USEC-02

PORTSMOUTH GASEOUS DIFFUSION PLANT (PORTS)

EMERGENCY PLAN

Revision 202

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PLAN SUMMARY

The United States Enrichment Corporation Incorporated (USEC Inc.) has established and shall maintain and be prepared to follow the Portsmouth Gaseous Diffusion Plant (PORTS) Emergency Plan (the Plan) to ensure that plant personnel are adequately prepared for accidents or other emergencies involving the potential release of radioactive materials and that prompt, orderly, and effective response actions are taken to mitigate the consequences of such accidents and emergencies and protect the health and safety of the public and workers at the plant.

This Plan is implemented by the Emergency Plan Implementing Procedures (EPIPs). The EPIPs address generic requirements for responses to incidents involving hazardous chemicals, radioactive materials, natural phenomena, and other adverse conditions. This Plan and the accompanying EPIPs meet the requirements of 10 Code of Federal Regulations (CFR) 70.22(i)(3). A single emergency classification system is in place at PORTS. The DOE Portsmouth, Paducah Project Office has an exemption, to implement the NRC emergency classification system indefinitely, as long as NRC-regulated activities are in operation on-site.

The format of the Plan is generally based upon NRC Regulatory Guide 3.67, Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities (January, 1992). Additionally, PORTS Emergency Action Levels have been developed using examples provided in this Regulatory Guide. The details of the EPIPs implementing each section of the Plan are not included in the Plan itself, but the Plan includes a general description of the procedures that are followed in connection with each activity to demonstrate that appropriate actions can and will be taken to mitigate accident consequences and to protect the health and safety of the public and plant personnel in the event of an emergency.

The Plan provides an overall description of the comprehensive site-wide emergency preparedness program, which is based, in large measure, on the emergency preparedness policies, procedures, and practices that have been successfully used at PORTS for over 40 years. This program has been established to manage and respond in a consistent and integrated fashion to accidents or other emergency situations that may occur at the site. The structure of this program is intended to ensure that the consequences of emergencies are promptly mitigated and that the health and safety of the public, personnel on the surrounding DOE reservation, and plant personnel are protected, regardless of the cause or nature of the emergency. Therefore, the Plan addresses both radiological and non-radiological emergencies as well as potential emergencies arising out of activities at the site that are regulated by the NRC and that are regulated by DOE.

The scenarios addressed in the Plan include accidents involving radioactive materials, non-radioactive materials, chemicals, fires, natural disasters such as earthquakes and tornadoes, and security-related emergencies. The scenarios include a large uranium hexafluoride (UF_6) release.

The Plan includes a general description of the plant and the surrounding area. It identifies the types of accidents and the emergencies for which protective actions may be needed and describes the manner in which accidents are detected and classified. The Plan also contains a description of the policies and procedures that are followed for the notification of and communication with plant personnel, local governments, and regulatory agencies in the event of an emergency and for the coordination of the emergency response activities of both onsite and offsite response organizations. The Plan provides a description of the responsibilities of the key individuals and organizations involved in emergency response activities and the manner in which the consequences of an emergency are mitigated and assessed.

The Plan also includes separate sections and subsections addressing the establishment and maintenance of emergency response equipment, facilities, and capabilities; the training and exercises that are conducted to maintain and enhance emergency preparedness; the manner in which plant equipment and systems are

restored to a safe condition after an accident; and all other topics required under 10 CFR 70.22(i)(3). The Plan also confirms that USEC Inc. and site DOE contractors have met the responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986. The Plan is maintained and updated by USEC Inc. In accordance with 10 CFR 70.32, USEC Inc. may change the Plan without receiving prior NRC approval, providing the change does not decrease the effectiveness of the Plan and the NRC and affected offsite response organizations are provided with copies of any changes to the Plan. In addition, any changes to the Plan are reviewed for approval by PORTS DOE contractors who utilize the Plan with DOE approval as required.

In summary, the Plan is the master document summarizing the site-wide emergency preparedness program and the policies, procedures, and actions that will be implemented in any emergency at the site to mitigate the consequences of the emergency and protect the health and safety of the public and plant workers.

1. FACILITY DESCRIPTION

USEC Inc. leases portions of the Portsmouth facilities and site from the Department of Energy (DOE) and conducts activities in the Lead Cascade in support of uranium enrichment projects for the construction and deployment of the American Centrifuge Plant (ACP). These activities are regulated by the Nuclear Regulatory Commission (NRC). DOE, Fluor-B&W Portsmouth LLC (FBP) – the DOE Prime Contractor for the PORTS site and the Former Uranium Enrichment Facilities (FUEF), and BWCS DUF_6 Conversion Facility also conduct activities and operate non-leased facilities at the site that are regulated by DOE and are not regulated by the NRC.

The PORTS Emergency Plan and accompanying Emergency Plan implementing procedures are used to meet the requirements in 10 CFR 70.22(i)(1)(ii) and (i)(3) for the Lead Cascade. Thus, this Emergency Plan contains pertinent information specific to the Lead Cascade. However, the overall elements of the plan apply to the entire PORTS reservation and the activities conducted on the PORTS site. These activities include the FUEF and DUF_6 Conversion Plant and other DOE activities. Therefore, unless otherwise noted, the term "Plant" refers to the entire DOE reservation.

1.1 DESCRIPTION OF ACTIVITIES

1.1.1 Description of NRC-Regulated Activities

The primary mission of the Lead Cascade is to install and operate up to 240 centrifuge machines in the recycle mode as a "closed loop" system, where the enriched product stream is recombined with the depleted stream prior to being refed to the cascade. The Lead Cascade uses full-scale equipment and laboratory samples are withdrawn to obtain information on American Centrifuge enrichment technology. The Lead Cascade is operated so that no enriched material is withdrawn, other than laboratory samples. No finished product is produced by the Lead Cascade. A basic summary of this process follows:

The uranium element appears in nature in numerous isotopes; the three major isotopes of interest have atomic weights of 234, 235, and 238. The ^{235}U isotope is capable of sustaining a critical reaction in most applications. Natural uranium contains 0.711 percent ^{235}U isotope. Isotopic separation processes separate uranium (e.g., its compounds) into two fractions, one enriched in the ^{235}U isotope, and the other depleted. Prior to the enrichment process, uranium is combined with fluorine to form uranium hexafluoride (UF_6). The Lead Cascade receives natural assay uranium in solid UF_6 form in cylinders. In the gaseous centrifuge process, the isotopic separation is accomplished by centrifugal force, which uses the difference in weight percent of the different uranium isotopes to achieve this isotopic separation. UF_6 is fed into the system in the gaseous state and is enriched up to 10 weight percent assay ^{235}U. The Lead Cascade withdraws enriched and depleted samples in the gaseous state at specified locations for evaluation of cascade performance. The enriched and depleted streams are then recycled. UF_6 and release products associated with the Lead Cascade are highly toxic and present. Based on the hazards and consequence analysis reflected in the Integrated Safety Analysis (ISA), USEC has concluded that any hazardous release would most likely involve these two substances.

