PAD-REG-1017

National Emission Standards for Hazardous Air Pollutants Management Plan for Emission of Radionuclides for the U.S. Department of Energy Operations at the Paducah Site, Paducah, Kentucky

This document is approved for public release per review by:

Tony Hulson
LATA Kentucky Classification Support

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National Emission Standards for Hazardous Air Pollutants Management Plan for Emission of Radionuclides for the U.S. Department of Energy Operations at the Paducah Site, Paducah, Kentucky

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Prepared for the
U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
LATA ENVIRONMENTAL SERVICES OF KENTUCKY, LLC
managing the
Environmental Remediation Activities at the
Paducah Gaseous Diffusion Plant
under contract DE-AC30-10CC40020

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ACRONYMS

CAP-88	Clean Air Act Assessment Package-88
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
EDE	effective dose equivalent
EPA	U.S. Environmental Protection Agency
ISCST3	Industrial Source Complex Short Term, Version 3
KDAQ	Kentucky Division for Air Quality
NESHAP	National Emission Standards for Hazardous Air Pollutants
PGDP	Paducah Gaseous Diffusion Plant

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EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) has developed this National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan for the Paducah Site to ensure that the program is managed in accordance with regulatory requirements. This plan will assist DOE in demonstrating all activities for the Paducah Site are in compliance with NESHAP requirements.

Facilities owned by DOE that emit radionuclides into the air must meet the requirements of 40 *CFR* Part 61, Subparts A (National Emission Standards for Hazardous Air Pollutants—General Provisions) and H (National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities). Regulations in Subpart H include monitoring point stacks and estimating the dose to the general public. Subpart H also requires that a NESHAP Report be submitted by June 30. The Kentucky Division for Air Quality was delegated authority of this program by the U.S. Environmental Protection Agency in July 1999 and is responsible for its enforcement.

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1. INTRODUCTION

1.1 PURPOSE

The U.S. Department of Energy (DOE) National Emission Standards for Hazardous Air Pollutants (NESHAP) Management Plan for the Paducah Site documents how DOE operations comply with 40 *CFR* Part 61, Subpart H, requirements. The DOE NESHAP Management Plan will be reviewed every three years or earlier, if needed, by the assigned contractor and revised, as needed.. References in this report to the "Paducah Site" generally mean the property owned by DOE. The DOE-owned Paducah Site contains the Paducah Gaseous Diffusion Plant (PGDP), the Paducah Site Depleted Uranium Hexafluoride (DUF_6) Conversion Facility, miscellaneous active and inactive industrial areas, and an undisturbed buffer area.

This plan will be reviewed every three years or earlier, if needed, by the assigned contractor. The plan may be revised based on the review.

1.2 PLAN OBJECTIVES

DOE has established the following objectives for the Paducah Site NESHAP Management Plan:

- Assure that the regulatory requirements set forth in 40 *CFR* Part 61, Subpart H, are met;
- Use U.S. Environmental Protection Agency (EPA)-approved methods for determining compliance;
- Assure compliance with the standard of less than 10 mrem/year effective dose equivalent (EDE) for public exposure from all Paducah Site sources (40 *CFR* § 61.92) (see Section 2.3);
- Monitor airborne radionuclide emissions using EPA-approved methods;
- Obtain prior approval of new construction or modifications if the estimated dose is more than 1% of the standard;
- Evaluate site activities that have potential radionuclide emissions;
- Provide a mechanism for information to be obtained and included in the annual report about fugitive and diffuse sources; and
- Gather information necessary to provide an annual report to the regulatory agencies.

2. SITE OPERATIONS AND RESPONSIBILITY

2.1 SITE DESCRIPTION

Construction of a gaseous diffusion facility to enrich uranium at the Paducah Site began in 1951 with operations starting in 1952. DOE has additional activities related to uranium enrichment. The additional

activities include a DUF_6 Conversion Facility to convert DUF_6 to a stable uranium oxide. Construction of the DUF_6 Conversion Facility began in 2004 and operations began in 2011.

Other sources of radionuclide emissions include environmental restoration activities, remediation of historic releases of pollutants, and decontamination and decommissioning of inactive facilities. Radionuclides also can be emitted by waste management activities. These activities include treatment and repackaging of radioactive contaminated waste and disposal of waste with radioactive contamination. Small amounts of radionuclides may be released as fugitive emissions from historical radioactive contamination areas.

