992 plantwide vent stack survey. The source listing is maintained through internal review processes. For the purpose of estimating releases and submitting the annual report, minor sources may be grouped according to similar characteristics (e.g., general location, type of activity, or type of control, etc.). The number of minor sources may change from year to year due to cessation or start-up of operations. Source characteristics and groupings are presented in Section II.

Group A - C-400 Group

C-400 Decontamination Spray Booth

This facility is used to decontaminate equipment. It consists of a large booth equipped with an ultra high-pressure sprayer, which sprays a water solution on the contaminated machinery. The radionuclide emissions result from entrainment of radionuclides in the spray solution during the decontamination process. The booth is equipped with a mist eliminator as an emission control device. The mist eliminator is not listed as a pollution control device in 40 CFR 61, Appendix D, and no credit is taken for it. Emissions were estimated in accordance with Appendix D. The concentration of radionuclides in the spray booth water, multiplied by the total volume of water, was considered as the "curies used."

C-400 No. 5 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the uranium in the solutions from the C-400 cylinder wash and decontamination spray booth. It is also used to treat uranium salvaged from laboratory activities. The solution is chemically treated to precipitate the uranium forming a slurry solution. The solution is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal, leaving the filtrate. After sampling, the filtrate is discharged via permitted Kentucky Pollutant Discharge Elimination System (KPDES) outfalls. The radionuclide emissions come from the vent on the pump pulling the slurry solution through the rotary vacuum filter. Emissions from this vent are minimal because the pump and its vent are downstream of the rotary vacuum filter, which trap the uranium as filter cake. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentration of radionuclides in the filtrate multiplied by the filtrate volume was considered as the "curies used."

C-400 Laundry

The C-400 Laundry washes and dries protective clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from Health Physics surveys of the lint filters. The alpha radiation is assumed to be 10 percent due to ^{237}Np and 90 percent due to uranium. The beta emissions are assumed to be due to ^{99}Tc. The emission factor for cloth filters in 40 CFR 61, Appendix D, is used to estimate the emissions.

Group B—C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry plant air is passed through the cylinder to evaporate any moisture from the washing and hydrostatic testing processes. Emissions were estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in water used to wash the cylinders prior to drying, multiplied by the total volume of water used in the washing, were considered as the "curies used."

Group C—C-720

This group has been permanently shut down.

Group D—C-709/C-710 Laboratory Hoods

The C-709/710 Laboratories are the main facilities for sample analysis and research at PGDP. There were a total of 52 laboratory hoods and canopies in the C-709/710 Buildings that were used for radiological activities during the year. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of ^{99}Tc, ^{237}Np, ^{239}Pu, and the daughters of uranium (^{230}Th and ^{234}Th).

Four methods, depending on the type of operation occurring in the hood or radiological area in which the hood was located, were used to estimate emissions.

1. Estimation of the maximum quantity of uranium that could be lost based on laboratory methods. (If an ASTM analytical method specifies a maximum of 1.6 percent loss of mass during analysis, all samples analyzed using the method were assumed to lose, as an emissions from the hood, 1.6 percent of the uranium in the sample.)

2. Use of 40 CFR 61, Appendix D, emission factors.

3. Use of chemical trap efficiencies and uranium throughput information.

4. Knowledge of the analytical or sample preparation process.

All methods used the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

Group E—C-310 Stack

The primary source of potential radionuclide air emissions is the vent stack that serves the "top end" of the cascade process and the cylinder burping facility. This 200-foot stack, known as the C-310 stack, is located at the southwest corner of the C-310 Product Withdrawal Building. Low molecular weight gas compounds and contaminants, which have traveled up the cascade, are vented to the atmosphere via the C-310 stack. Small quantities of ^{234}U, ^{235}U, ^{238}U, ^{99}Tc, ^{237}Np, ^{239}Pu, and ^{230}Th are also emitted. The cascade effluent is routed through alumina traps prior to being emitted via the C-310 stack. The alumina traps were upgraded in 1990 to provide greater criticality safety. The improved system consists of an on-line bank of 13 traps and a standby bank of 13 traps.

The cylinder burp facility, located on the east side of C-310, is used to vent low molecular weight gases from product cylinders. This facility is a potential source of uranium, ^{99}Tc, and minute quantities of transuranics. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are 2 banks of chemical traps associated with this system. Each bank has 5 primary and 2 secondary traps. Uranium is recovered from the NaF traps and returned to the enrichment cascade.

Emissions from the C-310 stack were based on results from the continuous potassium hydroxide bubbler stack sampling system, which was approved by EPA in 1992. The continuous sampling system consists of a series of three caustic (KOH solution) scrubbers, a sample flow totalizer, and a vent stack flow totalizer. The first bubbler in the C-310 purge and vent sample train is changed daily. Samples are

sent to the laboratory for analysis, and monthly and quarterly composite samples are prepared from the daily samples. The gross beta analysis is used as an indicator of ^{99}Tc. If the gross beta analysis is higher than normal, an analysis for ^{99}Tc is performed.

As part of the Quality Assurance/Quality Control (QA/QC) requirements for the C-310 stack sampler, a range for the sample flow has been established. During 2006, there were 4 instances where the sample flow was outside of the established range. These instances did not compromise the integrity of the sample. From operational records, there were no indications of excess emissions during these periods. Emissions immediately prior to and after the dates in question indicated they were within normal ranges.

Group F—Seal Exhaust/Wet Air Group

Seal Exhaust Systems

Seals on the UF_6 compressors are supplied with an intricate array of air pressures to reduce any UF_6 release that may occur in the event of a seal failure. The seal exhaust flow is removed by large, oil-filled vacuum pumps and is routed from the seals through alumina traps, the pump, and to a common exhaust vent. There is one seal exhaust vent per cascade building, one on the C-310 Product Withdrawal Building and one on the C-315 Tails Withdrawal Building. Under normal operations, only trace amounts of UF_6 are present in the seal exhaust system. Occasionally, a seal or seal control system malfunction will allow greater quantities of UF_6 to enter the exhaust system. If UF_6 is allowed to enter the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick sludge, which overloads the pump in a short time. Due to the reaction between UF_6 and pump oil, the oil serves as an excellent uranium emission control device. However, no credit is taken for the oil as a pollution abatement system because the oil is an integral part of the pumping system and is not included for emission control. The locations of the six seal exhaust systems are listed below:

C-310 Product Withdrawal Building	C-333 Process Building
C-315 Tails Withdrawal Building	C-335 Process Building
C-331 Process Building	C-337 Process Building

An evaluation of the potential to emit radionuclides from the seal exhaust and wet air exhaust systems, and the conclusion that the alumina traps, which protect the pump oil, are not pollution control devices under 40 CFR 61, Subpart H, was forwarded to EPA on January 28, 1994.

Periodic confirmatory measurements are made on each type of seal exhaust and wet air system to verify low emissions. Emissions from these systems were originally estimated based on results of a modified 40 CFR 60 Method 5 stack sampling performed in 1992. The systems were resampled in 1997 and 2002. The seal exhaust/wet air system for the C-335 Process Building was sampled in 2004 as part of the CFC-114/UF_6 separator modifications. The most recent stack sampling results were used for emission estimates.

Wet Air Exhaust Systems

When maintenance is required on cascade piping and equipment, the process gas (UF_6) is evacuated to other sections of the cascade or surge drums. The piping and equipment are swept in a series of purges with dry plant air. After maintenance, the system is closed and the ambient (wet) air is pumped from the system by the wet air pumps. During the dry air purges and wet air evacuations, the air is routed through alumina traps for uranium trapping to protect the wet air pump oil and then to an exhaust vent. In process buildings C-310, C-335, and C-337, the exhaust vent is shared with the seal exhaust system for those buildings. As discussed under seal exhaust systems, emissions from the wet air exhaust systems are estimated based on the most recent Method 5 stack sampling results. The locations of the five wet air exhaust systems are listed below:

C-310 Product Withdrawal Building (same as seal exhaust)
C-331 Process Building
C-333 Process Building
C-335 Process Building (same as seal exhaust)
C-337 Process Building (same as seal exhaust)

Chlorofluorocarbon-114 (CFC-114) UF_6 Separation System

The CFC-114/UF_6 Separation System is located in C-335 and is used to freeze out UF_6 from process gas that has been significantly contaminated with R-114 coolant. Such mixtures usually result from equipment failure, but may also result from abnormal cascade operation. Surge drums are used to store these mixtures until they can be separated. The primary purpose of the CFC-114/UF_6 separation system is to remove the coolant and return the UF_6 to the cascade.

The separation system operates by freezing out the UF_6 from the process gas. To freeze out the UF_6, the UF_6/R-114 mixture is transferred from the surge drum through a refrigerated set of favorable geometry cold traps. The gas stream then passes through NaF traps and alumina traps to absorb any residual UF_6. Typically, the gas stream flows through the alumina traps, although these traps can be bypassed. The trap discharge is connected to the seal exhaust/wet air (SX/WA) pump system and to atmosphere through the existing common discharge header. The UF_6 is sublimed back to cascade after the processing of the coolant-laden gas has been completed.

Modifications to the CFC-114/UF_6 Separation System to improve nuclear criticality safety characteristics were performed and initial baseline emissions testing completed in 2004. The modification reduced potential radionuclide emissions.

Cylinder Valve Connection Activities

Activities involving connection and disconnection to UF_6 cylinders include cold pressure checks; sampling of feed, product, and tails cylinders; and product withdrawal, tails withdrawal, cylinder feeding, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Cylinder pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6 emissions, occasionally a small amount of UF_6 is observed during disconnection of the pigtails. As an additional measure to control radionuclide emissions, personnel performing the pigtail disconnects employ the use of a glove box containment device and/or portable high efficiency particulate air (HEPA) vacuums (vacs). The HEPA vacs are placed to capture any UF_6, which is emitted from the pigtail disconnect activities

Cylinder disconnection activities were serviced by HEPA filter-equipped vac systems. The locations of the pigtail systems are listed below:

C-310	Burp Station (located outside portable HEPA vacs used).
C-310	Product Withdrawal Building.
C-315	Tails Withdrawal Building.
C-333-A	Feed Facility (UF_6 Vaporizer).
C-337-A	Feed Facility (UF_6 Vaporizer).

Emissions from these systems were estimated by determining the total number of pigtail disconnections in each facility. An estimated quantity of UF_6 in each pigtail multiplied by the number of disconnections was used to estimate the total quantity of UF_6 that could have been released.

Pigtails are evacuated and purged numerous times to reduce the quantity of UF_6 in the pigtail to very low levels. The method described above assumes each pigtail has been evacuated or purged in accordance with operating procedures. Estimated quantities of UF_6 released during pigtail disconnections are added to the releases estimated from normal operations.

Building Ventilation

Radiological areas at PGDP are established under specific criteria defined in USEC Health Physics procedures to comply with the regulatory requirements. A radiological area is any area where: (1) an individual can receive a dose equivalent greater than 5 mrem in 1 hour, or (2) airborne radioactivity concentrations are greater than 10 percent of a derived air concentration (DAC); which is defined as the airborne concentrations of radionuclides in the workplace which would cause a maximum internal radiation dose of 5,000 mrem/year (regulatory exposure limit) to workers breathing the air over a normal year), or (3) surface contamination is present in excess of specified guidelines. Of the criteria for establishing radiological areas, the limits for airborne radioactivity relate directly to the potential exposure of the public from air emissions and are evaluated for radionuclide NESHAP considerations under the Building Ventilation Source category.

There are a number of radiological areas at PGDP with potential airborne radioactivity concentrations that could exceed threshold values. These areas are monitored by Health Physics using low-volume air samplers. The samplers use a low-volume pump (20 to 40 liters per minute) to draw building air through a filter. The samplers run 24 hours per day and the filters are changed on 2-, 3-, 4-, or 5-day basis, depending on filter loading and weekend/holiday schedules. After sample collection, the filters are counted for radioactivity concentrations.

For radionuclide NESHAP considerations, building ventilation sources from C-315, C-331, C-333, C-333A, C-335, C-337, C-337A, and C-720 are grouped with the Seal Exhaust/Wet Air Group. Building ventilation sources from C-310, C-360, C-400, and C-709/C-710 are grouped with the respective building emissions. Alpha and beta results from Health Physics air sampling are evaluated based on the most restrictive DAC applicable to PGDP, listed in 10 CFR 20. For alpha emissions, ^{237}Np is used. For beta emissions, ^{99}Tc is used. Only air sampling results exceeding 10 percent of the designated DAC are used in radionuclide NESHAP source emission calculations.