Lead Cascade possession limits for UF_6 are summarized in Table 1-4.

1.1.2 Description of DOE-Regulated Activities and Operations

1.1.2.1 FUEF Operations

The uranium enrichment operations at PORTS are shutdown and the FUEF are controlled by the DOE. The primary mission of FUEF plant operation is FUEF surveillance and maintenance, and activities in preparation for D&D. A basic summary of these activities follows.

FUEF receives and ships uranium in solid UF_6 form, which is shipped by truck and rail in 10- or 14-ton cylinders in accordance with DOT regulations. Solid UF_6 cylinders are stored in cylinder yards and in buildings.

The gaseous diffusion enrichment process employed a series of compressors and converters to enrich UF_6 in ^{235}U. The fundamental building block of the process consists of a compressor and a converter that form a stage. Stages are grouped together to form cells. The cells are then interconnected to provide what is known as a cascade. The compressors, which are driven by electric motors, are used to circulate the process gas and maintain flow through the cascade. The converters contain porous tubes called barriers through which the process gas is diffused. In each converter, a portion of the process gas diffuses through the barrier and is fed to the next higher stage, with the undiffused gas being recycled to the next lower stage. The diffused stream is slightly enriched in the 235 isotope, while the undiffused portion is slightly depleted in the 235 isotope to the same degree. Each stage also contains a gas cooler to remove the heat of compression from the process gas and a control valve for process control. The process is repeated through numerous cells until the desired enrichment level is reached. Separated ^{238}U or depleted material is stored at the plant for future use or disposition. The operating inventory of the enrichment process has been removed; residual holdup remains. Limited operations are ongoing for removal of uranium deposits, UF_6 processing and storage, surveillance and maintenance of the shutdown equipment and facilities, limited removal and decontamination of process equipment, uranium material recovery and storage, and waste handling and management.

FUEF evaluated radionuclide inventories are shown in Table 1-1.

Numerous substances associated with the FUEF processes could pose hazards if they were released to the environment. Only a few of these substances are highly toxic and present in large quantities at the plant. Based upon the hazards and consequence analyses reflected in the Basis for Interim Operation (BIO), any hazardous release with potential impact outside of the immediate process area would most likely involve one or more of six substances. The following is a brief description of each of these substances, the manner in which they are used in the FUEF processes, and the locations where they are stored or used at the plant.

1. *Uranium Hexafluoride (UF_6).* In gaseous, liquid and solid forms, UF_6 could present a hazard. Material in these forms has been used with the gaseous diffusion process and is primarily located in the X-326, the X-330, and the X-333 process buildings, the X-344A toll enrichment facility, and the X-342A facility and various cylinder yards.

2. *Chlorine Trifluoride (ClF_3).* Chlorine trifluoride is delivered to the plant in 160 pound cylinders and is stored in 160 pound cylinders at the X-742 Facility and in two 2,000-ft^3 storage drums located in the X-330 process building. Chlorine trifluoride is used for cell treatment on an as-needed basis in the process buildings.

3. *Nitric Acid (HNO_3).* Nitric acid is transported to plant site by tank truck and is stored in two tanks, 1,500 gallon and 3,500 gallon located 60 feet east of X-705 and directly north of the former incinerator building location. Nitric acid is pumped to a 100-gallon storage tank in X-705 and gravity fed to various systems, such as small parts, the neutralization sink, and spray tanks. Nitric acid is also stored in glass bottles in the X-720 toxic materials storage area. Nitric acid is primarily used to decontaminate uranium-contaminated metal surfaces and recover uranium.

4. *Fluorine (F_2).* Fluorine is generated from hydrogen fluoride gas in X-342A and is pumped to storage tanks in the X-342B facility. The three F_2 storage tanks measure 8 feet in diameter and 20 feet long. Fluorine is used to pacify and condition metal surfaces prior to exposure to UF_6 and for treatment on an as-needed basis.

5. *Chlorine (Cl_2).* Chlorine is used in the treatment of the sanitary water supply and for sewage treatment at PORTS. The function of chlorine in the water and waste water treatment processes is as a disinfectant for removal of disease-carrying organisms. Chlorine on plant site is found at the water treatment plant (X-611E) in 1-ton cylinders, at the sewage treatment plant (X-6619) in 150 pound cylinders, and in the X-742 in 150 pound cylinders.

6. *Hydrogen Fluoride (HF).* Hydrogen fluoride is used in the production of fluorine. Liquid HF is delivered to the plant in 850-lb cylinders and is stored in the X-342A Feed Vaporization and Fluorine Generation Facility. There, the HF is vaporized and piped to four fluorine generators, where it is dissociated to produce fluorine.

Table 1-2 shows the major locations and quantities of hazardous chemicals described above.

1.1.2.2 DUF_6 Conversion Facility

A DOE operation is the operation of the Depleted Uranium Hexafluoride (DUF_6) Conversion Plant. The plant operation includes the following activities:

- Storage, handling and movement of cylinders of UF_6, primarily depleted enrichment uranium;
- Receipt and preparation of the cylinders for heating in the processing building;
- Heating, feed and conversion of DUF_6 to uranium oxide and storage of uranium oxide in disposal containers;
- Collection, purification, and packaging of HF for offsite shipment;
- Production of hydrogen from natural gas for use in the conversion process;
- Treatment and/or disposition of process wastes; and
- Handling and shipping of uranium oxides and other waste materials.

DOE has approved a Documented Safety Analysis (DSA) with associated Technical Safety Requirements (TSRs) for the operation of the DUF_6 Conversion Facility. A number of postulated accidents could impact the GDP Site requiring selective evacuation or sheltering in place for USEC, Inc. personnel at the ACP or DOE contractors performing D&D or environmental remediation activities.

A number of substances associated with the DUF_6 Conversion Process could pose hazards if they were released to the environment. A smaller number of substances used in the DUF_6 Conversion Plant are highly toxic and present in relatively large quantities. The following is a brief description of each of these more highly toxic substances, the manner in which they are used in the DUF_6 conversion processes, and the locations where they are stored or used at the plant.

1. *Depleted Uranium Hexafluoride (UF_6).* In gaseous and liquid forms, UF_6 can present a significant hazard if released. Material in these forms is used with the conversion process and is primarily located in the Conversion Building. DUF_6 (primarily in solid form) is located in the cylinder storage/staging areas.

2. *Hydrogen Fluoride (HF).* Hydrogen fluoride is a product of the conversion process. It is produced as a gas and condensed into a liquid solution (55 weight % in water). Material in these forms is present in the Conversion Building, the HF recovery system, and the HF storage tank system.