DOE owns the Paducah Site, which is located approximately 10 miles west of Paducah, Kentucky, and approximately 3.5 miles south of the Ohio River (see Figure 1). DOE owns approximately 3,500 acres with approximately 800 acres of industrial area. (The industrial area includes the PGDP fenced area, the DUF_6 Conversation Facility, the Northeast Plume Containment System, Northwest Plume Groundwater Treatment System, and the C-746-U Landfill.) DOE licenses approximately 2,000 acres outside the industrial area to the Commonwealth of Kentucky's Department of Fish and Wildlife Resources. This results in an industrial area surrounded by a restricted access buffer area and a wildlife management area. These buffer areas are important when determining dose to the public. The site and wildlife area are in a lightly populated farmland area.

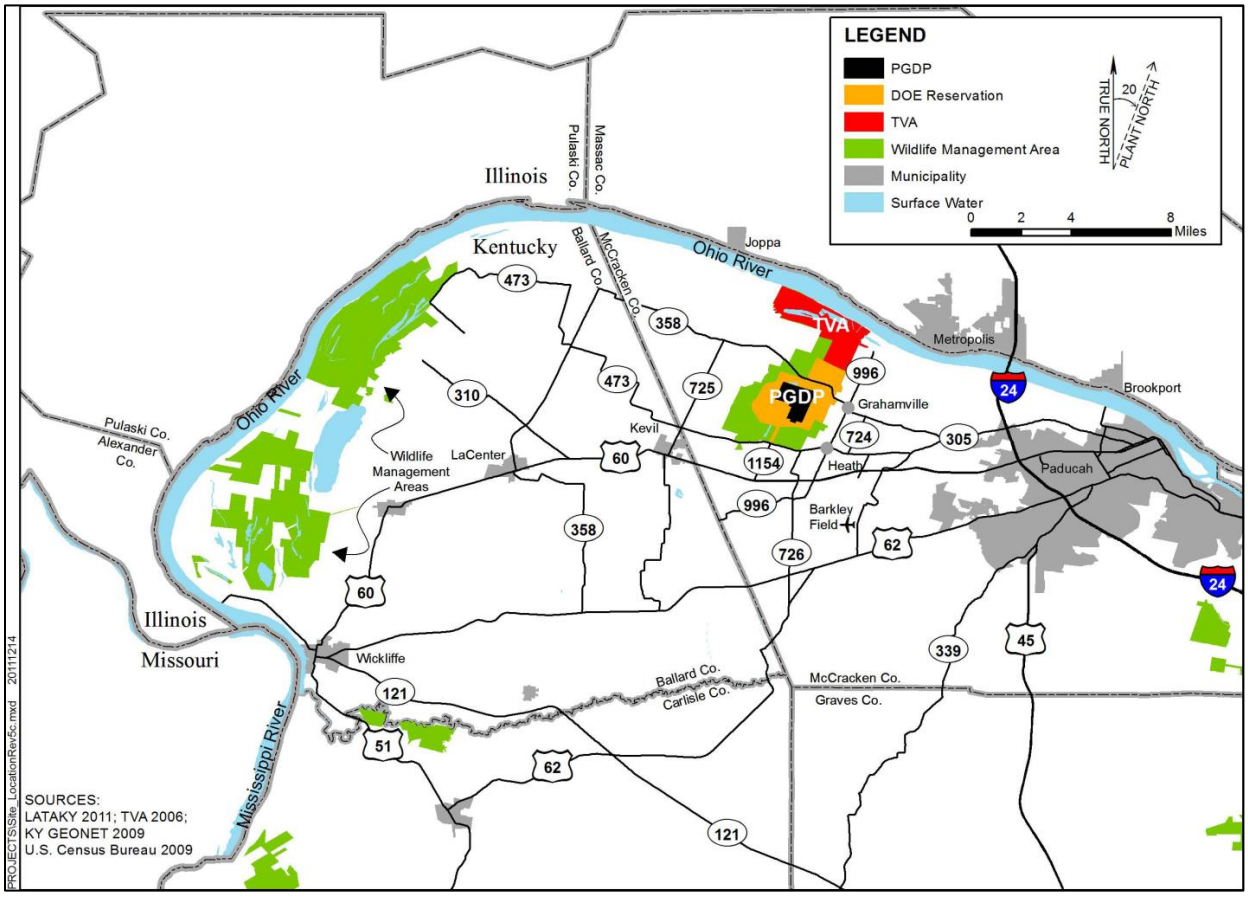

Figure 1. Location of the Paducah Site

The population within the 50-mile radius is approximately 535,000 persons based on the 2010 census. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant,

respectively. Portions of 4 states—Kentucky, Missouri, Illinois, and Tennessee—are 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.