Group G—C-409 Dissolver/Rotary Vacuum Filter

This facility is used to dissolve and precipitate the high assay uranium in solutions from the C-710 Laboratory and various sources. The solution is chemically treated to precipitate the uranium forming a slurry solution. The solution is then passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal, leaving the filtrate. After sampling, the filtrate is then discharged via permitted KPDES outfalls. The radionuclide emissions come from the vent on the pump that pulls the slurry solution through the rotary vacuum filter. Emissions from this vent are minimal because the pump and its vent are downstream of the rotary vacuum filter, which trap the uranium as filter cake. Emissions are estimated in accordance with 40 CFR 61, Appendix D. The concentrations of radionuclides in the filtrate, multiplied by the filtrate volume, are considered as the "curies used."

Group H—C-360

The primary sources of radionuclide air emissions are cylinder valve connection activities and building ventilation. Emissions from the cylinder valve connections were estimated by determining the total number of pigtail disconnections. An estimated quantity of UF_6 in each pigtail multiplied by the number of disconnections was used to estimate the total quantity of UF_6 released.

CONSTRUCTION AND MODIFICATION ACTIVITIES

During the calendar year, there were no USEC construction or modification activities which were waived under 40 CFR 61.96.

USEC FUGITIVE AND DIFFUSE SOURCES

DOE has identified many areas, such as inactive facilities, building roofs, scrap metal storage yards, landfills, equipment decontamination, and various contamination areas, as potential fugitive and diffuse sources. Site emissions of fugitive or diffuse sources of radionuclides are monitored by DOE in accordance with *The Paducah Gaseous Diffusion Plant Department of Energy National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan* (BJC/PAD-141, dated February 2000). In accordance with the plan, the Radiation/Environmental Monitoring Section of the Radiation Health and Toxic Agents Branch of the Department for Public Health of the Kentucky Cabinet for Health Services conducted ambient air monitoring around the Paducah Site during the year. Ambient air monitoring results are present in Table 1. All results were non-detectable and below 40 CFR 61, Appendix E, Table 2, limit values. Ambient air monitoring locations are shown in Figure 1.

Table 1. Kentucky Radiation Health and Toxics Branch Ambient Air Monitoring Results CY 2006[1, 2]

		Ambient Air Station									
		AMSW017	AMW015	AMNW001	AMNE	AME002	AME012	AMBKG2	AMBOLD	AMKOW	AMMWNE
Quarter	Nuclide	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3	Ci/m^3
1	^{241}Am	1.14E-17	1.46E-18	4.53E-18	9.53E-18	1.55E-17	9.45E-18	9.26E-18	-1.28E-22	1.65E-22	6.00E-18
	^{237}Np	2.11E-16	-1.22E-16	-1.46E-16	-1.15E-16	9.23E-19	-3.34E-16	-1.87E-16	4.47E-16	-1.09E-16	-1.86E-16
	^{99}Tc	7.62E-16	7.35E-16	4.97E-16	4.32E-16	4.16E-16	3.08E-16	7.84E-16	6.18E-16	2.62E-16	2.79E-16
	^{238}U/^{234}Th	1.35E-16	1.31E-16	1.88E-16	1.29E-16	-4.30E-16	1.41E-16	1.36E-16	1.49E-16	1.57E-16	1.52E-16
2	^{241}Am	3.44E-16	-1.61E-16	-1.78E-16	-2.43E-16	3.90E-17	-4.51E-17	-2.05E-16	3.04E-17	2.77E-16	2.42E-16
	^{237}Np	7.23E-17	2.46E-16	-9.03E-18	1.07E-16	-2.82E-16	1.21E-16	1.30E-16	-1.91E-16	-4.31E-16	3.84E-16
	^{99}Tc	7.58E-16	3.43E-16	5.93E-16	7.90E-16	5.31E-16	3.13E-16	2.82E-16	5.07E-16	6.22E-16	5.66E-16
	^{238}U/^{234}Th	1.70E-16	1.81E-16	2.57E-16	2.04E-16	1.78E-16	1.82E-16	1.55E-16	1.79E-16	1.85E-16	1.70E-16
3	^{241}Am	1.48E-16	-1.58E-18	2.56E-16	1.40E-16	-2.04E-16	1.61E-16	-3.06E-17	2.33E-16	1.79E-16	-2.35E-16
	^{237}Np	-1.99E-17	1.12E-16	-1.39E-16	1.93E-16	-2.42E-17	-3.82E-17	-2.18E-16	-4.02E-16	2.25E-16	1.12E-16
	^{99}Tc	4.61E-16	4.69E-16	3.58E-17	3.59E-17	-2.27E-16	-2.25E-16	2.70E-16	3.50E-16	9.59E-17	2.11E-16
	^{238}U/^{234}Th	1.85E-16	2.04E-16	2.59E-16	1.92E-16	2.20E-16	1.72E-16	1.80E-16	3.07E-16	2.00E-16	1.92E-16
4	^{241}Am	-6.31E-16	-1.47E-16	-1.34E-16	-5.77E-16	-1.16E-15	-2.01E-16	-2.00E-16	-4.05E-16	-1.97E-16	-1.23E-15
	^{237}Np	-1.40E-16	2.64E-16	-2.63E-16	-8.28E-18	3.49E-16	-1.19E-16	4.40E-16	7.07E-17	2.61E-16	-4.55E-16
	^{99}Tc	9.20E-16	1.94E-16	6.73E-16	5.39E-16	3.98E-16	4.28E-16	7.12E-16	5.94E-16	9.39E-16	5.23E-16
	^{238}U/^{234}Th	1.22E-16	1.82E-16	2.11E-16	1.97E-16	1.51E-16	1.51E-16	1.63E-16	1.93E-16	1.91E-16	1.53E-16

[1] All results were considered non-detect.

[2] 40 CFR 61, Appendix E, Table 2 Limit Values (Ci/m^3): ^{241}Am 1.9E-15, ^{237}Np 1.2E-15, ^{99}Tc 1.4E-13, and ^{238}U/^{234}Th 8.3E-15.

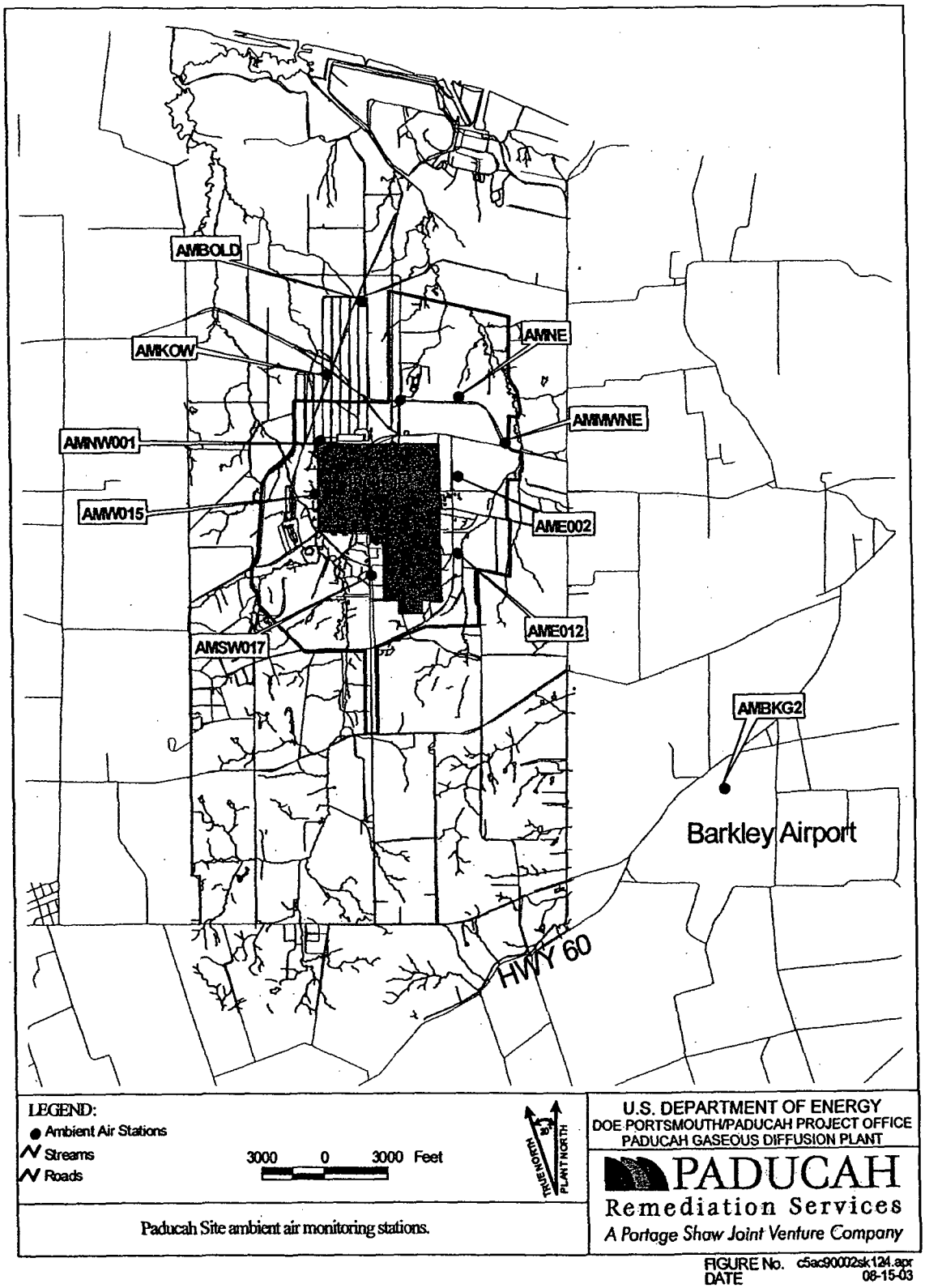

Figure 1. Location of Paducah Site ambient air monitors.

SECTION II: SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

This section provides tabular summaries of emission points, source parameters, receptor information, and radionuclide emissions.

Table 2 - Major Point Source

Group	Major Point Source	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
E	C-310 Stack	NaF Traps	>99.9	1740 ESE
		Alumina Traps	~98.6	

Table 3 - Minor Point And Area Sources

Group	Minor Point/Area Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
B	C-400 Cylinder Drying Station	None	0	1900 ESE
G	C-409 Dissolver	None	0	2060 ESE
H	C-360	None	0	1180 SE

Table 4 -Minor Grouped Sources

Group	Minor Grouped Sources	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
A	C-400 Group	None	0	1920 ESE
D	C-709/C-710 Laboratory Hoods	None	0	1960 ESE
F	Seal Exhaust/Wet Air Group • Seal Exhausts; Wet Air Exhausts; CFC-114/UF_6 Separation System	Alumina Traps	~98.6	1490 ESE
	• Cylinder Valve Connection Activities	HEPA Vacuums[1]	99.0 (Appendix D)	1490 ESE
	• Building Ventilation	None	0	1490 ESE

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the SX/WA Group or respective building.

[1]Credit for the use of HEPA vacuums for pigtail operations is not taken for the purposes of estimating emissions.

Table 5 – Source Parameters

Group	Source Name	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temperature (°C)	Distance (m) and Direction to Maximally Exposed Individual	
							Source	Plant
A	C-400 Group	Point	11.3	N/A	0	Ambient	2040 N	2040 N
B	C-400 Cylinder Drying Station	Point	2.4	0.5	0	Ambient	2120 N	2120 N
D	C-709/C-710 Laboratory Hoods	Point	7.1	N/A	0	Ambient	2370 N	2370 N
E	C-310 Stack	Point	61.0	0.3	0	21.7	2430 N	2430 N
F	Seal Exhaust/ Wet Air Group	Point	21.0	N/A	0	Ambient	2350 N	2350 N
G	C-409 Dissolver	Point	2.3	0.08	0	Ambient	2134 N	2134 N
H	C-360	Point	16.0	N/A	0	Ambient	1180 SE	2370 NNW

Table 6 – Receptor Information

Group	Source Name	Distances (m) to Selected Receptors		
		Nearest Individual/Farm	Nearest Business	Nearest School
A	C-400 Group	1920	2819	4225
B	C-400 Cylinder Drying Station	1900	2819	4100
D	C-709/C-710 Laboratory Hoods	1960	2705	3900
E	C-310 Stack	1740	2705	3840
F	Seal Exhaust/Wet Air Group	1490	2438	3840
G	C-409 Dissolver	2057	2900	4040
H	C-360	1180	2000	3840

Note: Modeling was performed assuming a theoretical stack located at the approximate center of each grouped source.