3. *Uranium Oxide (primarily U_3O_8).* Uranium oxide is a product of the conversion process. It is produced as a fluidized solid in gas and is densified and collected as solid particles in modified UF_6 cylinders. Material in these forms is present in the Conversion Building and oxide cylinder staging area.

4. *Hydrogen and Natural Gas.* These materials (present in the gas phase) are input to the conversion reaction; the natural gas is processed to make hydrogen and the hydrogen is fed to the conversion reactors. Material in these forms is found in the Hydrogen generation area and hydrogen is found in the conversion building.

5. *Potassium Hydroxide (KOH).* These materials are present as solid and in solution. Material in these forms is present in the Conversion Building and KOH regeneration building.

Table 1-2 shows the major locations and quantities of the hazardous chemicals described above.

1.2 DESCRIPTION OF FACILITY AND SITE

PORTS is located at latitude 39°00'30" north and longitude 83°00'00" west measured at the center of the plant on a 3,708-acre tract in Pike County, Ohio, one of the state's lesser populated counties. The plant site is located between Chillicothe and Portsmouth, Ohio, approximately 70 miles south of Columbus, Ohio. Figure 1-1 shows the regional area surrounding the plant.

The general location is an area of steep to gently rolling hills, with average elevations of 120 feet above the Scioto River valley. The steep hills characteristically are forested, while the rolling hills provide marginal farmland. With the exception of the Scioto River and its floodplain, the floodplains and valleys are narrow and are occupied by small farms.

There are no unrelated industrial, commercial, institutional, or residential structures within the plant property. DOE leases facilities onsite to the Ohio National Guard. The Ohio National Guard does not store weapons onsite. There are no other military installations located near the site.

Roadways within the fenced limited access or protected area of the plant consist of several miles of paved surface. Several paved roads branch out from the plant to the Perimeter Road that surrounds the plant site. The west access to the plant extends from U.S. 23 to the Perimeter Road. Shyville Road connects U.S. 32 to the north side of the plant, Big Run Road leads to the south side of the plant, and Dutch Run Road enters the area from the east side of the plant.

Rail and roadways are used for cylinder movements to the plant. The rail spur enters the site from the north and branches to several areas inside the fence. All the process buildings and most of the support facilities have direct rail service. In addition, cylinders are transported around the plant site using a variety of devices, including cylinder carriers, stackers, rail cars, forklifts, trucks, and wagons.

Rivers or major streams do not traverse the plant area. However, Big Beaver Creek and Little Beaver Creek cross the northern edge of the PORTS reservation. Runoff water flows from the area through three streams: Little Beaver Creek, Big Run Creek, and a drainage ditch to the Scioto River.

The PORTS site consists of 3,708 acres with an 800-acre central developed area surrounded by the Perimeter Road. The reservation land outside the Perimeter Road is used for a variety of purposes, including a water treatment plant, lagoons for the process waste water treatment plant, sanitary and inert landfills, and open and forested buffer areas.

Most of the site improvements are located within the 500-acre fenced core area. The core area is largely devoid of trees, with grass and paved roadways dominating the open space. Within this area are the three gaseous diffusion process buildings, each approximately 882 ft by 1781 ft and 80 ft tall.

1.2.1 Primary E-Plan Support Facilities

The primary Emergency Operations Center (EOC) is located in the X-1020 Building. The EOC is a facility that provides communications, information processing capabilities, and support services with which the Crisis Manager can direct mitigation of an emergency. Upon activation, the EOC is staffed by a preassigned cadre who assists the Crisis Manager.

The alternate EOC is located in the X-300 Plant Control Facility (PCF), which houses the Plant Shift Superintendents (PSSs), power operations personnel, and cascade control. The PCF provides communications, information processing capabilities, and support services with which the Crisis Manager can direct mitigation of an emergency.

The X-1007 Fire Station is located just south of the EOC. The X-1007 houses the emergency response personnel and response vehicles and a first aid room. It also contains the fire alarm system room.

The plant medical facility is operational during the day shift, Monday through Friday excluding holidays. The medical facility has supplies, equipment, and personnel to treat most injuries. Medical personnel assess patient condition, provide emergency care, and determine appropriate supplemental treatment. Medical personnel are capable of treating contaminated individuals.

1.2.2 Former Uranium Enrichment Facilities (FUEF)

The FUEF consists of various buildings and processes which are described below.

The three process buildings account for 8 million ft^2 of the total 10 million ft^2 of floor space at PORTS, excluding the Gas Centrifuge Enrichment Plant (GCEP) facilities. The plant also includes a series of electrical switchyards, storage areas, cooling towers, a steam plant, water treatment plant, sewage disposal plant, pollution abatement facility, service and maintenance buildings, and facilities for administration, medical, fire, and security. Figure 1-2 shows the plant layout at PORTS.
The process buildings are referred to as the cascade buildings. These cascade buildings, designated X-326, X-330, and X-333, are steel-framed transite-covered two-story buildings that house the enrichment

process equipment. Three smaller buildings, X-343, X-342A, and X-344A, are referred to as the feed vaporization and sampling facility, feed vaporization and fluorine generation facility, and toll enrichment facility, respectively. Some of the instruments and controls in these buildings are duplicated in the X-300 PCF. This facility also serves as the alternate EOC and the headquarters of the PSS. A description of the cascade/process buildings, key support buildings, onsite emergency facilities, and airborne effluent controls follows.

The three process buildings, X-326, X-330, and X-333, located near the central portion of plant site, form an "L" configuration. Such a configuration permits easy connection of most overhead and underground piping and service lines required between the process buildings. The purpose of the process buildings is to house the equipment and much of the support systems necessary for the isotopic separation of uranium.

The vaporization facilities, X-342A and X-343, located adjacent to their respective process buildings, are the entry points of the feed material into the cascade. Autoclaves are used to vaporize the feed from the cylinders.

Cascade UF_6 withdrawal points are installed at various locations. As with feed operations, there are both fixed and portable withdrawal facilities, but some were designed for liquid UF_6 transfers. These UF_6 liquid phase withdrawals are possible at three fixed facilities: the X-330 tails withdrawal station, the X-333 low assay withdrawal, and the X-326 extended range product station. These withdrawals involve the compression and condensation of UF_6.

Assay control for enriched products withdrawn from the cascade was verified by samples taken simultaneously at the withdrawal point. Low-assay (5.0 wt % ^{235}U) materials were withdrawn into 10-ton heavy wall cylinders at X-326 or X-333.

The toll enrichment facility (X-344A) is a receiving and shipping point for large-cylinders entering and leaving the plant. Small-cylinder shipping and receiving activities may be performed at a number of locations.

The plant decontamination facility is located in the X-705 Building, which is designed for the safe disassembly and decontamination of process and support equipment. Contaminated emergency equipment and supplies that are not decontaminated at the emergency scene are sent to the X-705 for decontamination. Waste water from the decontamination process which requires treatment prior to discharge is collected in a separate drain system.