The Paducah Site 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 January averages about 35°F. The average temperature in July is 70°F. Yearly precipitation averages about 44 inches. The prevailing wind direction is from the south to southwest. A wind rose showing wind direction and speed frequency at Barkley Regional Airport from 2005 to 2009 is shown in Figure 2.

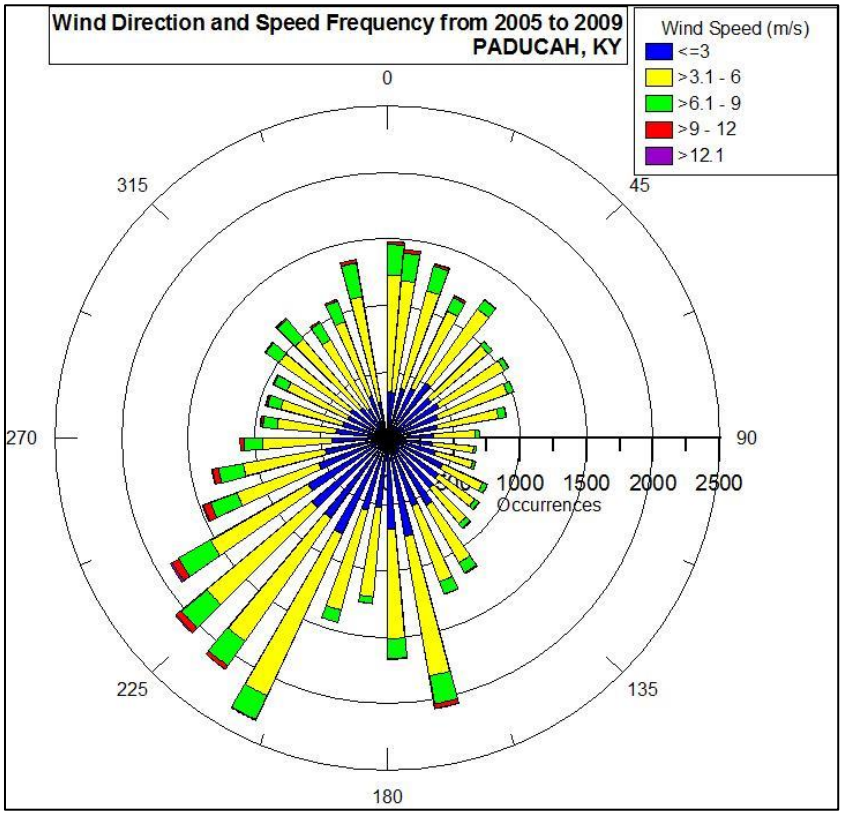

Figure 2. Wind Rose Showing Wind Direction and Speed Frequency at Barkley Regional Airport, 2005–2009

As shown in Figure 2, the dominant wind direction is south-southwest with dominant wind speeds in the 3.1 to 6 m/s range. Data was obtained from the National Climatic Data Center.

The uranium enrichment facility consists 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 enrichment facility primarily is fed with $UF_{6,}$ in which the uranium isotopic abundance is at natural assay. The enrichment facility is designed to concentrate the uranium isotope, uranium-235 (U-235), via a physical separation process.

During enrichment operations from 1953 to 1975, a feed material, called "reactor tails," from government reactors also was used intermittently in addition to the normal feed material. Reactor tails are the fuel

from nuclear reactors that has had the U-235 content depleted, has been reprocessed to remove most of the fission products, and must have the U-235 content replenished before it can be reused. The reactor fuel rods were processed at other DOE facilities (where most of the fission products were removed), and the enriched uranium and remaining fission products were brought to the Paducah Site as a product and fed into the cascade system. Use of the reactor tails resulted in introduction of small amounts of technetium-99 (Tc-99), a fission by-product, and transuranics, most notably neptunium-237 and plutonium-239, into the cascade. Additional radionuclides also may have been processed at the site through various activities conducted for other DOE sites. The DUF_6 Conversion Facility uses a dry conversion continuous process. DUF_6 is vaporized and converted to uranium oxide (U_3O_8) by reaction with steam and hydrogen. A depleted U_3O_8 powder produced by the conversion process is packaged for disposition. The DUF_6 Conversion Facility and support structures occupy about 10 acres.