Table 7 - Radionuclide Emissions (Ci)

			Emission Source							
			Group A	Group B	Group D	Group E	Group F	Group G	Group H	
Nuclide	Solubility	AMAD*	C-400 Grouped Sources	C-400 Cylinder Drying Station	C-709/ C-710 Lab Hoods	C-310 Stack	Seal Exhaust/ Wet Air Group	C-409 Dissolver	C-360	Total
^{234}U	D	1.0	1.39E-04	1.27E-05	5.91E-04	2.04E-03	1.05E-02	1.03E-07	1.31E-04	1.34E-02
^{235}U	D	1.0	4.84E-06	4.42E-07	2.05E-05	7.09E-05	3.64E-04	3.59E-09	4.56E-06	4.65E-04
^{238}U	D	1.0	2.86E-05	9.94E-06	5.49E-05	2.12E-04	3.65E-03	1.88E-08	1.36E-05	3.97E-03
^{99}Tc	W	1.0	9.40E-03	1.56E-08	0.00E+00	3.65E-04	3.96E-05	1.07E-07	0.00E+00	9.80E-03
^{230}Th	W	1.0	3.95E-07	8.73E-09	0.00E+00	3.48E-06	0.00E+00	1.25E-09	0.00E+00	3.88E-06
^{237}Np	W	1.0	1.76E-05	3.01E-07	1.31E-07	2.93E-05	1.22E-05	2.59E-09	1.66E-05	7.61E-05
^{239}Pu	W	1.0	4.65E-08	5.99E-09	0.00E+00	1.47E-06	0.00E+00	8.55E-10	0.00E+00	1.52E-06
Total Ci/year			9.59E-03	2.34E-05	6.67E-04	2.72E-03	1.46E-02	2.37E-07	1.66E-04	**2.77E-02**

*AMAD – Activity Median Aerodynamic Diameter

SECTION III: DOSE ASSESSMENT

This section describes how the PGDP Site EDE was determined through computer modeling including input parameters, dose contributions by emission source, and dose contributions from USEC and DOE operations.

DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the CAP-88 package of computer codes. This package contains EPA's version of the AIRDOS-EPA computer code, which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and then uses Regulatory Guide 1.109 food chain models to calculate human exposures, both internal and external, to the environmental concentrations. The human exposure values are then used by the EPA's version of the DARTAB computer code to calculate radiation doses to man from radionuclides released during the year. The dose calculations use dose conversion factors contained in the RADRISK data file, which is provided by the EPA with the CAP-88 package. Selection of the dose conversion factors follows guidance given by the EPA in its Federal Guidance Report No. 11.

SUMMARY OF INPUT PARAMETERS

Except for the radionuclide parameters given in Section II, and those given below, all important input parameter values used are the default values provided with the CAP-88 computer codes and data bases.

Joint frequency distribution:	Five-year STAR distribution from 60-meter station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	116.3 centimeters/year
Average air temperature:	14.7° C
Average mixing layer height:	930 meters

Fraction of foodstuffs from[1]:	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce:	0.700	0.300	0.000
Meat:	0.442	0.558	0.000
Milk:	0.399	0.601	0.000

DISCUSSION OF RESULTS

Due to the conservative nature of the estimates, it is likely that the actual radiological dose from site operations was significantly lower than the calculated dose. Using the conservative estimates, however, PGDP was in compliance with requirements of 40 CFR 61 because the total dose from all airborne radionuclides is less than the standard of 10 mrem per year.

[1]Rural default values.

COMPLIANCE ASSESSMENT

Effective dose equivalent (mrem) to the maximally exposed member of the public is provided in Table 8. The effective dose equivalent to the maximally exposed individual from plant emissions is 1.2E-02 mrem. The maximally exposed member of the public is identified by the shortest distance in 16 different compass directions from each source. Each individual source may or may not share a public receptor with another source depending on the geographic location of the source compared to the closet public receptor. Using these public receptors, the CAP-88 computer dose modeling program determines maximum dose from each individual source and from all sources combined. Each source will produce a maximum dose, but it may not be the maximum for the plant because a different public receptor receives a greater combined dose total from the plant.

Table 8 – PGDP Effective Dose Equivalent (mrem/yr)

USEC Emission Sources		Maximum for Source	Maximum for Plant
A	C-400 Group	1.9E-03	1.9E-03
B	C-400 Cylinder Drying Station	3.3E-05	3.3E-05
D	C-709/C-710 Laboratory Hoods	3.6E-04	3.6E-04
E	C-310 Stack	1.4E-03	1.4E-03
F	Seal Exhaust/Wet Air Group	7.2E-03	7.2E-03
G	C-409 Dissolver	3.4E-07	3.4E-07
H	C-360	1.4E-03	6.3E-04
Total From USEC Sources		**N/A**	**1.15E-02**
DOE Emission Sources		**Maximum for Source**	**Maximum for Plant**
Northwest Plume Treatment Facility		1.5E-05	1.5E-05
Northeast Plume Treatment Facility		5.5E-07	4.1E-07
C-746-P Scrap Metal Project		3.0E-06	3.0E-06
C-301 DMSA OS-12		9.8E-05	4.4E-05
C-402		1.6E-05	1.6E-05
C-410		1.4E-08	1.4E-08
Total From DOE Sources		**N/A**	**7.84E-05**
PGDP Site Total From All Sources		**N/A**	**1.2E-02**

The maximally exposed individual is located 2,350 meters north of the SX/WA Group Source.

NOTE: Based on 2000 census data obtained from LandView 6 software, the total collective effective dose equivalent (CEDE) to the 50-mile population (~520,000 persons) was 0.06 person-rem.

SECTION IV: ADDITIONAL INFORMATION

UNPLANNED RELEASES – USEC

There was no unplanned release in USEC facilities occurring outside of a building not included in Health Physics air sampling program during the year.

USEC CERTIFICATION

This certification pertains to the following USEC emission sources:

Group A	C-400
Group B	C-400 Cylinder Drying Station
Group D	C-709/C-710 Laboratory Hoods
Group E	C-310 Stack
Group F	Seal Exhaust/Wet Air Group
Group G	C-409 Dissolver
Group H	C-360
Fugitive and Diffuse Sources	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
(See 18 U.S. C.1001.)

United States Enrichment Corporation

5-4-07
Date

Enclosure 4
GDP 08-0014

Quarterly Radiological Monitoring Discharge
Reports for Plant Outfalls
CY2003 through 2007

USEC
A Global Energy Company

April 24, 2003

Kentucky Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of March 1-31, 2003 and January 1, 2003 through March 31, 2003.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Dennis Reiter at (270) 441-6685.

Sincerely,

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:DLR:mjw

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 1277

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter – USEC/PGDP
Russ Starkey – USEC/PGDP

cc/att: WM/EC File – RC

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 1260

cc/att (6): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

002 2 — DISCHARGE NUMBER

MONITORING PERIOD FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

LIFT STATION 002 BYPASS
(SUBR PA)
F - FINAL
MAJOR

MCCRACKEN

ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/90 QTRLY	GRAB GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0040 REPORT	0.0040 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.00	(2F) ACUTE		1/90 QTRLY	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.5080 REPORT	0.5080 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 270 NUMBER 441-6039

DATE: YEAR 03 MO 04 DAY 24

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DME MEANS BELOW DETECTABLE LIMIT

1 9

DOW DMR-01 2/88

KEEP THIS COPY

PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 006 2

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	01	01	TO	03	03	31

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TOXICITY, FINAL CONC											
TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	< 1.0	< 1.0	(2F)		1/90	
61406 1 0 0		******	******		******	REPORT	1.00	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
.....	SAMPLE MEASUREMENT	******	******	****	******	0.5730	0.5730	(19)	0	1/90	GRAB
78240 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270 441-6039	03	04	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NONE

2 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location, if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
03	01	01	03	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	4.7500 REPORT	19.0000 REPORT		0	4/90 QTRLY	GRAB COMP
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0138 REPORT	0.0300 REPORT	(19)	0	4/90 QTRLY	GRAB COMP
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.0	(2G) CHRONC		1/90 QTRLY	COMP COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.2970 REPORT	0.2970 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	03	04	24

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

FINAL

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	01	01	TO	03	03	31

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	4/90 QTRLY	GRAB COMP
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0020 REPORT	0.0030 REPORT	(19)	0	4/90 QTRLY	GRAB COMP
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL COMC											
TOXICITY UNITS 61406 1 0 1	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.0	(2G) CHRONC		1/90 QTRLY	COMP COMP
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3150 REPORT	0.3150 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	03	04	24

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

4 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 010 2

MONITORING PERIOD FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	2.8308 REPORT	19.5000 REPORT		0	13/90 QTRLY	GRAB COMP
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0212 REPORT	0.0550 REPORT	(19)	0	13/90 QTRLY	GRAB COMP
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.0	(2G) CHRON		1/90 QTRLY	COMP COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3350 REPORT	0.3350 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	03	04	24
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
NONE

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
011 2 — DISCHARGE NUMBER

MONITORING PERIOD: FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	3.8600 REPORT	19.3000 REPORT		0	5/90 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3394 REPORT	1.2000 REPORT	(19)	0	5/90 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC											
TOXICITY UNITS 61406 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.00	(2F) ACUTE		1/90 QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.9590 REPORT	0.9590 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	03	04	24
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
NONE

6 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 012 2

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/90 QTRLY	GRAB GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0080 REPORT	0.0080 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.00	(2F) ACUTE		1/90 QTRLY	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	1.4480 REPORT	1.4480 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	03	04	24

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference All Attachments Here)

DMR MEANS BELOW DETECTABLE LIMIT

7 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

STORMWATER RUNOFF
(SUBR PA)
F - FINAL
MAJOR

MCCRACKEN

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/90 QTRLY	GRAB GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0020 REPORT	0.0020 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 REPORT	(2F) ACUTE TOXCTY		1/90 QTRLY	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX				
METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	1.5060 REPORT	1.5060 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	03	04	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD FROM YEAR 03 MO 01 DAY 01 TO YEAR 03 MO 03 DAY 31

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/90 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0070 REPORT	0.0070 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	< 1.0 REPORT	< 1.0 1.0	(2F) ACUTE		1/90 QTRLY	GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3810 REPORT	0.3810 REPORT	(19)	0	1/90 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	9	9	

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference All Attachments Here)

BDL MEANS BELOW DETECTABLE LIMIT

DOW DMR-01 2/88

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PAGE OF

USEC
A Global Energy Company

July 24, 2003

Kentucky Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of June 1-30, 2003 and April 1, 2003 through June 30, 2003.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:DLR:mjw

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 1086

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att: WM/EC File – RC

cc/att (5&6): Vince Priddie – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 1079

cc/att (6): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

002 2 — DISCHARGE NUMBER

MONITORING PERIOD FROM YEAR 03 MO 04 DAY 01 TO YEAR 03 MO 06 DAY 30

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	15.5000 REPORT	15.5000 REPORT		0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0160 REPORT	0.0160 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE	0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.9750 REPORT	0.9750 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. (Penalties under these statutes may include fines up to $10,000 per day of violation or by imprisonment for not more than one year, or by both).	V. J. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

1 9

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PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

006 2 — DISCHARGE NUMBER

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	08	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE TOXCTY	0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX				
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.5885 REPORT	0.6890 REPORT	(19)	0	2/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. (Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).	V. J. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0095	0.0150	(19)	0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G) CHRONC TOXCTY	0	1/91	COMP
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX			QTRLY	COMP
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.3325	0.4200	(19)	0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	V. N. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0005	0.0010	(19)	0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.5140	0.5490	(19)	0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:055 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	V. A. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102063 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	5.4250	21.7000		0	4/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0150	0.0240	(19)	0	4/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G) CHRON TOXCTY	0	1/91	COMP
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX			QTRLY	COMP
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.3955	0.4390	(19)	0	2/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	03	07	24
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

BDL MEANS BELOW DETECTABLE LIMIT

5 9

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PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	3/91	GRAB
22100 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0995	0.2200	(19)	0	3/91	GRAB
22708 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
61406 1 0 0		******	******		******	REPORT	1.00	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.7870	0.7870	(19)	0	1/91	GRAB
78240 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	03	07	24
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

BDL MEANS BELOW DETECTABLE LIMIT

6 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0050	0.0050	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.00 DAILY MX			QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	1.7400	1.7400	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. (Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).	V. G. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMP TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	TOXCTY		QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	1.9300	1.9300	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:055 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	03	07	24
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	04	01	TO	03	06	30

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0050	0.0050	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMP TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX			QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.6520	0.6520	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	V. J. Shanks	270	441-6039	03	07	24
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

October 20, 2003

Kentucky Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of September 1-30, 2003 and July 1, 2003 through September 30, 2003.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

Toxicity testing of the effluent from Outfalls 008 conducted in July exceeded the limit for fathead minnow established in the permit. A retest of fathead minnow toxicity at the outfall was initiated within 14 days of the failure notification and the results indicated no toxicity to the species from the effluent. Effluent from Outfall 013 exceeded the toxicity limit for *Ceriodaphnia* in the test conducted in July. The effluent was retested for *Ceriodaphnia* toxicity during the following rainfall event. Results from the retest met the toxicity limit for *Ceriodaphnia* established in the permit. Results from both retests are included in Attachment 2.