The XT-847 Waste Management Staging Facility is located near the southern end of the DOE reservation. The building is a steel structure with concrete floors and is divided into three major staging areas. The northern and southern sections are separated from the center section of the building by concrete block four-hour rated firewalls and steel fire doors.

1.2.3 Lead Cascade

The Lead Cascade uses existing former DOE Gas Centrifuge Enrichment Plant buildings. A brief description of primary Lead Cascade buildings and their purpose is provided below.

The Lead Cascade is located in a portion of the X-3001 Process Building. The primary purpose of the process building is to house the centrifuge machines and support systems necessary to perform the Lead Cascade activities. The north end of X-3001 has an equipment/utility mezzanine where auxiliary

equipment is housed. A building vent for the purge and evacuation vacuum systems is also located in the X-3001. Due to the nature of the centrifuge operation, a purge vacuum is applied to the machine to remove gas (either process gas or in-leakage of atmospheric gases) that enters the space between the internal rotor and the casing.

The process is controlled by a Local Control Center (LCC) at the cascade located in the X-3001 Process Building. The LCC is connected to the Area Control Room (ACR) located in the X-3012.

The X-3012 Process Support Building is located east of X-3001. The X-3012 is divided into three functional areas: an operational area, maintenance area, and a machine transfer corridor. The operational area is located in the north section of the building and includes the ACR for the X-3001; offices; lunchroom; restrooms; battery room; switchgear room; and heating, ventilation, and air conditioning (HVAC) rooms. A mezzanine above the north section contains the mechanical equipment room for the building.

The ACR provides the central operating functions to monitor and control both the Lead Cascade machines and process. The maintenance area is located in the south section of the building and includes maintenance shops, storage areas, a battery charging room, offices, locker rooms, restrooms, and a mezzanine area with additional office areas, and HVAC rooms.

The X-7725 Recycle/Assembly Building is a very large multiple level building. X-7725 is used for office space, building utilities, and interim storage and handling of centrifuge machines/components prior to final movement to the Lead Cascade. Areas of the X-7725 will be utilized for shipping, receiving, and storage of materials.

The X-7726 is located in the northwest corner of the X-7725 building. The X-7726 is the area where material and components are received, components or subassemblies are inspected and tested, the components are assembled as centrifuge machines, the final assembly is evacuated and leak checked, and repairs are performed to the machine or subassemblies.

The X7727H Transfer Corridor provides an enclosed north-south throughway from the X-7725 and X-7726 to the X-3001. The corridor is wide enough to accommodate bi-directional passage of two fully loaded centrifuge transporters.

1.2.4 Airborne Emission Sources

Airborne effluent monitors cover the FUEF, Lead Cascade, and the supporting systems that are potentially significant contributors to total plant emissions. Gaseous radionuclide emissions from the purge cascade vents, the cold recovery and wet air evacuation vents, the sampling and transfer evacuation vent, the seal exhaust vents, and the X-3001 process vent are monitored when operating by continuous vent samplers. The continuous vent samplers draw a flow-proportional sample of the vent stream through two alumina traps in series by way of an isokinetic probe.

Sixteen emission sources at the plant have been identified as potentially significant contributors to the total plant radionuclide emissions. Although none of these atmospheric radionuclide emission sources were identified to have the potential to exceed a 0.1 mrem/year dose to the most exposed member of the public during normal operation, continuous vent monitors have been installed to quantify plant radiological airborne emissions. Figure 1-2, PORTS Plant Layout, shows the locations of these process vents, and Table 1-3, Summary of Continuous Monitored Stack and Vent Characteristics, summarizes

stack heights and flow rates. In addition, the stack at the X-1300 DUF_6 Conversion Facility is monitored for radionuclide emissions.

1.2.5 DUF_6 Conversion Facility

The DUF_6 Conversion Facility is constructed on the west side of the plant inside the Perimeter Road and near the West Access Road. A brief description of the Conversion Facility primary buildings and their purpose is provided below.

The Conversion Building is a precast concrete structure with two principal operating floors and contains the major systems and equipment needed for DUF_6 conversion to uranium oxide and for recovery of HF. In addition, the building contains the Control Room and electric power distribution for the Conversion Facility, the uranium oxide packaging and shipping activities.

The Scrubber Room receives aqueous HF solution and process offgas containing HF vapor from the Condenser Room (each conversion line has dedicated equipment). Aqueous HF is monitored for uranium content prior to accumulating in the HF receiver tank, and is pumped to the HF Storage Area when it receives a tank level setpoint. An HF overflow tank is provided to contain aqueous HF in the off-normal event of overfilling an HF receiver tank. HF vapor entrained in the process offgas is condensed in a DIW scrubber where the solution is transferred to the HF receiver tank at a tank level setpoint. Process offgas leaving the DIW scrubber enters a KOH scrubber eductor where it is contacted by high pressure KOH spray. The liquid is collected in the scrubber tank, and the vapor is routed through a packed column for scrubbing. Process offgas exiting the KOH scrubber passes through a backup KOH scrubber for final processing before it is released from the plant stack. Fans on the offgas lines in the Scrubber Room are used to control offgas flow and pressure in the conversion process.

The HF Storage System (HFS) is used to receive and store the nominal 55 wt % HF acid pumped from the Conversion Building. The major components of the HFS include the HF storage tanks (5 – 10,000 gallon tanks), HF pumps.

The KOH Regeneration Building is a heated pre-engineered metal building. The building contains equipment for the regeneration of potassium hydroxide scrubber solution for reuse. The building also contains the cooling tower blowdown and Deionized Water (DIW) treatment effluent collection tanks, the Effluent Treatment System and the DIW equipment.

Three cylinder staging areas (concrete pads) directly support conversion facility operations: the DUF_6 Full Cylinder Staging Area (FCS), the Empty and Heel Cylinder Staging Area (HCS), and the Oxide Cylinder Staging Area (OCS).

In addition, the DOE contractor operating the DUF_6 Conversion Facility also maintains and operates a number of DOE regulated cylinder yards storing primarily DUF_6.

For the purposes of emergency management, the entire DOE reservation is assumed to be controlled by the E-Plan in that lease and contractual agreements exist between USEC, Inc. and DOE or between their respective contractors that govern site responsibilities and services to be provided. Within these agreements, the Emergency Response Organization prescribes protective actions for all persons on the DOE reservation. These protective actions are included in Section 5.4, Protective Actions. Persons at the DOE reservation boundary are considered members of the public. State and county agencies recognize the DOE reservation boundary as the defining boundary between the public and PORTS.

1.3 DESCRIPTION OF AREA NEAR THE SITE

The areas adjacent to the site are largely agricultural with a relatively low population density. Agricultural and forested land account for approximately 90% of the area surrounding the plant. The remaining 10% is taken up by industrial, commercial, and residential land use.