2.2 RESPONSIBILITIES

DOE reports all emissions from DOE-owned emission sources at the Paducah Site. Pursuant to 40 *CFR* § 61.94, DOE certifies and reports the airborne radiological emissions from activities controlled by DOE. DOE-owned properties may be leased to private entities for activities that may have airborne radiological emissions. If DOE does not control these activities, then the private entity will certify its own emissions. The emissions from DOE-owned properties leased to private entities will be included in DOE reporting.

In 1993, DOE leased the enrichment operations at the Paducah Site to the United States Enrichment Corporation. Although the enrichment buildings are owned by DOE, the lessee (operator) is responsible for enrichment operations, including quantification and certification of airborne radiological emissions. In the future, DOE may continue to lease the enrichment facilities or DOE may decide to discontinue leasing and cease operation of the enrichment facilities. DOE may establish other uses of the Paducah Site in the future, including possible activities identified as part of a community reuse effort.

DOE-controlled emission sources include the DUF_6 Conversion Facility, demolition of inactive structures, remedial activities in support of site cleanup, various waste management emissions, and fugitive emission sources.

DOE will continue to submit an annual NESHAP Report to the Kentucky Division for Air Quality (KDAQ) and EPA, as required by 40 *CFR* § 61.94. The report will include emissions from all Paducah Site sources, including the enrichment operations, DUF_6 Conversion Facility, and all other DOE-controlled emissions.

2.3 NESHAP STANDARD

The NESHAP standard, 40 *CFR* § 61.92, for airborne emissions from a facility is an EDE of 10 mrem/yr. DOE is converting to use the term of "effective dose" (e.g., Occupational Radiation Protection regulations, 10 *CFR* § 835). Other reference materials that use the term effective dose include EPA Federal Guidance Report No. 13 and DOE Order 458.1. For DOE airborne emissions of radionuclides at the Paducah Site, DOE assumes that the terms are equivalent for 40 *CFR* § 61.92 compliance. This will allow the use of either term if the regulatory community converts to the effective dose terminology.

> Effective Dose Equivalent (40 *CFR* § 61.91)—The sum of the products of absorbed and appropriate factors to account for differences in biological effectiveness due to quality of radiation and its distribution in the body of reference man. The unit of the effective

dose equivalent is the rem. The method for calculating effective dose equivalent and the definition of reference man are outlined in the International Commission on Radiological Protection's Publication No. 26.

Effective Dose (10 *CFR* § 835)—The summation of the products of the equivalent dose received by specified tissues or organs of the body (HT) and the appropriate tissue weighting factor (wT)—that is, $E = \Sigma wTHT$. It includes the dose from radiation sources internal and/or external to the body. For purposes of compliance with this Order, equivalent dose to the whole body may be used as effective dose for external exposures. The effective dose is expressed in units of rems (or sieverts).

3. SOURCE DESCRIPTION

Potential airborne radionuclide sources at the Paducah Site are discussed in this section. As the use of the site changes, specific sources will change. Future emission sources will be evaluated as required by applicable statutes and regulations, including 40 *CFR* Part 61, Subpart H.

3.1 URANIUM ENRICHMENT EMISSIONS

Operation of the gaseous diffusion uranium enrichment plant will result in radionuclide emissions. In the past, these emissions sources have included a monitored stack and grouped sources. It is anticipated that the gaseous diffusion uranium enrichment plant will continue to operate the following sources:

- Continuous monitored stack—C-310
- Point sources not monitored continuously
  - C-400 Cylinder Drying Station
  - C-720 Motor Burnout Ovens
- Grouped sources
  - C-360 (including pigtail operations)
  - C-400 (other than the cylinder drying station)
  - C-409
  - C-709/710 laboratory
  - Wet air/seal exhaust group
    - Seal exhaust/wet air systems
    - Building ventilation not included in any other group
    - Unplanned releases
    - C-335 UF_6/R-114 Separation System
    - Pigtail operations (other than C-360)
- Fugitive emissions (see Chapter 4)

These uranium enrichment air emission sources also may be subject to a permit issued by the KDAQ.