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

002 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2370	0.2370	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. (Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).	V. J. Shanks	270	441-6039	03	10	17
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

KEEP THIS COPY

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

006 2 — DISCHARGE NUMBER

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	2/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX			QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.9880	0.9880	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	03	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

2 9

KEEP THIS COPY

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0040	0.0060	(19)	0	2/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL COMC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	1.1450	2.2900	(2G)	1	2/92	COMP
61406 1 0 1	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2000	0.2000	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*	V. C. Shanks — SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	03	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

3 9

KEEP THIS COPY

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	009 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETTIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3990	0.3990	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:055 AND KRS 224.994. (Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	03	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0035	0.0040	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2530	0.2530	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	03	10	17

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	6.3143	22.8000		0	7/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0487	0.1300	(19)	0	7/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.4300	0.4300	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. (Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).	V. J. Shanks	270	441-6039	03	10	17
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	2.8300	5.6600	(2F)	1	2/92	GRAB
61406 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.5660	0.5660	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	03	10	17

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	07	01	TO	03	09	30

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3550	0.3550	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 401 KAR 5:065 AND KRS 224.994. *(Penalties under these statutes may include fines up to $15,000 per day of violation or by imprisonment for not more than one year, or by both).*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	03	10	17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

January 15, 2004

Kentucky Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of December 1-31, 2003 and October 1, 2003 through December 31, 2003.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

Effluent from Outfall 012 exceeded the toxicity limit for *Ceriodaphnia* in the test conducted in October. The effluent was re-tested for *Ceriodaphnia* toxicity during the following rainfall event. Results from the re-test met the toxicity limit for *Ceriodaphnia* established in the permit. Results from both retests are included in Attachment 2.

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjl

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 4209

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att: WM/EC File – RC

cc/att (6): Steve Cowne – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 4216

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	002 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	01	13
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC. TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	2/92	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.00 DAILY MX			QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.6120	0.6120	(19) MG/L	0	1/92	GRAB
	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX			QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	01	13
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	8.6000	17.2000		0	2/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0040	0.0060	(19)	0	2/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	270	441-6039	04	01	13
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	2/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT	(19)	0	2/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.0	(2G) CHRONC	0	1/92 QTRLY	COMP COMP
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.2860 REPORT	0.2860 REPORT	(19)	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	01	13
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 - 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0060	0.0100	(19)	0	2/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G) CHRON	0	1/92	COMP
61406 1 0 1	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	TOXCT/		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2200	0.2200	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. G. Shanks	270 441-6039	04	01	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE / NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	3/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0563 REPORT	0.0740 REPORT	(19)	0	3/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0000 REPORT	0.0000 REPORT	(19)	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	01	13
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

6 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	1/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	1.0850	2.1700	(2F)	0	2/92	GRAB
61406 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.9070	0.9070	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270 441-6039	04	01	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE / NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD FROM YEAR 03 MO 10 DAY 01 TO YEAR 03 MO 12 DAY 31

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
22708 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0		******	******		******	REPORT	REPORT	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3110	0.3110	(19)	0	1/92	GRAB
78240 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	270 441-6039		04	01	13
TYPED OR PRINTED		AREA CODE	NUMBER	YEAR	MO	DAY
				8	9	

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

BDL MEANS BELOW DETECTABLE LIMIT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	03	10	01	TO	03	12	31

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCT		QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0100	0.0100	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	01	13

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

9 9

DOW DMR-01 2/88

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USEC
A Global Energy Company

April 20, 2004

Kentucky Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of March 1-31, 2004 and January 1, 2004 through March 31, 2004.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

Effluent from Outfall 009 exceeded the toxicity limit for *Pimephales promelas* (fathead minnow) in the test conducted in January. The effluent was re-tested for *Pimephales promelas* (fathead minnow) toxicity within 14 days of notification of the failure. Results from the re-test met the toxicity limit for *Pimephales promelas* (fathead minnow) established in the permit. Results from the re-test are included in Attachment 2.

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjl

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 4018

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 4056

cc/att (6): Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
002 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0060	0.0060	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.8120	0.8120	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	2/91	
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.9230	0.9230	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	04	21
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 008 2

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0140	0.0140	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONIC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2050	0.2050	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
009 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0015	0.0020	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	9.3500	18.7000	(2G)	1	2/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	CHRONIC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3970	0.3970	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	04	04	21
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0175	0.0240	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3020	0.3020	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	3/91	GRAB
22100 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.1367	0.2000	(19)	0	3/91	GRAB
22708 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	
61406 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.9540	0.9540	(19)	0	1/91	GRAB
78240 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0080	0.0080	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.4800	1.4800	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	4.0200	4.0200	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

DOW DMR-01 2/88

THIS COPY TO DIVISION OF WATER-CENTRAL OFFICE

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	01	01	TO	04	03	31

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.7200	1.7200	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

July 19, 2004

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of June 1-30, 2004 and April 1, 2004 through June 30, 2004.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

Effluent from Outfall 013 exceeded the toxicity limit for *Ceriodaphnia dubai* in the test conducted in April. The effluent was retested for *Ceriodaphnia dubai* toxicity during the next rainfall event after notification of the failure. Results from the retest met the toxicity limit for *Ceriodaphnia dubai* established in the permit. Results from the retest are included in Attachment 2.

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjl

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 2168

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 1475

cc/att (6): Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

002.2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

THIS COPY TO DIVISION OF WATER-CENTRAL OFFICE

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	2/91	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.5910	0.5910	(19)	0	1/91	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	07	19
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER
008 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO.	DAY
FROM	04	04	01	TO	04	06	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0075	0.0100	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2160	0.2160	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

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V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	07	19

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3450	0.3450	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	07	19
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0080	0.0100	(19)	0	2/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL COMC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3100	0.3100	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	07	19
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETTIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	5/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.1526	0.3800	(19)	0	5/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.2600	1.2600	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0040	0.0040	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.4500	1.4500	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	07	19

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

STORMWATER RUNOFF
(SUBR PA)
F - FINAL
MAJOR

MCCRACKEN

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	3.4950	6.9900	(2F)	1	2/91	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.3190	1.3190	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 441-6039		04	07	19
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	04	01	TO	04	06	30

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/91	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.2500	1.2500	(19)	0	1/91	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

October 25, 2004

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of September 1-30, 2004 and July 1, 2004 through September 30, 2004.

The following items are attached:

Attachment 1:	Nonroutine Flowing Outfall Status
Attachment 2:	Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3:	Data Qualifier Code Listing
Attachment 4:	KPDES Metals Report
Attachment 5:	Monthly Monitoring Data (DMR)
Attachment 6:	Quarterly Monitoring Data (DMR)

Effluent from Outfall 011 exceeded the toxicity limit for fathead minnow in the test conducted in July. The effluent was retested for fathead minnow toxicity during the next rainfall event after notification of the failure. Results from the retest met the toxicity limit for this species established in the permit. Effluent from Outfall 012 exceeded the toxicity limit for *Ceriodaphnia dubia* in the test conducted in July. The effluent was retested for *Ceriodaphnia dubia* toxicity during the next rainfall event after notification of the failure. Results from the retest also failed to meet the toxicity limit for *Ceriodaphnia dubia* established in the permit. Written notification of the Outfall 012 failures was submitted to Larry Sowder of the Kentucky Division of Water's Industrial Section, KPDES Branch, in correspondence dated September 13, 2003. Results for all toxicity tests conducted during the monitoring period are included in Attachment 2.

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42001

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks for

T. Michael Taimi
Director, Environmental Affairs

VJS:CCT:mjl

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 3295

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 3288

cc/att (6): Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
002 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	* 0.0010	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2150	0.2150	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	10	25
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER
006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	2/92	
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.5930	0.5930	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	10	25
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	10	25
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	009 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONIC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3950	0.3950	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	10	25
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	010 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0025	0.0030	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2470	0.2470	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	10	25
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	3/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0247	0.0320	(19)	0	3/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	0.6485	1.2970	(2F)	1	2/92	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	04	10	25
TYPED OR PRINTED		AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	* 0.0010	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	5.7450	8.8500	(2F)	2	2/92	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.8940	0.8940	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. S. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	04	10	25

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2410	0.2410	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	10	25
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	07	01	TO	04	09	30

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	04	10	25
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

January 19, 2005

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of December 1-31, 2004 and October 1, 2004 through December 31, 2004.

The following items are attached:

Attachment 1:	Nonroutine Flowing Outfall Status
Attachment 2:	Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3:	Data Qualifier Code Listing
Attachment 4:	KPDES Metals Report
Attachment 5:	Monthly Monitoring Data (DMR)
Attachment 6:	Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjl

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 1970

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Russ Starkey – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 1987

cc/att (6): Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	002 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	18.1000	18.1000		0	1/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	2/92	GRAB
61406 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.00 DAILY MX			QTRLY	GRAB
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.1500	1.1500	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270 441-6039		05	01	20
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	006 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
~~TOXICITY, FINAL CONC~~ TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE TOXCTY	0	2/92 ~~QTRLY~~	GRAB ~~GRAB~~
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX				
~~METALS, TOTAL~~ ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.9300 ~~REPORT~~	0.9300 ~~REPORT~~	(19) MG/L	0	1/92 ~~QTRLY~~	GRAB ~~GRAB~~
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX				
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	9 05	01	20
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	008 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0100	0.0120	(19)	0	2/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2390	0.2390	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. D. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	01	20

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	009 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G) CHRONC	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX	TOXCT		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2440	0.2440	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. A. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 441-6039	05	01	20
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	010 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	14.1000	28.2000		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0065	0.0120	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2090	0.2090	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	05	01	20
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP
ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY: USEC PGDP
LOCATION: PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102003
DISCHARGE NUMBER: 011 2

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
04	10	01	04	12	31

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	12/92	GRAB
22100 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0697	0.1280	(19)	0	12/92	GRAB
22708 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0		******	******		******	REPORT	1.00	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCT			
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
78240 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	01	20

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	4/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.9690	0.9690	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	05	01	20
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	013 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	04	10	01	TO	04	12	31

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT	(19)	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL COMC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.0	(2F) ACUTE	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCT			
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.6030 REPORT	0.6030 REPORT	(19)	0	1/92 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. S. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 441-6039	9 05	01	20
TYPED OR PRINTED			AREA CODE NUMBER	YEAR	MO	DAY	

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD: FROM YEAR 04 MO 10 DAY 01 TO YEAR 04 MO 12 DAY 31

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
22708 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0		******	******		******	REPORT	1.0	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
78240 1 0 0		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR (TYPED OR PRINTED)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: V. C. Shanks

TELEPHONE: AREA CODE 270 NUMBER 441-6039

DATE: YEAR 05 MO 01 DAY 20

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

April 20, 2005

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of March 1-31, 2005 and January 1, 2005 through March 31, 2005.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjw

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 1659

cc: Mark Keef/Keith Ahern – USEC/PGDP
Steve Penrod – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 3479

cc/att (6): Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

002 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0050	0.0050	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.6100	0.6100	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	05	04	21
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO.	DAY		YEAR	MO.	DAY
FROM	05	01	01	TO	05	03	31

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F) ACUTE TOXCTY	0	2/90	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX			QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	1.0000	1.0000	(19) MG/L	0	1/90	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX			QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT, AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks	270	441-6039	05	04	21
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

PAGE 2 OF 9

THIS COPY TO DIVISION OF WATER-CENTRAL OFFICE

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0230	0.0330	(19)	0	2/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/90	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONIC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.6800	0.6800	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	04	21
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	2/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/90	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.8600	0.8600	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	04	21
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	106.2000	173.0000		0	2/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0475	0.0800	(19)	0	2/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/90	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	2.3000	2.3000	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	04	21
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)

BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 011 2

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	12/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0582	0.1100	(19)	0	12/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3290	0.3290	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	04	21
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

KY0102083 — PERMIT NUMBER

012 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0080	0.0080	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	0.5850	1.1700	(2F)	0	2/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.0100	1.0100	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	04	22

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

7 .9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

STORMWATER RUNOFF
(SUBR PA)
F - FINAL
MAJOR

MCCRACKEN

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0020	0.0020	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	1.8200	1.8200	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)

BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	01	01	TO	05	03	31

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.5790	0.5790	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	04	21

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)

BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

July 25, 2005

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of June 1-30, 2005 and April 1, 2005 through June 30, 2005.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjw

Attachments (6)
CERTIFIED MAIL – 7000 0600 0023 8878 3110

cc: Mark Keef/Keith Ahern – USEC/PGDP
Steve Penrod – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Mike Taimi – USEC/PGDP

cc/att (5&6): Vince Priddle – KDEP/PADUCAH
CERTIFIED MAIL – 7000 0600 0023 8878 3103

cc/att (6): ✓ Steve Cowne – USEC/PGDP

cc/att: WM/EC File – RC

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP

ADDRESS: C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 002 2

MONITORING PERIOD: FROM YEAR MO DAY TO YEAR MO DAY

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99 TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	23.9000 REPORT	23.9000 REPORT		0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0020 REPORT	0.0020 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL COMP											
TOXICITY UNITS 61406 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	1.4700 REPORT	1.4700 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	07	19