With the exception of the host county of Pike, counties adjacent to the plant include Scioto, Jackson, Ross, Highland, and Adams. Nearby cities and their approximate distance from the site include the following: Chillicothe, 25 miles north; Portsmouth, 22 miles south; Waverly, 7 miles north; and Jackson, 26 miles east. Communities closest to the site include the unincorporated towns of Piketon, Beaver, and Lucasville. As Figure 1-3 indicates, PORTS is in a rural, low-population area. The plant is well separated from high-density, high-growth-rate areas that might complicate emergency preparedness efforts. An emergency planning area, known as the immediate notification area, established by agreement with Pike County and State of Ohio officials, is used as a tool to aid in warning offsite populations of events with potential health or safety impact. The immediate notification area, which extends Emergency Plan-approximately two miles from the center of the plant, is wholly within Pike County. As shown in Figure 1-4, the immediate notification area, is covered by the Public Warning System.

No installations or facilities (such as schools, prisons, etc.) that would require special precautionary measures are located in the immediate areas surrounding the plant. Small businesses in close proximity of PORTS include small businesses in Piketon, the State Highway Department office and garage, a feed store, bars and restaurants, auto repair shops, an agricultural center, and service stations. There are no known problems or threats foreseen from these facilities or operations. Figure 1-5 indicates the site on a United States Geological Survey topographical map.

The plant maintains letters of agreement with offsite emergency support organizations, such as fire departments, hospitals, and other emergency support groups. Descriptions of services and locations of support organizations are included in Section 4.3, Local Offsite Assistance to Facility.

Table 1-1 FUEF Evaluation Quantities for Regulated Materials and Substances

Type of Material	Atomic Number	Physical State	Chemical Form	Evaluation Quantity	Description
A. Source Material[d,f]	92	Solid, liquid, and Gas	UF_6, UF_4, UO_2F_2, oxides, metal and other compounds	300,000 MTU[a]	Uranium (including natural, depleted and recycled) and daughter products and process contaminants and wastes Laboratory chemicals Analysis of samples[e] Instrument calibration and check sources
B. Source Material	90	Solid and liquid	Soluble and insoluble chemicals, metal	10 Ci	Laboratory chemicals, instrument calibration sources, plated metallic sources, instrument check sources Analysis of samples[e]
C. Special Nuclear Material[b,d,f]	92	Solid, liquid, and gas	UF_6, UF_4, UO_2F_2, oxides, metal and other compounds	300,000 MTU	Uranium (including recycled) enriched in isotope 235 up to 20 percent by weight, uranium daughter products and process contaminants and wastes, to include: (1) laboratory chemicals, (2) analysis of samples[e], (3) instrument calibration and check sources, or (4) material that may be held up in facilities and equipment from previous operations
	92	Solid, liquid and gas	UF_6, UF_4, UO_2F_2, oxides, metal and other compounds	98,000 g ^{235}U[g]	Uranium enriched in isotope 235 from 20 percent up to 50 percent by weight, to include: (1) material that may be held up in uninstalled equipment and facilities from previous operations and in equipment received from other facilities, (2) laboratory chemicals, (3) analysis of samples[e], or (4) instrument calibration and check sources.
	92	Solid, liquid and gas	UF_6, UF_4, UO_2F_2, oxides, metal and other compounds	18,000 g ^{235}U[g]	Uranium enriched in isotope 235 > 50 percent and up to 100 percent by weight, to include: (1) material that may be held up in uninstalled equipment and facilities from previous operations and in equipment received from other facilities, (2) laboratory chemicals, (3) analysis of samples[e], or (4) instrument calibration and check sources.
Special Nuclear Material	94	Sealed source		50 Ci	Instrument calibration sources, NDA
		Sealed glass ampules		3 Ci	Instrument calibration sources, NDA
		Unsealed sources		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	94	Any	Any	That resulting from the feed of recycled or FSU[c] uranium	Process contaminants and wastes, material held in equipment from previous operations

Table 1-1 (Continued)

Type of Material	Atomic Number	Physical State	Chemical Form	Evaluation Quantity	Description
D. By-Product Material	3-89, 91	Sealed source		1 Ci with no single isotope to exceed 100 mCi, except as noted below	Calibration, instrument internal source Instrument calibration and check sources
		Unsealed source		1 Ci with no single isotope to exceed 100 mCi, except as noted below	Laboratory chemicals Analysis of samples[e]
	27Co-57	Sealed Source		10 Ci	Calibration, internal Instrument standard, NDA
	27 Co-60	Sealed Source		450 Ci	Calibration, NDA, Process sources
		Unsealed Source		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	28 Ni-63	Sealed Source		10 Ci	Process sources, internal instrument standards
	38 Sr-90	Sealed Source		0.5 Ci	Calibration
		Unsealed Source		0.5 Ci	Laboratory chemicals, Analysis of samples[e]
	43 Tc-99	Sealed Source		10 Ci	Calibration
		Unsealed Source		5 Ci	Laboratory chemicals, Analysis of samples[e]
		Any	Any	That resulting from the feed of recycled or FSU[c] uranium	Process contaminants and wastes, material held in equipment from previous operations
	55 Cs-137	Sealed Source		2,000 Ci	Calibration, NDA, Process sources
		Unsealed Source		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	61 Pm-147	Sealed Source		0.5 Ci	Calibration
	70 Yb-169	Sealed Source		5.0 Ci	Calibration, NDA
	81 Tl-207	Sealed Source		1.0 Ci	Calibration
	88 Ra-226	Sealed Source		15 Ci	Calibration
	93,96,97, 99,100	Sealed source Unsealed source		0.5 Ci 1.0 Ci	Calibration Laboratory chemicals Analysis of samples[e]
	93, 95-100	Any	Any	That resulting from the feed of recycled or FSU uranium[c]	Process contaminants and wastes, material held in equipment from previous operations

Table 1-1 (Continued)

Type of Material	Type of Material	Type of Material	Type of Material	Type of Material	Type of Material
	95	Sealed source Unsealed source	Oxides, metals Oxides, metals, solutions	15 Ci 0.5 Ci	Calibration, process source Analysis of samples[e] Laboratory chemicals
	98	Sealed source Unsealed source	Oxides, metals Oxides, metals, solutions	10 Ci 0.5 Ci	Calibration, NDA Analysis of samples[e] Laboratory chemicals

a. MTU - Metric Tons Uranium

b. Special nuclear material: (1) Plutonium, uranium 233, uranium enriched in the isotope 235, and any other material which , pursuant to 42 U.S.C. 2071 (Section 51, as amended, of the Atomic Energy Act of 1954), has been determined to be special nuclear material, but does not include source material; it also includes any material artificially enriched by any of the foregoing, not including source material.