If the enrichment facilities become inactive and potential radionuclide emissions decrease, then the continuous monitoring of the C-310 stack may be discontinued.

3.2 DEPLETED URANIUM HEXAFLUORIDE CONVERSION FACILITY EMISSIONS

During the enrichment process, UF_6 that had been depleted of its U-235 content (DUF_6) was placed in large steel cylinders for storage. DOE operates the DUF_6 Conversion Facility to convert the DUF_6 resultant from the uranium enrichment process into a stable uranium oxide, primarily U_3O_8.

A single stack on the conversion building is monitored for radionuclide emissions. There may be fugitive radionuclide emissions from the DUF_6 Conversion Facility and the DUF_6 cylinder storage yards. Potential sources of fugitive radionuclide emissions include pigtail operations. The air emissions from the DUF_6 Conversion Facility are permitted by KDAQ.

3.3 ENVIRONMENTAL REMEDIATION AND WASTE MANAGEMENT EMISSIONS

The Paducah Site is listed on the National Priorities List for cleanup of past contamination releases, radioactive as well as hazardous chemical contamination. The cleanup usually is conducted as a series of projects. The radiological emissions from these activities vary with the nature of each individual project. Projects include groundwater treatment units, waste management activities, soil disturbance, and demolition.

The Northwest Plume Interim Remedial Action and Northeast Plume Containment System are current groundwater pump-and-treat units. Radionuclide air emissions could be generated when groundwater containing Tc-99 passes through an air stripper. The amount of Tc-99 emitted is estimated by analyzing samples of the water entering each treatment unit and by either applying a mass balance or using the 40 *CFR* § 61, Appendix D, liquid emission factor. Sampling has demonstrated that this approach is conservative and results in an estimate that is greater than actual emissions. Future remediation projects could include additional groundwater treatment units.

Emission of radionuclides from C-752-A for waste management activities is estimated based on sampling analysis of the waste, personnel air monitoring, and 40 *CFR* § 61, Appendix D, emission factors. Waste management activities also may emit radionuclides. These activities include treatment and repackaging of radioactive contaminated waste and disposal of waste with radioactive contamination.

Emissions from remediation activities involving soil disturbance, such as excavation, may be analyzed using soil sampling data and appropriate emission factors or may be analyzed as fugitive emissions. EPA guidance, *Methods for Estimating Fugitive Air Emissions of Radionuclides from Diffuse Sources at DOE Facilities*, September 3, 2004, states that, in many cases, these emission sources are considered diffuse sources, as their emissions tend not to be collected and actively ventilated into the atmosphere.

Building demolition emissions may be estimated by waste characterization analyses and demolition emission factors. Alternatively, DOE may choose to analyze building demolition emissions as fugitive emissions. Future environmental remediation, demolition, and waste management activities will be evaluated for NESHAP compliance and are anticipated primarily to be analyzed as fugitive emissions.

3.4 LOW EMISSION SOURCES

Many of the emission sources have the potential to emit radionuclides that would result in a dose of less than 0.1 mrem/yr EDE. The NESHAP regulations, 40 *CFR* § 61.93(b)(4)(i), require periodic confirmatory measurements to verify low emissions of these sources. These low emission sources include point sources and fugitive emissions. The frequency of periodic confirmation will be determined by the variability of

the emission rate. Confirmation may include direct air stream measurement by grab samples or other analysis. Other techniques also may be used for confirmation; these include source material analytical data, health physics data, radionuclide inventory data, appropriate emission factors, engineering estimates and judgment, or other technically justifiable method. The low emission rate of fugitive emissions will continue to be confirmed by ambient air monitoring.

4. FUGITIVE EMISSIONS

Fugitive sources include any source that is distributed spatially, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. 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 air currents. Typical examples of fugitive sources at the Paducah Site for all leased and nonleased activities include emissions from building breathing; building demolition; excavation or resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater or groundwater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment. Sources of fugitive emissions at the Paducah Site include inactive facilities, building roofs, storage yards, landfills, decontamination of equipment, and various contamination areas. Based on prior health physics data, historical ambient air monitoring, and characterization analyses, it is unlikely that any of these potential sources are significant; however, ambient air monitoring is being conducted around the Paducah Site to verify the fugitive sources have a low emission rate.