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

1 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP
C/O US ENRICHMENT CORP

ADDRESS: 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 006 2

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC											
TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE METALS, TOTAL	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.00	(2F) ACUTE	0	2/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3940 REPORT	0.3940 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BOD MEANS PER CONDITIONS TABLE LIMIT

2 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME USEC PGDP
C/O US ENRICHMENT CORP
ADDRESS 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817
FACILITY USEC PGDP
PADUCAH KY 42001-1410
LOCATION ATTN. MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER KY0102083
DISCHARGE NUMBER 008 2

COMBINED WASTEWATERS
(SUBR PA)
F - FINAL
MAJOR
MCCRACKEN

MONITORING PERIOD
FROM YEAR MO DAY TO YEAR MO DAY

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	2/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0110 REPORT	0.0140 REPORT	(19)	0	2/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL COMP.											
TOXICITY UNITS 61406 1 0 1	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.0	(2G) CHRONC	0	1/91 QTRLY	COMP COMP
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.3590 REPORT	0.3590 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR
TYPED OR PRINTED

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	07	19

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

3 . 9

DOW DMR-01 2/88

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PAGE OF

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME C/O US ENRICHMENT CORP

ADDRESS 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP
PADUCAH KY 42001-1410

LOCATION ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

MONITORING PERIOD

YEAR	MO	DAY		YEAR	MO	DAY
			FROM			
			TO			

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL COMC											
TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/91	COMP
61406 1 0 1		******	******		******	REPORT	1.0	CHRONC		QTRLY	COMP
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCT			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	0.3080	0.3080	(19)	0	1/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTABLE LIMIT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME C/O US ENRICHMENT CORP

ADDRESS 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP
PADUCAH KY 42001-1410

LOCATION ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER KY0102083

DISCHARGE NUMBER 010 2

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD FROM YEAR MO DAY TO YEAR MO DAY

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	13.8500 REPORT	27.7000 REPORT		0	2/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE URANIUM, NATURAL	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
TOTAL 22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0070 REPORT	0.0100 REPORT	(19)	0	2/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE TOXICITY, FINAL COMP	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY UNITS 61406 1 0 1	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.0	(2G) CHRON	0	1/91 QTRLY	COMP COMP
EFFLUENT GROSS VALUE METALS, TOTAL	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.4730 REPORT	0.4730 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 270 NUMBER 441-6039

DATE: YEAR 05 MO 07 DAY 19

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NMI MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME C/O US ENRICHMENT CORP

ADDRESS 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP
PADUCAH KY 42001-1410

LOCATION ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

011 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	11/91	GRAB
EFFLUENT GROSS VALUE		******	******		******	REPORT	REPORT			QTRLY	GRAB
URANIUM, NATURAL	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
TOTAL 22708 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	0.0503	0.0780	(19)	0	11/91	GRAB
EFFLUENT GROSS VALUE		******	******		******	REPORT	REPORT			QTRLY	GRAB
TOXICITY, FINAL CONC	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY UNITS 61406 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
EFFLUENT GROSS VALUE		******	******		******	REPORT	1.00	ACUTE		QTRLY	GRAB
METALS, TOTAL	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
78240 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/91	GRAB
EFFLUENT GROSS VALUE		******	******		******	REPORT	REPORT			QTRLY	GRAB
	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
SEE ATTACHED DETAILS, LIMIT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME: USEC PGDP
C/O US ENRICHMENT CORP

ADDRESS: 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY: USEC PGDP

LOCATION: PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 012 2

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

MONITORING PERIOD

YEAR	MO	DAY		YEAR	MO	DAY
			FROM			
			TO			

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	0.0030 REPORT	0.0030 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC											
TOXICITY UNITS 61406 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	1.33 REPORT	4.00 1.00	(2F) ACUTE	1	3/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	2.0000 REPORT	2.0000 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

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V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

7 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME C/O US ENRICHMENT CORP

ADDRESS 2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP
PADUCAH KY 42001-1410

LOCATION ATTN: MGR WASTE MGMT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

STORMWATER RUNOFF
(SUBR PA)
F - FINAL
MAJOR

MCCRACKEN

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT		0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE URANIUM, NATURAL,	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
TOTAL 22708 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE TOXICITY, FINAL CONC	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY UNITS 61406 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	BDL REPORT	BDL 1.0	(2F) ACUTE	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE METALS, TOTAL	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
78240 1 0 0	SAMPLE MEASUREMENT	****** ******	****** ******	****	****** ******	1.1800 REPORT	1.1800 REPORT	(19)	0	1/91 QTRLY	GRAB GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGMT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	07	19
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NUMBER: 016 2

MONITORING PERIOD FROM YEAR MO DAY TO YEAR MO DAY

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL											
22100 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL											
22708 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	0.0060	0.0060	(19)	0	1/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
TOXICITY, FINAL CONC											
61406 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/91	GRAB
		******	******		******	REPORT	1.0	ACUTE		QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	TOXCTY			
METALS, TOTAL											
78240 1 0 0	SAMPLE MEASUREMENT	******	******	****	******	0.8900	0.8900	(19)	0	1/91	GRAB
		******	******		******	REPORT	REPORT			QTRLY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			****		30DA AVG	DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 270 441-6039 (AREA CODE, NUMBER)

DATE: 05 07 19 (YEAR, MO, DAY)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DOW DMR-01 2/88

KEEP THIS COPY

USEC
A Global Energy Company

October 17, 2005

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of September 1-30, 2005 and July 1, 2005 through September 30, 2005.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks

Vernon J. Shanks, Manager
Waste Management/Environmental Compliance

VJS:CCT:mjw

Attachments (6)
CERTIFIED MAIL – 70000600002388782939

cc: Mark Keef/Keith Ahern – USEC/PGDP
Steve Penrod – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP

cc/att: WM/EC File – RC

cc/att (5&6): Gaye Brewer – KDEP/PADUCAH
CERTIFIED MAIL – 70000600002388782946

cc/att (6): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

002 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

LIFT STATION 002 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR ATTACHMENT 6
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	2/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2320	0.2320	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	05	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

1 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP
ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD.20817
FACILITY USEC PGDP
LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
006 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

C-611 WATER TREATMENT PLANT
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	2/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.4970	0.4970	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	05	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

2 9

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if different)*

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM *(KPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	008 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0040	0.0050	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	05	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
BDL MEANS BELOW DETECTABLE LIMIT

3 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

009 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
61406 1 0 1 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRONC TOXCTY		QTRLY	COMP
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3760	0.3760	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC WASTE MGNT/ENV COMP MGR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	05	10	17
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

4 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)

DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

010 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

COMBINED WASTEWATERS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL ..... 22100 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	13.7500	27.5000		0	2/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL 22708 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0045	0.0050	(19)	0	2/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2G)	0	1/92	COMP
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	CHRON TOXCTY		QTRLY	COMP
METALS, TOTAL ..... 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
.....	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	TELEPHONE NUMBER	DATE YEAR	DATE MO	DATE DAY
270	441-6039	05	10	17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

5 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410
ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 - 011 2
PERMIT NUMBER — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

LIFT STATION 011 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	6.4167	19.9000		0	6/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0252	0.0480	(19)	0	6/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	10	17
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

6 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

PERMIT NUMBER	DISCHARGE NUMBER
KY0102083	012 2

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

LIFT STATION 012 BYPASS
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0030	0.0030	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	3/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.3740	0.3740	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT.

TELEPHONE		DATE		
270	441-6039	05	10	17
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

7 9

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (*KPDES*)
DISCHARGE MONITORING REPORT (*DMR*)

KY0102083 — PERMIT NUMBER

013 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

STORMWATER RUNOFF
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0000	0.0000	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
270	441-6039	05	10	17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (*Reference all attachments here*)
BDL MEANS BELOW DETECTABLE LIMIT

8 9

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME USEC PGDP

ADDRESS C/O US ENRICHMENT CORP
2 DEMOCRACY CTR 6903 ROCKLEDGE
BETHESDA MD 20817

FACILITY USEC PGDP

LOCATION PADUCAH KY 42001-1410

ATTN: MGR WASTE MGNT/ENV COMP

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

016 2 — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	05	07	01	TO	05	09	30

FIRE PROTECTION WATER
(SUBR PA) MCCRACKEN
F - FINAL
MAJOR

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL		0	1/92	GRAB
22100 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.0010	0.0010	(19)	0	1/92	GRAB
22708 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******	****	******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	1.0 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
EFFLUENT GROSS VALUE											
METALS, TOTAL	SAMPLE MEASUREMENT	******	******	****	******	0.2730	0.2730	(19)	0	1/92	GRAB
78240 1 0 0	PERMIT REQUIREMENT	******	******	****	******	REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
EFFLUENT GROSS VALUE											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
WASTE MGNT/ENV COMP MGR

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	05	10	17
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTABLE LIMIT

9 9

USEC
A Global Energy Company

January 24, 2006

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of December 1-31, 2005 and October 1, 2005 through December 31, 2005.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

The KPDES permit limit for pH at Outfall 006 was exceeded during the third week of December 2005. The maximum pH allowed by the KPDES permit at this outfall is 9.0. On December 19, 2005, the pH measured at this outfall was 9.23. An investigation of the incident determined that the exceedance was caused by a malfunction of the carbon dioxide (CO2) feed station used maintain the pH of the effluent below the 9.0 limit. A USEC operator corrected the problem immediately upon discovery and quickly lowered the effluent pH below the 9.0 limit. The CO2 feed station is inspected daily and no problems were noted by the operator the day before. All other pH measurements during the month at Outfall 006 were within the permit limits.

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

V. J. Shanks

Vernon J. Shanks, Manager
Regulatory Compliance

VJS:CCT:mjw

Attachments (6)
CERTIFIED MAIL – 70030500000268269752

cc: Dennis Reiter/Chris Travis – USEC/PGDP
Steve Penrod/Mark Keef – USEC/PGDP

cc/att (5&6): Gaye Brewer – KDEP/PADUCAH
CERTIFIED MAIL – 70030500000268269769

cc/att: RC File – RC

cc/att (6): Steve Cowne – USEC/PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

ATTACHMENT 6

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME USEC PDGDP
ADDRESS C/O US ENRICHMENT CORP
PO BOX 1410
PADUCAH KY 42002-1410
FACILITY USEC PDGDP
LOCATION PADUCAH KY 42001
ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
002 2 — DISCHARGE NO

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
LIFT STATION 002 BYPASS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.002	0.002	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.514	0.514	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE Area Code	Number	DATE Year	Mo.	Day
270	441-6039	2006	1	20

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	006 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
C-611 WATER TREATMENT PLANT
EFFLUENT
*** NO DISHCARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	2/92	GRAB
	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QUARTLY	GRAB
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASURENT	******	******		******	0.794	0.794	(19)	0	1/92	GRAB
	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QUARTLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 (Area Code)	441-6039 (Number)	2006 (Year)	1 (Mo.)	20 (Day)

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER

008 2 — DISCHARGE NO

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.005	0.005	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	CHRONC TOXCTY		QTRLY	COMP24
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR		V. J. Shanks	270 (Area Code)	441-6039 (Number)	2006 (Year)	1 (Mo.)	20 (Day)

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	009 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(17)	0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MX	CHRONC TOXCTY		QTRLY	COMP24
METALS, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.394	0.394	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 Area Code	441-6039 Number	2006 Year	1 Mo.	20 Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER: KY0102083

DISCHARGE NO: 010 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SOBR PA)

F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(17)	0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.005	0.005	(19)	0	2/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	CHRONC TOXCTY		QTRLY	COMP24
METALS, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.248	0.248	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 (Area Code)	441-6039 (Number)	2006 (Year)	1 (Mo.)	20 (Day)

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	011 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
LIFT STATION 011 BYPASS
EFFLUENT
*** NO DISCHARGE [ ]

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	2/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.0805	0.12	(19)	0	2/92	GRAB
22708 1 0 0 GROSS EFFLUENT VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.28	0.28	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	2006	1	20
			Area Code	Number	Year	Mo.	Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	012 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
LIFT STATION 012 BYPASS
EFFLUENT
*** NO EFFLUENT [ ] ****

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		ONCE/Y	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.005	0.005	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		ONCE/Y	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		ONCE/Y	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.67	0.67	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT FROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		ONCE/Y	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG.COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 (Area Code)	441-6039 (Number)	2006 (Year)	1 (Mo.)	20 (Day)

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME USEC PDGDP
ADDRESS C/O US ENRICHMENT CORP
PO BOX 1410
PADUCAH KY 42002-1410
FACILITY USEC PDGDP
LOCATION PADUCAH KY 42001
ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
013 2 — DISCHARGE NO

MONITORING PERIOD

	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
STORMWATER RUNOFF
STORMWATER
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QUARTLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.002	0.002	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QUARTLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	1.00 DAILY MX	ACUTE TOXCTY		DAILY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QUARTLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	2006	1	20
Area Code	Number	Year	Mo.	Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REG. COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	016 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	05	10	01	TO	05	12	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
FIRE PROTECTION WATER
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.001	0.001	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(2F)	0	1/92	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 Area Code	441-6039 Number	2006 Year	1 Mo.	20 Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

USEC
A Global Energy Company

April 21, 2006

Kentucky Environmental and Public Protection Cabinet
Department for Environmental Protection
Division of Water
Inventory and Data Management
14 Reilly Road
Frankfort, Kentucky 40601

Kentucky Pollutant Discharge Elimination System (KPDES) Monthly/Quarterly Discharge Monitoring Report (DMR)

Attached are the DMRs for the United States Enrichment Corporation KPDES effluents for the monitoring periods of March 1-31, 2006 and January 1, 2006 through March 31, 2006.