c. FSU meets the ASTM Standard C996, Standard Specification for Uranium Hexafluoride Enriched to Less Than 5 percent ^{235}U; UF_6 for enrichment meets the ASTM Standard C787, Standard Specification for Uranium Hexafluoride for Enrichment.

d. Recycled uranium includes the feed and processing of Paducah Product and the "stockpile" UF_6 transferred from DOE to USEC for enrichment.

e. “Analysis of samples” refers to the analysis of samples related to enrichment activities or site remediation (PORTS, PGDP, DOE-OR) activities utilizing existing facilities and analytical techniques to process low-level radioactivity samples founded by the possession limits stated in this table.

f. Except for Paducah Product and the "stockpile" UF_6 transferred from DOE to USEC for enrichment, uranium to be fed to the cascade will meet the requirements of ASTM Standard C996, "Standard Specification for Uranium Hexafluoride Enriched to Less Than 5% ^{235}U" or ASTM Standard C787, "Standard Specification for Uranium Hexafluoride for Enrichment" for reprocessed UF_6. All other uranium that does not meet the requirements of ASTM C996 or C787 for reprocessed UF_6 may be accepted for storage and subsequent dispositioning but will not be introduced to the cascade (except at DOE direction), with the exception of small amounts (e.g., 50 pounds UF_6) associated with sampling, subsampling, and analyses required to establish receiver's values.

g. These evaluation quantities are site totals based on the current MBA structure. Each MBA is limited to the appropriate level of HEU associated with the Attractiveness Level and Category Quantity. These evaluation quantities do not include material in FUEF space from previous DOE operations to include retained inventory of uranium plated out on the inside surfaces of both shutdown and operating equipment in the X-326 facility; specific components in the X-326 cascade that need to be removed for maintenance or other operational purposes; material and equipment such as alumina traps, seal exhaust oil and GP containers from always-safe vacuums that are generated as part of ongoing operations in X-326; or material held up in X-705 equipment (some of which may have to be removed for maintenance). Such holdup material is evaluated in the BIO for specific applicable accident scenarios.

FSU - Former Soviet Union

Table 1-2. Hazardous Chemicals.

Name	Locations	Typical Quantity
FUEF		
Uranium Hexafluoride	X-326, X-330, X-333, X-342A, X-343, X-344A, X-345, X-745 storage locations	400,000,000 pounds
Chlorine Trifluoride	X-330, X-333, X-742	4,000 pounds
Nitric Acid	X-705, X-720	30,000 pounds
Fluorine	X-342A, X-342B	700 pounds
Chlorine	X-611E, X-6619, X-742	7,000 pounds
Hydrogen Fluoride	X-342A	5,000 pounds
DUF_6 Conversion Plant		
UF_6	X-745C, X-745E, X-745G-1	
Depleted UF_6	X-1300, X-1745A	630,000 kg
Hydrogen Fluoride	X-1300, X-1305, rail cars, tank trucks	681,000 kg
Uranium Oxide	X-1300, X-1745C	560,000 kg
Lead Cascade		
UF_6	X-3001	250 kg

Table 1-3. Summary of Continuous Monitored Stack and Vent Characteristics

LOCATION	DIMENSIONS			FLOW RATES			Control Device Efficiency
	I.D.* (in.)	Height (ft.)					
		Above Roof	Above Ground	Vol. (ACFM)	Vel. (Ft./Min.)	Monthly Vol. (SCF)[a]	Percent (%)
X-326 Top Purge Vent (X-326-P-2799)[b]	5	103	165	379	2779	1.47E+07	99.99
X-326 Side Purge (X-326-P-2798)[b]	5	103	165	626	4588	2.46E+07	99.99
X-326 E-Jet (X-326-P-616)[b]	5	103	165	869	6372	3.54E+07	99.99
X-330 Cold Recovery Vent (X-330-P-272)	4	12	78	415	4753	1.57E+07	90
X-333 Cold Recovery Vent (X-333-P-852)	3	15	97	429	8746	1.50E+07	99
X-333 Building Evacuation Vent (X-333-P-856)	4	15	97	917	10,508	2.27E+06	90
X-333 Seal Exhaust System Area 1 (X-333-A-851)	6	6	72	58	293	2.20E+06	99
X-330 Seal Exhaust System Area 2 (X-330A-262)	4	6	72	37	424	1.71E+06	99
X-330 Seal Exhaust System Area 3 (X-330-A-279)	4	6	72	30	347	1.22E+06	99
X-326 Seal Exhaust System Area 4 (X-326-A-512)	8	6	72	30	87	1.22E+06	99
X-326 Seal Exhaust System Area 5 (X-326-A-528)	8	6	72	27	77	1.35E+06	99
X-326 Seal Exhaust System Area 6 (X-326-A-540)	8	6	72	29	83	1.20E+06	99
X-343 Cold Trap Operations Vent (X-343-P-964)	3	68	110	51	1033	2.19E+06	99
X-344 Cold Trap Operations Vent (X-344-P-3103)	3	12	58	51	1033	2.19E+06	99
X-344 Gulper (X-344-P-929)	16	8	58	450	322	2.81E+06	99
X-3001 Process Vent (X-3001-A-3111)[c]	4	11.5	97.5	296	3394	1.30E+07	95

* I.D. represents inside diameter.

[a] Monthly volumes are based on an average of data from 1992 to 1994.
[b] These three vents physically discharge through four interconnected pipes of the listed dimensions.
[c] This vent is regulated under the NRC License issued under 10 CFR 70.

Table 1-4
Lead Cascade Possession Limits

Type of Material	Atomic Number	Physical State	Chemical Form	Possession Limit	Description
A. Source Material	92	Solid and Gas	UF_6, UF_4, UO_2F_2, oxides, and other compounds	250 kg UF_6 169 kg U	Uranium (including natural and depleted) and daughter products and process contaminants and wastes
B. Special Nuclear Material[a]	92	Solid and gas	UF_6, UF_4, UO_2F_2, oxides, metal, and other compounds	700 g ^{235}U	Uranium enriched in isotope 235 up to 10 percent by weight, uranium daughter products and process contaminants and wastes, to include: (1) instrument calibration and check sources, or (2) material that may be in process and/or held up in facilities and equipment from Lead Cascade operations
	94	Sealed source		0.5 Ci	Instrument calibration sources, NDA

[a] See 10 CFR Part 70 definitions. Special nuclear material means: (1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 5l of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.