4.1 ENVIRONMENTAL REMEDIATION EMISSIONS

Many environmental remediation emissions are considered fugitive emissions. These include, but are not limited to, contaminated soil excavation and treatment, and treatment of contaminated groundwater. Most remediation activities will have been characterized and have analyses indicative of contaminations present and estimated amounts to be remediated. Anticipated remediation low emission rates include emissions from decontamination of remediation equipment and disposal of contaminated material in an on-site landfill.

4.2 DEMOLITION EMISSIONS

Most demolitions will generate fugitive emissions. Buildings usually are decontaminated or deactivated prior to demolition to minimize emissions during demolition. Results from waste analyses from decontamination, deactivation, or other sampling will be used to indicate whether contaminants are present prior to subsequent demolition. Emissions from inactive buildings awaiting demolition and disposal of contaminated debris in an on-site landfill are considered to be low emission sources.

4.3 AMBIENT AIR MONITORING ANALYSIS

The Paducah Site utilizes ambient air monitoring data to verify that airborne radionuclide emissions are in compliance with 40 *CFR* § 61.92. Ambient air monitoring stations have been placed outside of the Paducah Site industrial area, but still are on DOE property. Background monitoring stations have been placed off DOE property, away from the Paducah Site, so that the monitoring results are not influenced by site emissions. Ambient air data collected at monitoring stations surrounding the industrial area capture radionuclides from all sources including fugitive. Ambient air monitor samples initially may be

analyzed for gross alpha and beta activity. The gross activity analyses will be utilized as an indicator of whether process operations may be affecting ambient air quality. The samples also are composited for a longer duration, such as three months, then analyzed to determine the isotopic concentrations present. The isotopic analysis results will be compared to 40 *CFR* Part 61, Appendix E, Table 2 values. If any results exceed the Table 2 values, then the dose resulting from the exposure will be analyzed. The protocol for the analysis of air filters from the ambient air-monitoring network is provided in Chapter 7.

Ambient air monitoring also may be used to determine compliance of the entire Paducah Site with the 10 mrem standard in accordance with 40 *CFR* § 61.93(b)(5).

5. POTENTIAL NEW SOURCE EVALUATION

Potential new or modified DOE controlled sources will be identified and evaluated for compliance with 40 *CFR* Part 61, Subpart H, prior to construction or modification of the source.

New sources include new emissions from point sources. Fugitive and low emission sources, such as nonradiological areas or activities that do not require worker respiratory protection, will not be evaluated as new sources because they will emit less than 1% of the standard.

For any activities that meet the definition of construction under 40 *CFR* § 61.02, or any activities such as fabrication, erection or installation of a new building or structure within a facility that emits radionuclides, the potential emissions must be evaluated against the 40 *CFR* Part 61, Subpart H requirements. If the EDE caused by all emissions from the new construction or modification within an existing facility is less than 1% of the standard prescribed in Section 61.92, then an application for approval under Section 61.07 or notification of start-up under Section 61.09 does not need to be filed (see 40 *CFR* § 61.96). The dose shall be calculated in accordance with 40 *CFR* Part 61, Subpart H.

An estimate of potential emissions of a new or modified source and resulting dose is needed for two reasons: (1) to determine which sources require continuous sampling as required by 40 *CFR* § 61.93, and (2) to determine which sources require reporting. The evaluation of potential new sources is documented and available for review in the project file.

6. COMPUTER MODELING METHODOLOGY

Computer modeling may be utilized for demonstration of compliance of point sources that are DOE's responsibility. This modeling is not utilized for measuring fugitive emissions. DOE demonstrates compliance with the 10 mrem/year EDE by measuring and estimating emissions of radionuclides and modeling those emissions using the EPA-approved Clean Air Act Assessment Package-88 (CAP-88) of computer codes or AIRDOS PC. The CAP-88 software utilizes the appropriate regulatory and federal guidance to estimate radiation dose.

The CAP-88 program utilizes local meteorology data. A historical data set from the Paducah Site meteorological tower may be used. This historical data set is a five-year distribution from the 60-m station Paducah Site meteorological tower for the years 1988 through 1992. This historical data set has the advantage of being representative of site conditions. More recent meteorological data sets from the National Weather Service or commercial sources also may be used. The advantage of these data sets is that they would be more recent than the historical data set.