The following items are attached:

Attachment 1: Nonroutine Flowing Outfall Status
Attachment 2: Toxicity Test Results (Outfalls 002, 006, 008, 009, 010, 011, 012, 013, and 016)
Attachment 3: Data Qualifier Code Listing
Attachment 4: KPDES Metals Report
Attachment 5: Monthly Monitoring Data (DMR)
Attachment 6: Quarterly Monitoring Data (DMR)

If you have any questions or comments, please contact Chris Travis at (270) 441-6681.

Sincerely,

Vernon J. Shanks, Manager
Regulatory Compliance

VJS:CCT:mjw

Attachments (6)
CERTIFIED MAIL – 70030500000268268601

cc: Steve Penrod/Mark Keef – USEC/PGDP
Dennis Reiter/Chris Travis – USEC/PGDP
Steve Toelle – USEC/HQ

cc/att: Regulatory Compliance – RC

cc/att (6): Steve Cowne – USEC/PGDP

cc/att (5): Gaye Brewer – KDEP/PADUCAH
CERTIFIED MAIL –70030500000268268595

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	002 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
LIFT STATION 002 BYPASS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM-99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.003	0.003	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY			
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.524	0.524	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L			
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V J Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270	441-6039	2006	4	24
			Area Code	Number	Year	Mo.	Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

ATTACHMENT 6

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	006 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
C-611 WATER TREATMENT PLANT
EFFLUENT
*** NO DISHCARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	2/90	GRAB
	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MXMUM	ACUTE TOXCTY			
METALS, TOTAL 78240 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASURENT	******	******		******	0.346	0.346	(19)	0	1/90	GRAB
	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILY MXMUM	MG/L			
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 Area Code	441-6039 Number	2006 Year	4 Mo.	24 Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME USEC PDGDP
ADDRESS C/O US ENRICHMENT CORP
PO BOX 1410
PADUCAH KY 42002-1410
FACILITY USEC PDGDP
LOCATION PADUCAH KY 42001
ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
008 2 — DISCHARGE NO

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	PCI/L		ONLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.008	0.008	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	MG/L		ONLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	CHRONC TOXCTY		ONLY	COMP24
METALS, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.236	0.236	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30 DA AVG	REPORT DAILY MX	MG/L		ONLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
270	441-6039	2006	4	24
Area Code	Number	Year	Mo.	Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME USEC PDGDP
ADDRESS C/O US ENRICHMENT CORP
PO BOX 1410
PADUCAH KY 42002-1410
FACILITY USEC PDGDP
LOCATION PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
009 2 — DISCHARGE NO

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMAX	PCI/L		ONCE/MO	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMAX	MG/L		ONCE/MO	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMAX	CHRONC TOXCTY		ONCE/MO	COMP24
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.712	0.712	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMAX	MG/L		ONCE/MO	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE Area Code	TELEPHONE Number	DATE Year	DATE Mo.	DATE Day
270	441-6039	2006	4	24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME USEC PDGDP
ADDRESS C/O US ENRICHMENT CORP
PO BOX 1410
PADUCAH KY 42002-1410
FACILITY USEC PDGDP
LOCATION PADUCAH KY 42001
ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KY0102083 — PERMIT NUMBER
010 2 — DISCHARGE NO

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)
F - FINAL MCCRA
COMBINED WASTEWATERS
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/92	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MAX	PCI/L		QUARTERLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.014	0.014	(19)	0	1/92	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MAX	MG/L		QUARTERLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2G)	0	1/92	COMP24
61406 1 0 3 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MAX	CHRONC TOXCTY		QUARTERLY	COMP24
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.305	0.305	(19)	0	1/92	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MAX	MG/L		QUARTERLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE Area Code	TELEPHONE Number	DATE Year	DATE Mo.	DATE Day
270	441-6039	2006	4	24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	011 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
LIFT STATION 011 BYPASS
EFFLUENT
*** NO DISCHARGE [ ]

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	6/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMXD	PCI/L		QUARTLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.0565	0.09	(19)	0	6/90	GRAB
22708 1 0 0 GROSS EFFLUENT VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMXD	MG/L		QUARTLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMXD	ACUTE TOXCTY		QUARTLY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	0.374	0.374	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DAYAVG	REPORT DAILYMXD	MG/L		QUARTLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

VERNON SHANKS, USEC
REG. COMPLIANCE MGR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

V. J. Shanks

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE Area Code	TELEPHONE Number	DATE Year	DATE Mo.	DATE Day
270	441-6039	2006	4	24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	012 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
LIFT STATION 012 BYPASS
EFFLUENT
*** NO EFFLUENT [ ] ****

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	2/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.005	0.005	(19)	0	2/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QTRLY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	1.06	1.06	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT FROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shearer SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 Area Code	441-6039 Number	2006 Year	4 Mo.	24 Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	013 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
STORMWATER RUNOFF
STORMWATER
*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASURENT	******	******		******	BDL	BDL	(17)	0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	PCI/L		QTRLY	GRAB
URANIUM, NATURAL, TOTAL	SAMPLE MEASURENT	******	******		******	0.001	0.001	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QUARTERLY	GRAB
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASURENT	******	******		******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	ACUTE TOXCTY		QUARTERLY	GRAB
METALS, TOTAL	SAMPLE MEASURENT	******	******		******	1.26	1.26	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	MG/L		QTRLY	GRAB
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASURENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	V. J. Shanks SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	270 Area Code	441-6039 Number	2006 Year	4 Mo.	24 Day

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

PERMITTER NAME/ADDRESS (Include Facility Name/Location if Different)

NAME	USEC PDGDP
ADDRESS	C/O US ENRICHMENT CORP
	PO BOX 1410
	PADUCAH KY 42002-1410
FACILITY	USEC PDGDP
LOCATION	PADUCAH KY 42001

ATTN: VERNON SHANKS, REGULATORY COMPLIANCE MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	DISCHARGE NO
KY0102083	016 2

MONITORING PERIOD	Year	Mo.	Day		Year	Mo.	Day
FROM	06	01	01	TO	06	03	31

MAJOR
(SUBR PA)

F - FINAL MCCRA
FIRE PROTECTION WATER
EFFLUENT
*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TECHNETIUM 99 TOTAL (14) RADIOLOGICAL	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(17)	0	1/90	GRAB
22100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MX	PCI/L			
URANIUM, NATURAL, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.002	0.002	(19)	0	1/90	GRAB
22708 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MX	MG/L			
TOXICITY, FINAL CONC TOXICITY UNITS	SAMPLE MEASUREMENT	******	******		******	BDL	BDL	(2F)	0	1/90	GRAB
61406 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MX	ACUTE TOXCTY			
METALS, TOTAL	SAMPLE MEASUREMENT	******	******		******	0.643	0.643	(19)	0	1/90	GRAB
78240 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT			**** ****		REPORT MONTHLY AVG	REPORT DAILY MX	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
VERNON SHANKS, USEC REG. COMPLIANCE MGR	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.	270 (Area Code)	441-6039 (Number)	2006 (Year)	4 (Mo.)	24 (Day)

V. J. Shanks
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

BDL MEANS BELOW DETECTION LIMIT

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/21/2006	< 5.34	< 7.66	< 4.81	< 7.10	2.00	NA	< 22.0	< 0.225	< 0.675	< 0.150

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.34	12.4	< 5.81	< 7.0	8.00	NA	< 17.4	< 0.258	< 0.828	< 0.146

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.38	< 7.83	< 4.72	< 7.09	< 1	NA	< 17.4	< 0.234	< 0.828	< 0.143

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.81	13.2	< 4.69	< 7.03	10.00	NA	< 17.4	< 0.239	< 0.828	< 0.142

Outfall 011

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
5/2/2006	11.6	< 6.11	< 4.12	< 6.10	59	0.194	< 18.7	< 0.230	< 0.565	< 0.144
5/9/2006					32	0.189	< 18.2			
5/22/2006					78	0.184	< 17.6			
5/30/2006					22	0.179	< 17.6			
6/7/2006					24	NA	< 17.4			

Outfall 012

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/21/2006	< 6.06	< 8.12	< 4.74	< 6.96	3.00	NA	< 22.0	< 2.49	< 0.675	< 0.154

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/20/2006	< 5.21	< 7.47	< 4.81	7.38	< 1	NA	< 22.0	< 0.236	< 0.675	< 0.146

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/26/2006	< 6.54	< 8.36	< 4.75	< 6.97	4.00	NA	< 22.0	< 0.231	< 0.675	< 0.148

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/5/2006	< 4.39	7.4	< 4.15	< 6.24	2.00	NA	< 20.1	< 0.223	< 0.687	< 0.147

Outfall 008

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.34	12.4	< 5.81	< 7.0	8.00	NA	< 17.4	< 0.258	< 0.828	< 0.146

Outfall 009

Concentrations

Date Sampled	Dissolved Alpha pCi/l	Dissolved Beta pCi/l	Suspended Alpha p/Ci/l	Suspended Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.38	< 7.83	< 4.72	< 7.09	< 1	NA	< 17.4	< 0.234	< 0.828	< 0.143

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/26/2006	< 5.81	13.2	< 4.69	< 7.03	10.00	NA	< 17.4	< 0.239	< 0.828	< 0.142

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/5/2006	10.2	13.7	< 4.15	< 6.16	47	0.185	< 20.1	< 0.235	< 0.687	< 0.146
7/10/2006					40	0.191	< 19.1			
7/27/2006					260	0.181	< 20.1			
8/10/2006					30	0.191	<19.7			
9/18/2006					120	0.187	<20.6			

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/5/2006	< 4.38	< 6.75	< 4.15	< 6.18	3.00	NA	< 20.1	< .236	< 0.687	< 0.144

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/5/2006	< 4.34	< 6.70	< 4.15	< 6.13	< 1	NA	< 20.1	< 0.239	< 0.687	< 0.143

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/5/2006	< 4.26	< 6.59	< 4.15	< 6.12	4.00	NA	< 20.1	< 0.231	< 0.687	< 0.145

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 4th Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/16/2006	< 6.49	11.3	< 4.93	< 0.554	5.00	NA	< 19.4	< 0.232	< 0.742	< 0.162

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2006	< 5.59	10.9	< 4.61	< 7.08	12.00	NA	< 19.3	< 0.216	< 0.61	< 0.148

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2006	< 5.05	< 7.98	< 4.61	< 7.13	1	NA	< 19.3	< 0.223	< 0.61	< 0.157

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 4th Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2006	< 5.95	17.9	< 4.61	< 7.08	24.00	0.348	< 19.3	< 0.186	< 0.610	< 0.15

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/16/2006	7.51	< 7.48	< 4.91	< 7.24	36	0.197	< 19.4	< 0.233	< 0.742	< 0.162
10/27/2006					52	0.199	< 19.4			
11/6/2006					680	0.185	< 17.0			
11/15/2006					70	0.196	< 18.3			
11/29/2006					54	0.197	< 12.4			
12/12/2006					50	0.228	< 19.6			

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/16/2006	< 6.42	23.6	< 3.66	< 7.90	4	NA	< 19.4	< 0.238	< 0.742	< 0.159

Plant Radiological Discharges to Surface Water
Calendar Year 2006 - 4th Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/16/2006	< 5.38	< 7.79	< 4.86	< 7.14	< 1	NA	< 19.4	< 0.234	< 0.742	< 0.164

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/16/2006	< 5.28	< 7.70	< 4.85	< 7.10	< 1	NA	< 19.4	< 0.241	< 0.742	< 0.289

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 1st Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
1/5/2007	< 5.10	< 8.1	< 4.52	< 7.25	4.00	NA	< 18.4	< 0.185	< 0.566	< 0.144