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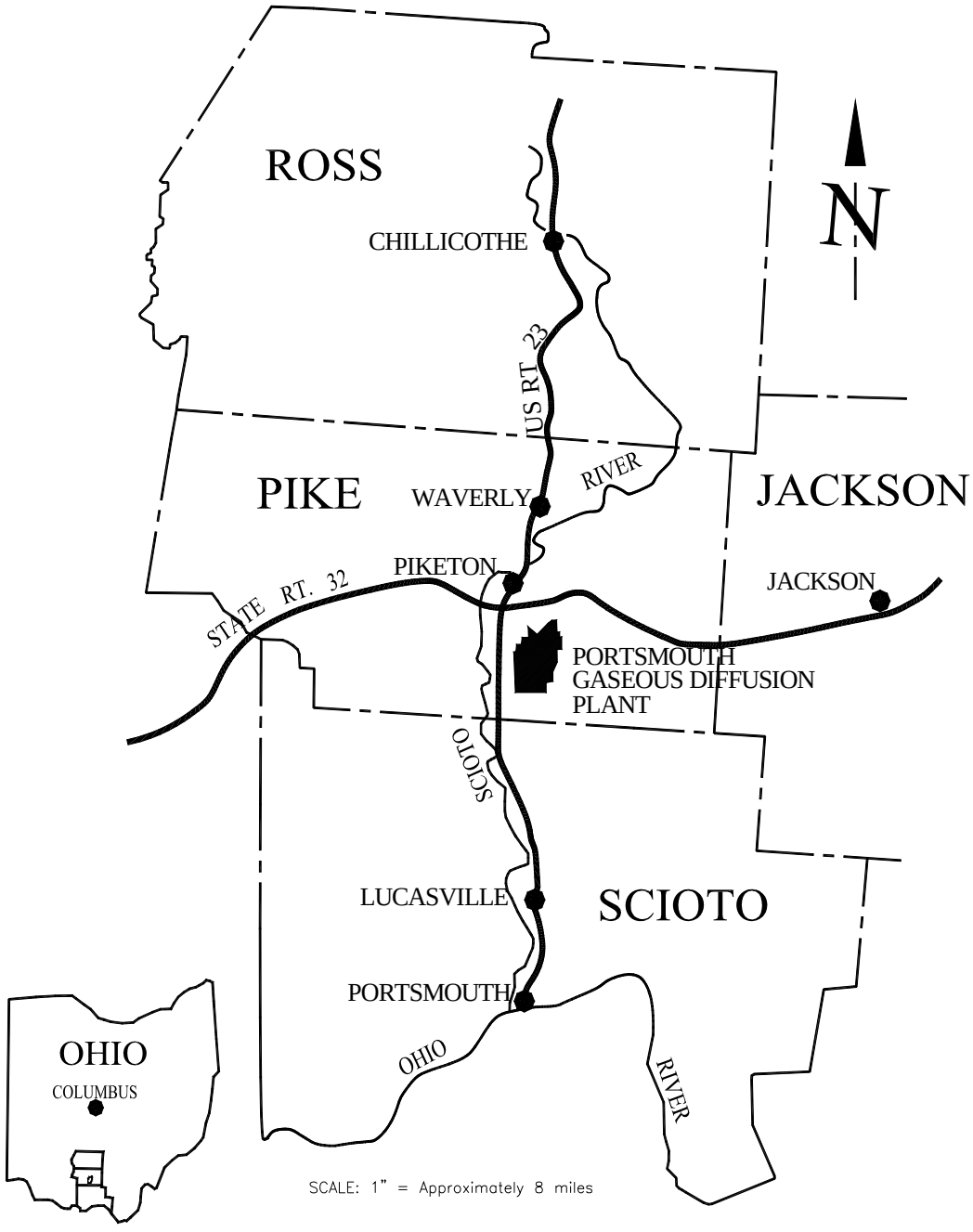

Figure 1-1. Regional area surrounding PORTS.

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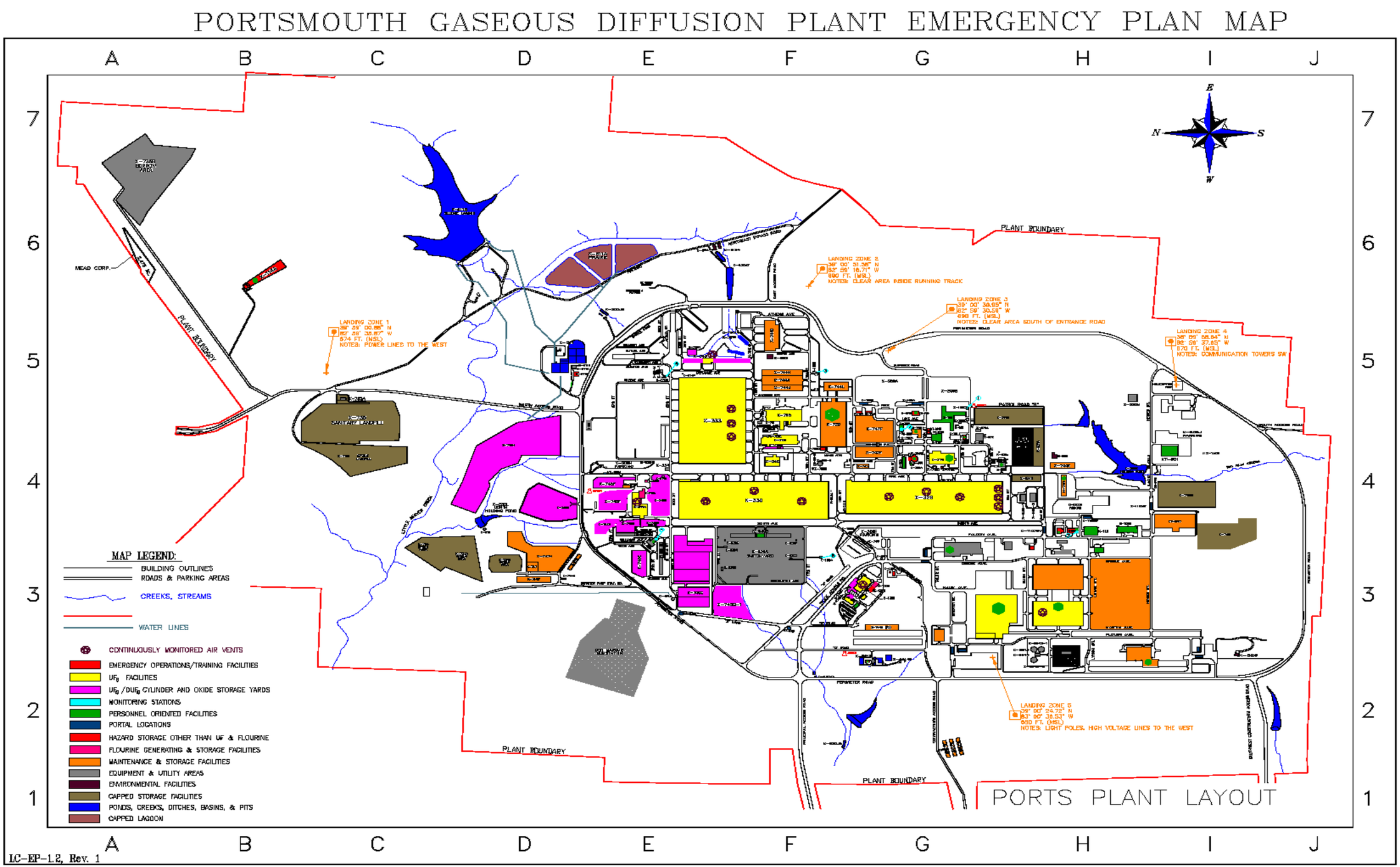