The most recent version of CAP-88 estimates dose in units of EDE. The NESHAP standard uses EDE. Much of the regulatory community and DOE Order 458.1 use total effective dose. For the potential radionuclides emitted at the Paducah Site, DOE assumes that the terms are equivalent. This will allow the use of the most recent and potential future dose estimation methods in determining compliance with the standard. Emission factors and methodologies are provided on an annual basis for modeling. Model inputs are documented and provided in the Annual NESHAP Report along with the results of the calculations.

7. AMBIENT AIR MONITORING

Ambient air monitoring at the Paducah Site is utilized to monitor all Paducah Site emissions, including fugitive emissions for DOE radiological areas. Experience indicates that these fugitive emissions are low emission sources. DOE may choose to utilize ambient air monitoring to demonstrate compliance with the standard in accordance with 40 *CFR* § 61.93(b)(5). This monitoring is used to confirm the fugitive emissions are low emission sources. Ambient air monitoring at PGDP may be performed by DOE or Radiation/Environmental Monitoring Section of the Radiation Health Branch of the Department for Public Health of the Kentucky Cabinet for Health and Family Services. These are two independent networks of ambient air monitors surrounding the Paducah Site. Either network may be used to evaluate site emissions. Figure 3 is a map showing the ambient air monitoring stations for both networks in relation to the Paducah Site. Both networks include a background station at a location several miles away from the Paducah Site. If one of the networks ceases operation in the future, the remaining network will be utilized.

Both air monitoring systems operate in a similar manner. Monitoring stations are located around the emission sources at the Paducah Site. Stations operate continuously, drawing ambient air through filters. The filters are collected, then nondestructively screened for alpha and beta activity. The initial screening provides a timely indication of an unusual radionuclide release. After the screening, the filters from each location then are composited, and each quarter the composited samples are analyzed for isotopes present. The samples are composited in order to detect isotopes at low concentrations.

Ambient Air Siting. The ambient air monitoring stations for both networks are placed around the Paducah Site. The location was determined by various factors including ease of access, power availability, solar access, and freedom from nearby air flow obstructions. The station locations for both networks are located near each other. The placement of the stations was aided by modeling using Industrial Source Complex Short Term, Version 3 (ISCST3). The results of the ISCST3 analysis were included in the 2000 NESHAP Management Plan, BJC/PAD-141. Due to site activities, some of the original monitoring station locations have been changed. Because of remediation activities in the drainage ditch adjacent to the station formerly located at AMN003 (north of the plant near Ogden Landing Road), the station has been moved approximately 1,000 ft east to AMD746S. Due to construction of the DUF_6 Conversion Facility adjacent to AMSW017, this station location (AMD57) now is approximately 2,500 ft south. In response to increased disposal of less than authorized limits of radiologically contaminated waste in the C-746-U Landfill, a new station, AMD746U, has been located approximately 1,000 ft southeast of the landfill. The selection of site location is consistent with the air dispersion siting methodology used for the previously installed stations.