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
3/28/2007	< 7.24	19.4	< 5.49	< 8.43	12.00	NA	< 18.7	< 0.278	< 0.566	< 0.149

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
3/28/2007	< 7.24	< 9.81	< 5.49	< 8.48	2	NA	< 18.7	< 0.294	< 0.566	< 0.148

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 1st Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
3/28/2007	< 5.95	10.1	< 4.61	< 7.08	15.00	0.247	< 18.7	< 0.263	< 0.566	< 0.148

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
1/5/2007	17.5	22.2	< 4.52	< 7.26	80	0.202	< 18.8	< 0.194	< 0.566	< 0.143
2/13/2007					92	0.199	< 19.6			
3/15/2007					450	0.177	< 16.3			

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
1/5/2007	< 4.81	< 7.92	< 4.52	< 7.36	6	NA	< 18.8	< 0.188	< 0.566	< 0.145

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 1st Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
1/5/2007	< 6.23	< 8.49	< 4.52	< 7.42	3	NA	< 18.8	< 0.188	< 0.566	< 0.146

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
1/5/2007	< 4.88	< 7.97	< 4.52	< 7.25	3	NA	< 18.8	< 0.188	< 0.566	< 0.144

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/11/2007	< 4.84	< 8.20	< 4.50	< 7.55	2.00	NA	< 18.8	< 0.307	< 0.696	< 0.133

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/27/2007	< 7.64	9.36	< 5.88	< 7.68	5.00	NA	< 19.4	< 0.285	< 0.545	< 0.135

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/27/2007	< 7.10	< 8.56	< 5.92	< 7.7	8.00	NA	< 19.4	< 0.274	< 0.545	< 0.134

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
6/27/2007	< 7.64	< 9.08	< 5.75	< 7.63	9.00	NA	< 19.4	< 0.268	< 0.545	< 0.132

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/11/2007	23.4	10.7	< 4.50	< 7.45	66	0.19	< 19.3	< 0.299	< 0.696	< 0.132
5/3/2007					28	0.193	< 19.6			
5/10/2007					60	0.204	< 18.2			
5/31/2007					45	0.196	< 17.1			
6/8/2007					43	0.189	< 16.4			

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/11/2007	< 4.70	< 8.09	< 4.50	< 7.41	4	NA	< 18.8	< 0.304	< 0.696	< 0.133

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 2nd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/11/2007	< 4.63	< 7.99	< 4.50	< 7.42	< 1	NA	< 19.3	< 0.301	< 0.696	< 0.134

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
4/11/2007	< 4.92	< 8.26	< 4.50	< 7.39	2	NA	< 19.3	< 0.305	< 0.696	< 0.132

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/20/2007	< 7.50	9.77	< 5.73	< 7.62	< 1	NA	< 19.3	< 0.263	< 0.731	< 0.141

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
9/26/2007	< 7.16	< 9.21	< 5.33	< 7.66	4.00	NA	< 16.7	< 0.252	< 0.722	< 0.120

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
9/26/2007	< 6.83	< 8.85	< 5.26	< 7.64	< 1.00	NA	< 16.7	< 0.223	< 0.722	< 0.119

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
9/26/2007	< 7.17	< 9.22	< 5.26	< 7.64	3.00	NA	< 16.7	< 0.226	< 0.722	< 0.118

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
9/25/2007	< 6.05	9.66	< 5.13	< 7.63	19	NA	< 16.7	< 0.213	< 0.722	< 0.115

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
9/10/2007	< 7.41	< 9.56	< 5.31	< 7.69	4	NA	< 18.2	< 0.220	< 0.754	< 0.117

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 3rd Quarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/20/2007	< 7.16	< 8.81	< 5.77	< 7.64	< 1	NA	< 19.3	< 0.264	< 0.731	< 0.141

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
7/6/2007	< 7.36	< 8.81	< 5.77	< 7.64	1	NA	< 19.4	< 0.268	< 0.529	< 0.133

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 4thQuarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 002

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/18/2007	< 6.81	9.64	< 4.70	< 5.97	2.00	NA	< 16.5	< 0.272	< 0.835	< 0.121

Outfall 008

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2007	< 7.14	9.53	< 5.25	< 7.71	7.50	NA	< 16.3	< 0.260	< 0.526	< 0.118

Outfall 009

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2007	< 6.77	< 8.85	< 5.62	< 7.87	< 1.00	NA	< 16.3	< 0.273	< 0.526	< 0.120

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 4thQuarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 010

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
12/26/2007	< 7.23	< 9.34	< 5.45	< 7.79	16.70	0.327	< 15.2	< 0.364	< 0.526	< 0.118

Outfall 011

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/22/2007	9.65	< 6.29	<4.99	< 6.03	25	0.21	< 17.4	< 0.254	< 0.835	< 0.118
11/14/2007					113	0.182	< 17.4			
11/26/2007					207	0.183	< 17.4			
12/10/2007					63.4	0.195	< 18.0			

Outfall 012

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/18/2007	< 6.40	< 6.74	< 4.97	< 6.02	3	NA	< 16.5	< 0.258	< 0.835	< 0.119

Plant Radiological Discharges to Surface Water
Calendar Year 2007 - 4thQuarter

United States Enrichment Corporation (USEC)
Paducah Gaseous Diffusion Plant, Paducah, Ky

Outfall 013

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/18/2007	< 6.47	< 6.79	< 4.82	< 5.99	< 1	NA	< 16.5	< 0.246	< 0.835	< 0.122

Outfall 016

	Concentrations									
	Dissolved		Suspended							
Date Sampled	Alpha pCi/l	Beta pCi/l	Alpha p/Ci/l	Beta pCi/l	U ug/l	U 235 wt. %	Tc 99 pCi/l	Th 230 pCi/l	Np 237 pCi/l	Pu 239/240 pCi/L
10/18/2007	< 6.03	< 6.50	< 4.73	< 5.97	1	NA	< 16.5	< 0.349	< 0.835	< 0.121

Enclosure 5
GDP 08-0014

Ambient Gamma Levels for PGDP from the
Environmental TLD Monitoring Systems
and
Summary of Notice of Violations (NOVs), Permit
Exceedances, or Other Citations Issued to PGDP
CY 2003 through CY2007

PADUCAH GASEOUS DIFFUSION PLANT
Ambient Gamma Radiation Levels
Summary of External Gamma Radiation Monitoring CY 2003

TLD LOCATION		QUARTERLY DIRECT RADIATION FIRST (mrem/hr)	SECOND	THIRD	FOURTH	ANNUAL DOSE (mrem/hr)	(mrem/yr)[a]
Perimeter Fence							
EG1	Plant North	0.004	0.003	0.003	0.004	0.004	32
EG2	Plant East	0.006	0.004	0.006	0.007	0.006	52
EG3	Plant South	0.089	0.095	0.095	0.106	0.096	b
EG4	Plant West	0.009	0.007	0.006	0.008	0.008	67
	Mean	0.027	0.027	0.028	0.031	0.028	51
	Std. Deviation	0.041	0.045	0.045	0.050		
Reservation Boundary							
EG5	Boundary North	0.003	0.003	0.003	0.004	0.003	28
EG6	Boundary East	0.004	0.003	0.004	0.006	0.004	39
EG16	Boundary South	0.005	0.006	0.006	0.007	0.006	53
EG17	Boundary Southeast	0.004	0.004	0.005	0.005	0.005	40
	Mean	0.004	0.004	0.005	0.005	0.005	40
	Std. Deviation	0.001	0.001	0.001	0.001		
Nearby Communities							
EG7	1 Mile North	0.005	0.005	0.005	0.005	0.005	43
EG8	1 Mile East	0.004	0.004	0.004	0.005	0.004	34
EG9	1 Mile South	0.005	0.004	0.004	0.004	0.004	37
EG10	1 Mile Southeast	0.005	0.004	0.004	0.005	0.004	39
EG11	1 Mile West	0.006	0.006	0.004	0.005	0.005	44
EG12	Grahamville	0.005	0.004	0.003	0.005	0.004	39
EG13	Magruder Village	0.005	0.004	0.004	0.005	0.004	39
	Mean	0.005	0.004	0.004	0.005	0.004	39
	Std. Deviation	0.001	0.001	0.000	0.000		
Background Locations							
EG14	Paducah	0.005	0.004	0.004	0.004	0.004	38
EG15	Oaks Road	0.005	0.004	0.005	0.006	0.005	43
	Mean	0.005	0.004	0.004	0.005	0.005	40
	Std. Deviation	0.000	0.000	0.001	0.001		

[a]Annual TLD field hours were 8,280. Dose was annualized using 8,760 hours per year.

[b]EG3 Plant South is located near the corner of a DOE material storage yard with elevated gamma levels. Public access to this area is limited. Annual dose to the public for 2003 is estimated at 0.80 mrem/yr.

Background has not been subtracted from each TLD location.

PADUCAH GASEOUS DIFFUSION PLANT
Permit Exceedances and Other Citations
Calendar Year 2003

Month	Permit Exceedance or Citation
June	One Notice of Deficiency from the state of Utah for an improper shipping label and for incomplete shipper information. • An old "Empty" label was not removed from the container prior to shipment. The shipping manifest included USEC as the shipper but did not reference PGDP as the shipping location.

Notes: There were no permit exceedances or other citations identified during any other months.

The KPDES permit requires toxicity testing. If the initial toxicity test fails, a retest is required. If the retest is successful, no other actions are required. Only failed toxicity retests are included in the table.

PADUCAH GASEOUS DIFFUSION PLANT
Ambient Gamma Radiation Levels
Summary of External Gamma Radiation Monitoring CY 2004

TLD Location		Direct Radiation (mrem/hr) 1st Qtr.[a]	2nd Qtr.	3rd Qtr.	4th Qtr	Annual Dose (mrem/hr)	(mrem/yr)[b]
Perimeter Fence (Restricted Areas)							
EG1	Plant North	0.004	0.003	0.003	0.004	0.004	31
EG2	Plant East	0.006	0.005	0.005	0.006	0.005	46
EG4	Plant West	0.008	0.008	0.006	0.008	0.008	67
	mean	0.006	0.005	0.005	0.006	0.005	48
	std deviation	0.002	0.002	0.002	0.002		
EG3	Plant South	0.096	0.123	0.112	0.126	0.114	1.03[c]
Reservation Boundary							
EG5	Boundary North	0.003	0.002	0.003	0.004	0.003	26
EG6	Boundary East	0.004	0.004	0.005	0.005	0.004	39
EG16	Boundary South	0.006	0.006	0.006	0.007	0.006	54
EG17	Boundary Southeast	0.005	0.003	0.004	0.005	0.004	37
	mean	0.005	0.004	0.004	0.005	0.004	39
	std deviation	0.001	0.002	0.001	0.001		
Nearby Communities							
EG7	1 Mile North	0.005	0.005	0.005	0.005	0.005	43
EG8	1 Mile East	0.004	0.003	0.003	0.004	0.004	32
EG9	1 Mile South	0.004	0.004	0.004	0.005	0.004	39
EG10	1 Mile Southeast	0.004	0.004	0.005	0.005	0.005	41
EG11	1 Mile West	0.005	0.004	0.005	0.006	0.005	43
EG12	Grahamville	0.004	0.005	0.005	0.007	0.005	45
EG13	Magruder Village	0.004	0.003	0.004	0.006	0.004	37
	mean	0.004	0.004	0.004	0.005	0.005	40
	std deviation	0.000	0.001	0.001	0.001		
Background							
EG14	Paducah	0.004	0.004	0.004	0.005	0.004	38
EG15	Oaks Road	0.005	0.004	0.005	0.005	0.005	42
	mean	0.005	0.004	0.005	0.005	0.005	40
	std deviation	0.001	0.000	0.001	0.000		

[a]First quarter 2004 radiation levels are estimated based on historical data. TLDs were x-rayed in transit.
[b]Annual TLD field hours were 8736. The dose was annualized using 8,760 hours per year.
[c] EG3 Plant South is located near the corner of a DOE material storage yard with elevated gamma levels. There has been no routine public access to this area since September 11, 2001. Annual dose to the public for 2004 is estimated at 1.03 mrem/yr.

Background radiation has not been subtracted from each location.

PADUCAH GASEOUS DIFFUSION PLANT
Permit Exceedances and Other Citations
Calendar Year 2004

Month	Permit Exceedance or Citation
January	**Notice of Deficiency** issued by the state of Utah for shipping deficiencies on RAD shipment to Envirocare. Response submitted to Utah on February 11, 2004. Utah closed the issue on February 27, 2004.
June	**Notice of Violation** issued by EPA Region IV for RCRA Violations on C-400 tanks. Received request for additional information from EPA on October 12, 2004 and response returned to them on October 26, 2004. Based on data submitted, USEC has requested this NOV be rescinded.
October	**Notice of Violation** issued by KDOW for toxicity failure at Outfall 012. TRE plan submitted to KDOW on October 12, 2004. TRE implemented. **KPDES Permit Limit Exceeded.** Outfall K013 effluent pH value of 9.73 SU was above KPDES permit limit of 9.0 SU. Elevated pH value was due to rain run-off from newly constructed C-745-R concrete storage pad.