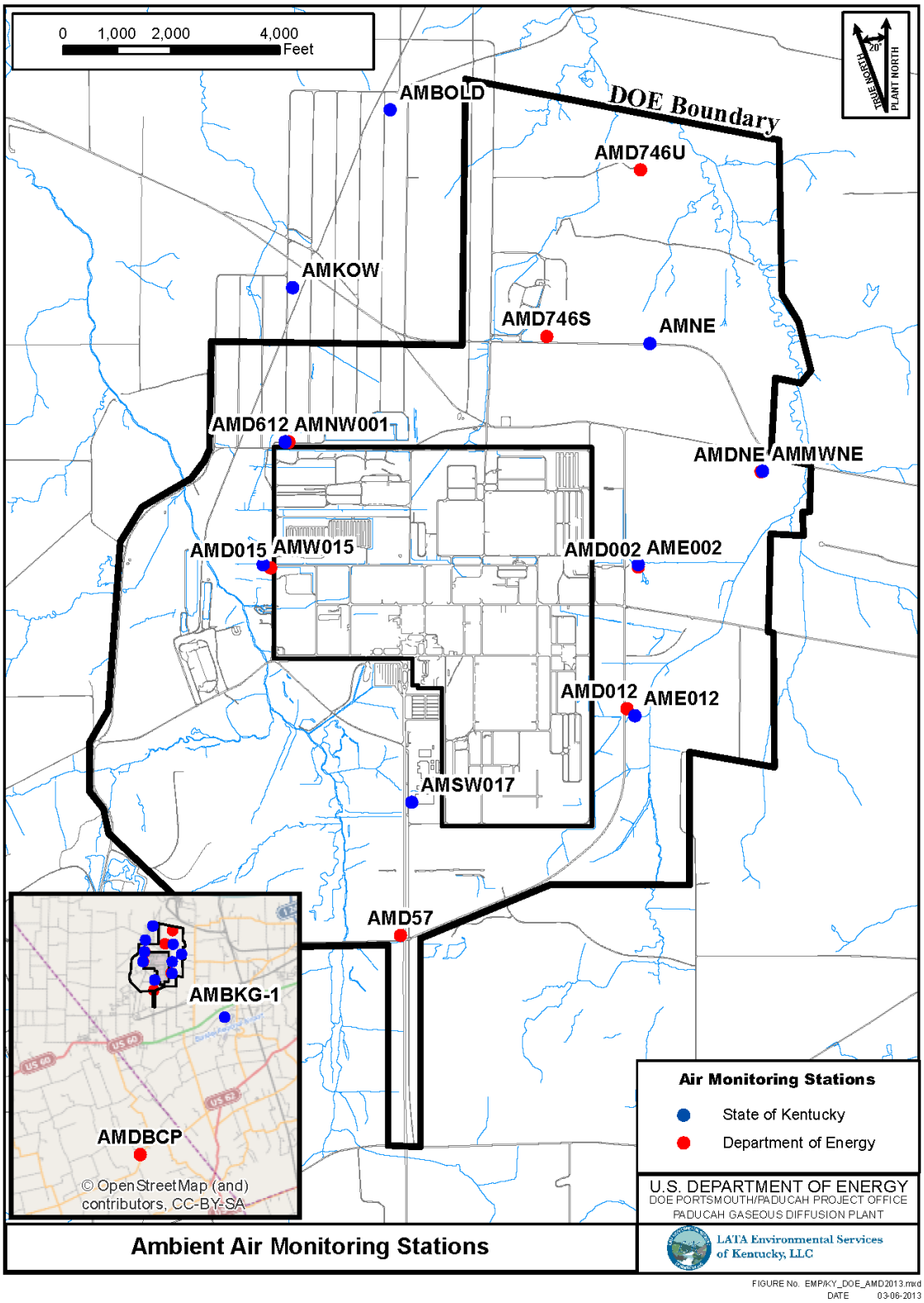

Figure 3. Locations of the DOE Ambient Air Monitoring Station

8. NESHAP REPORTING REQUIREMENTS

An annual report to EPA is due on or before June 30 each year, 40 *CFR* § 61.94. The purpose of the report is to document that the dose standard is being met. This report must include the following:

- Monitoring results and dose calculations for point sources;
- Name and location of the facility;
- List of radioactive materials used at the facility;
- Description of handling and processing that the radioactive materials undergo at the facility;
- List of stacks or vents or other point where radioactive materials are released to the atmosphere;
- Description of the effluent controls used on each stack, vent or other release point and an estimate of the efficiency of each control devise;
- Distance from release points to nearest residence, school, business, or office and nearest farms, producing vegetables, milk, and meat;
- Values of all input parameters for computer models and sources of this data;
- Description of all construction and modification completed for which regulatory approval was waived during the calendar year; and
- Provide a statement certifying the report's accuracy and completeness for DOE-controlled emissions, and signed and dated by an official in charge.

If the standard is not met, then monthly reports to EPA are required and should include the following:

- Same information as the annual report, and
- Change to bring the facility into compliance.

To allow independent verification of compliance, the facility must document sources of information used to demonstrate compliance. Such information typically includes, at a minimum, results of measurements, calculations, and/or analytical methods used and the procedures used to determine EDE.

Records must be kept on-site for at least five years and be made available for inspection upon request.

9. QUALITY ASSURANCE REQUIREMENTS

Quality assurance is an essential element of NESHAP compliance. The quality assurance programs are in place to assure that the emission measurements are representative, are of known precision and accuracy,

and will include administrative controls to assure prompt response when emission measurements indicate unexpectedly large emissions, as required by Appendix B, Method 114.

DOE anticipates that stacks—such as the C-310 stack for enrichment, the stack at the DUF_6 Conversion Facility, and ambient air monitoring—will have the appropriate quality assurance programs to meet the regulatory requirements.