PADUCAH GASEOUS DIFFUSION PLANT
Ambient Gamma Radiation Levels
Summary of External Gamma Radiation Monitoring CY 2005

TLD Location		Direct Radiation (mrem/hr) 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr	Annual Dose (mrem/hr)	(mrem/yr)[a]
		Perimeter Fence					
EG1	Plant North	0.004	0.003	0.004	0.004	0.004	33
EG2	Plant East	0.005	0.004	0.005	0.005	0.005	42
EG4	Plant West	0.010	0.006	0.007	0.007	0.008	67
	mean	0.006	0.004	0.005	0.005	0.005	48
	std deviation	0.003	0.002	0.002	0.002		
EG3[b]	Plant South	0.125	0.111	0.117	0.096	0.112	0.97
		Reservation Boundary					
EG5	Boundary North	0.003	0.001	0.003	0.004	0.003	25
EG6	Boundary East	0.005	0.004	0.005	0.005	0.005	42
EG16	Boundary South	0.006	0.005	0.007	0.007	0.006	56
EG17	Boundary Southeast	0.005	0.004	0.005	0.005	0.005	42
	mean	0.005	0.004	0.005	0.005	0.005	41
	std deviation	0.001	0.002	0.002	0.001		
		Nearby Communities					
EG7	1 Mile North	0.004	0.004	0.005	0.006	0.005	42
EG8	1 Mile East	0.003	0.003	0.002	0.004	0.003	27
EG9	1 Mile South	0.006	0.004	0.005	0.005	0.005	45
EG10	1 Mile Southeast	0.006	0.004	0.003	0.005	0.005	41
EG11	1 Mile West	0.006	0.004	0.005	0.005	0.005	45
EG12	Grahamville	0.006	0.004	0.004	0.005	0.005	43
EG13	Magruder Village	0.006	0.004	0.005	0.005	0.005	45
	mean	0.005	0.004	0.004	0.005	0.005	41
	std deviation	0.001	0.000	0.001	0.001		
		Background Locations					
EG14	Paducah	0.006	0.004	0.005	0.006	0.005	47
EG15	Oaks Road	0.006	0.004	0.004	0.005	0.005	43
	mean	0.006	0.004	0.005	0.006	0.005	45
	std deviation	0.000	0.000	0.001	0.001		

[a]Annual TLD field hours were 8,616. The dose was annualized using 8,760 hours per year.

[b] EG3 Plant South is located near the corner of a DOE material storage yard with elevated gamma levels. Public access to this area is limited. Annual dose to the public for 2005 is estimated at 0.97 mrem/yr.

Background has not been subtracted from each TLD location.

PADUCAH GASEOUS DIFFUSION PLANT
Permit Exceedances and Other Citations
Calendar Year 2005

Month	Permit Exceedance or Citation
January	**Notice of Violation (NOV).** A NOV was issued by the Kentucky Division of Air Quality (KDAQ) for failure to timely submit a stack test report. The testing was performed in August 2004. The stack testing vendor was to have submitted copies of the test report to the regulator, but failed to do so. Upon discovery in January, USEC provided a copy to the KDAQ Regional Office. Subsequently a NOV was issued.
February	**Kentucky Permit Discharge Elimination System (KPDES) Permit Limit Exceeded.** Toxicity testing conducted on effluent from Outfall 012 exceeded the toxicity limit of 1.0. The toxicity test result for the effluent was 1.17. A Toxicity Reduction Evaluation (TRE) was already underway at this outfall as a result of a NOV issued for toxicity test failures in 2004.
April	**KPDES Permit Limit Exceeded.** Toxicity testing conducted on effluent from Outfall 012 exceeded the toxicity limit of 1.0. The toxicity test result for the effluent was 4.0.
October	**Notice of Violation.** A NOV was issued by the Kentucky Division of Water for toxicity failures at Outfall 012 in February and April. The TRE plan required by the 2004 NOV was to be continued as a corrective action for the NOV.
October	**Notice of Violation.** A NOV was issued by KDAQ based on an inspection performed in September. The NOV listed 5 violations as summarized below. 1) The company failed to continuously monitor radionuclides and maintain the sampling equipment for the C-310 Stack per 40 CFR 61 requirements. The failure to maintain the sampling equipment was previously self-identified in the annual compliance certification. 2) The company failed to continuously sample C-310 gaseous fluorides emissions per permit requirements. 3) The company did not maintain continuous compliance with the refrigerant technician certification requirements of 40 CFR 82. This was previously self-identified in the annual compliance certification. 4) The company did not meet the quality assurance requirements of 40 CFR 61. A 1994 laboratory study used to determine a radionuclide emission factor could not be located although the results of the study were available. 5) The company did not provide the required 10-day notice for performance testing of the C-310 Stack.
November	**KPDES Permit Monitoring Violation.** Oil and grease samples collected during the first two weeks of the month were not maintained at 4°C prior to analysis as required by 40 CFR 136 due to a refrigerator malfunction in the laboratory.
December	**KPDES Permit Limit Exceeded.** Outfall K006 effluent pH value of 9.23 was above KPDES permit limit of 9.0. The elevated pH value was due to an incorrect feed setting at the CO_2 feed station used to control pH at the outfall. The setting was immediately corrected after discovery and the pH of the effluent lowered below the permit limit.

PADUCAH GASEOUS DIFFUSION PLANT
Ambient Gamma Radiation Levels
Summary of External Gamma Radiation Monitoring CY 2006

TLD Location		Direct Radiation (mrem/hr) 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr	Annual Dose (mrem/hr)	(mrem/yr)[a]
		Perimeter Fence					
EG1	Plant North	0.004	0.003	0.003	0.003	0.003	28
EG2	Plant East	0.004	0.004	0.005	0.006	0.005	42
EG4	Plant West	0.008	0.006	0.006	0.008	0.007	61
	mean	0.005	0.004	0.005	0.006	0.005	44
	std deviation	0.002	0.002	0.002	0.003		
EG3[b]	Plant South	0.102	0.112	0.110	0.110	0.108	0.94
		Reservation Boundary					
EG5	Boundary North	0.004	0.003	0.003	0.003	0.003	28
EG6	Boundary East	0.006	0.004	0.004	0.005	0.005	42
EG16	Boundary South	0.007	0.006	0.007	0.008	0.007	61
EG17	Boundary Southeast	0.005	0.005	0.005	0.005	0.005	44
	mean	0.006	0.005	0.005	0.005	0.005	44
	std deviation	0.001	0.001	0.002	0.002		
		Nearby Communities					
EG7	1 Mile North	0.005	0.005	0.004	0.004	0.004	39
EG8	1 Mile East	0.003	0.004	0.003	0.004	0.003	31
EG9	1 Mile South	0.005	0.004	0.005	0.007	0.005	46
EG10	1 Mile Southeast	0.005	0.004	0.005	0.005	0.005	42
EG11	1 Mile West	0.005	0.005	0.004	0.005	0.005	42
EG12	Grahamville	0.005	0.005	0.004	0.004	0.004	39
EG13	Magruder Village	0.005	0.004	0.004	0.005	0.005	39
	mean	0.005	0.004	0.004	0.005	0.005	40
	std deviation	0.001	0.001	0.001	0.001		
		Background Locations					
EG14	Paducah	0.005	0.004	0.005	0.005	0.005	42
EG15	Oaks Road	0.006	0.005	0.005	0.005	0.005	46
	mean	0.006	0.005	0.005	0.005	0.005	44
	std deviation	0.001	0.001	0.000	0.000		

[a]Annual TLD field hours were 8,712. The dose was annualized using 8,760 hours per year.

[b]EG3 Plant South is located near the corner of a DOE material storage yard with elevated gamma levels. Public access to this area is limited. Annual dose to the public for 2006 is estimated at 0.94 mrem/yr.

Background has not been subtracted from each TLD location.

PADUCAH GASEOUS DIFFUSION PLANT
Permit Exceedances and Other Citations
Calendar Year 2006

Month	Permit Exceedance or Citation
April	**Kentucky Permit Discharge Elimination System (KPDES) Permit Limit Exceeded.** Toxicity testing conducted on effluent from Outfall 013 exceeded the toxicity limit of 1.0. The toxicity test result for the effluent was 6.96. The retest passed. No Notice of Violation (NOV) was issued.
August	**KPDES Permit Limit Exceeded.** August 3 fecal coliform sample collected at Outfall 004 exceeded the daily maximum limit of 400 colonies/100 ml. The sample result was 820 colonies/100 ml. The monthly average limit was met during the month of August. KDEP issued an NOV on November 27, 2007 for the daily maximum exceedance.
November	**Notice of Violation.** A NOV was issued on November 27 for the August 3 permit exceedance. See above.

PADUCAH GASEOUS DIFFUSION PLANT
Ambient Gamma Radiation Levels
Summary of External Gamma Radiation Monitoring CY 2007

TLD Location		Direct Radiation (mrem/hr) 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr	Annual Dose (mrem/hr)	(mrem/yr)[a]
		Perimeter Fence					
EG1	Plant North	0.004	0.003	0.003	0.005	0.004	33
EG2	Plant East	0.006	0.005	0.005	0.007	0.006	50
EG4	Plant West	0.006	0.005	0.004	0.007	0.006	48
	mean	0.005	0.004	0.004	0.006	0.005	44
	std deviation	0.001	0.001	0.001	0.001		
EG3[b]	Plant South	0.113	0.010	0.010	0.011	0.036	0.31
		Reservation Boundary					
EG5	Boundary North	0.003	0.002	0.002	0.004	0.003	24
EG6	Boundary East	0.004	0.004	0.003	0.005	0.004	35
EG16	Boundary South	0.005	0.005	0.006	0.008	0.006	53
EG17	Boundary Southeast	0.004	0.004	0.005	0.006	0.005	42
	mean	0.004	0.004	0.004	0.006	0.004	38
	std deviation	0.001	0.001	0.002	0.002		
		Nearby Communities					
EG7	1 Mile North	0.003	0.003	0.002	0.004	0.003	26
EG8	1 Mile East	0.004	0.003	0.003	0.004	0.004	31
EG9	1 Mile South	0.004	0.004	0.004	0.004	0.004	35
EG10	1 Mile Southeast	0.004	0.004	0.004	0.007	0.005	42
EG11	1 Mile West	0.004	0.004	0.004	0.006	0.005	39
EG12	Grahamville	0.004	0.003	0.004	0.005	0.004	35
EG13	Magruder Village	0.004	0.004	0.004	0.005	0.004	37
	mean	0.004	0.004	0.004	0.005	0.004	35
	std deviation	0.000	0.001	0.001	0.001		
		Background Locations					
EG14	Paducah	0.004	0.004	0.005	0.007	0.005	44
EG15	Oaks Road	0.006	0.005	0.006	0.006	0.006	50
	mean	0.005	0.005	0.006	0.007	0.005	47
	std deviation	0.001	0.001	0.001	0.001		

[a]Annual TLD field hours were 8,736. The dose was annualized using 8,760 hours per year.

[b]EG3 Plant South is located near the corner of a DOE material storage yard with elevated gamma levels. Public access to this area is limited. Annual dose to the public for 2007 is estimated at 0.31 mrem/yr. The TLD location was changed starting with second quarter to a more representative location.

Background has not been subtracted from each TLD location.

PADUCAH GASEOUS DIFFUSION PLANT
Permit Exceedances and Other Citations
Calendar Year 2007

Month	Permit Exceedance or Citation
March	**Kentucky Permit Discharge Elimination System (KPDES) Permit Limit Exceeded.** March 1 phosphorous sample collected at Outfall 002 exceeded the daily maximum limit of 1 mg/l. The sample result was 1.7 mg/l. The monthly average limit was met during the month of March.
May	**Kentucky Permit Discharge Elimination System (KPDES) Permit Limit Exceeded.** Toxicity testing conducted on effluent from Outfall 008 exceeded the toxicity limit of 1.0 TU_c. The toxicity test result for the effluent was 1.17 TU_c. The retest passed. No Notice of Violation (NOV) was issued.
June	**Notice of Violation.** NOV was issued on June 29 for the March 1 permit exceedance. See above.
December	**KPDES Permit Limit Exceeded.** December 4 phosphorous sample collected at Outfall 008 exceeded the daily maximum limit of 1 mg/l. The sample result was 1.7 mg/l. The monthly average limit was met during the month of August. No NOV was issued for this exceedance during 2007.