Figure 1-2 PORTS Plant Layout

PORTSMOUTH GASEOUS DIFFUSION PLANT EMERGENCY PLAN MAP INDEX

FAC #	FAC DESCRIPTION	NT	GL	LS
X-100	ADMINISTRATION BLDG		G5	L
X-100B	AIR CONDITIONING EQUIP BLDG		G4	L
~~X-101~~	~~HEALTH SERVICES~~		~~G4~~	~~L~~
X-102	CAFETERIA		G4	L
X-103	AUX OFFICE BLDG		G4	R
X-104	GUARD HEADQUARTERS		G5	L
X-104A	INDOOR FIRING RANGE		G5	L
XT-104B	PROTECTIVE FORCES OPERATIONS		G4	U
XT-104C	PROTECTIVE FORCES SHOWER/LOCKER		G4	U
X-106	TACTICAL RESPONSE BLDG		G4	L
X-106C	NEW FIRE TRAINING BLDG		G3	L
X-108A	S PORTAL & SHELTER		G5	L
X-108B	N PORTAL & SHELTER		G5	L
X-108E	CONSTRUCTION PORTAL		F4	L
X-108H	PIKE AVE PORTAL		E4	L
X-108M	SECURITY PORTAL		E3	R
X-108N	SECURITY PORTAL		E4	R
X-108P	SECURITY PORTAL		F3	R
X-109A	PERSONNEL MONITORING STA		F3	L
X-109B	PERSONNEL MONITORING STA		F5	L
X-109C	PERSONNEL MONITORING STA		G5	L
X-111A	SNM MONITORING PORTAL (X-326)		G4	R
X-111B	SNM MONITORING PORTAL (NW X-326)		F4	R
X-112	DATA PROCESSING BLDG		H4	L
X-114A	OUTDOOR FIRING RANGE		B6	L
X-120H	NEW WEATHER STA		I4	L
X-206A	N MAIN PARKING LOT		G5	L
X-206B	S MAIN PARKING LOT		G5	L
X-206E	CONSTRUCTION PARKING LOT		G4	L
X-206H	PIKE AVE PARKING LOT		E4	L
X-206J	S OFFICE PARKING LOT		I4	L
X-230J-2	S HOLDING POND EFFLUENT MONITORING STA		I4	L
X-230J-3	W ENVIR MONITORING STA		F2	L
X-230J-5	W HOLDING POND & ENVIR SAMPLING BLDG		F2	L
X-230J-6	NE HOLDING POND & MONITORING STA		E6	L
X-230J-7	E HOLDING POND & MONITORING STA		F6	L
~~X-230J-9~~	~~N ENVIR SAMPLING STA~~		~~G3~~	~~R~~
X-230K	S HOLDING POND		H4	L
X-230L	N HOLDING POND		D4	L
X-230M	CLEAN SITE NE OF XT-801		H5	R
X-231A	SE OIL BIODEGRADATION PLOT		H4	R
X-231B	SW OIL BIODEGRADATION PLOT		H4	R
X-300	PLANT CONTROL FAC		G4	L
X-300A	PROCESS MONITORING BLDG		G4	L
X-300B	PLANT CONTROL FAC CARPORT		G4	L
X-326	PROCESS BLDG		G4	R
X-326L	L-CAGE, L-CAGE GLOVE BOX & STORAGE AREA		G4	R
X-330	PROCESS BLDG		F4	R
X-333	PROCESS BLDG		E5	R
X-334	TRANSFORMER CLEANING BLDG		E4	R
X-342A	FEED, VAPORIZATION & FLUORINE GENERATION BLDG		E4	R
X-342B	FLUORINE STORAGE BLDG		E4	R
X-343	FEED, VAPORIZATION & SAMPLING BLDG.		E5	R
X-343A	SECURITY PORTAL		G4	U
X-344A	UF6 SAMPLING FAC		E4	R
X-344B	MAINTENANCE STORAGE BLDG		E4	R
X-345	SNM STORAGE BLDG		F4	R
X-501	SUBSTATION		G4	L
X-501A	SUBSTATION		G4	L
X-502	SUBSTATION		G4	L
X-530A	SWITCH YARD		F3	L
X-530B	SWITCH HOUSE		F4	L
X-530C	TEST & REPAIR BLDG		F3	L
X-530D	OIL HOUSE		F3	L
X-530E	VALVE HOUSE		F3	L
X-530F	VALVE HOUSE		F3	L
X-530G	GCEP OIL PUMPING STA		F3	L
~~X-533~~	~~TRANSFORMER STORAGE PAD~~		~~E4~~	~~R~~
~~X-533A~~	~~SWITCH YARD~~		~~E4~~	~~R~~
~~X-533B~~	~~SWITCH HOUSE~~		~~E5~~	~~R~~
~~X-533C~~	~~TEST & REPAIR BLDG~~		~~E5~~	~~R~~
~~X-533D~~	~~OIL HOUSE~~		~~E4~~	~~R~~
~~X-533E~~	~~VALVE HOUSE~~		~~E5~~	~~R~~
~~X-533F~~	~~VALVE HOUSE~~		~~E4~~	~~R~~
~~X-533H~~	~~MONITORING STATION #4~~		~~E5~~	~~L~~
~~X-533J~~	~~GAS RECLAIMING CART GARAGE~~		~~E5~~	~~R~~
X-540	TELEPHONE BLDG		G4	L
X-600	STEAM PLANT FAC		H4	L
X-600A	COAL PILE YARD		H4	L
X-600B	STEAM PLANT SHOP		G4	L
X-600C	ASH WASH TREATMENT BLDG		H4	L

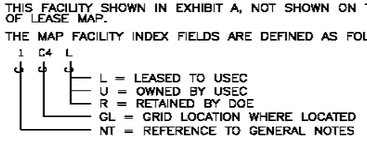
FAC #	FAC DESCRIPTION	NT	GL	LS
~~X-605H~~	~~BOOSTER PUMP HOUSE & FAC~~		~~C3~~	~~L~~
~~X-605I~~	~~CHLORINATOR BLDG~~		~~C3~~	~~L~~
~~X-605J~~	~~DIESEL GENERATOR BLDG~~		~~C3~~	~~L~~
X-611	WATER TREATMENT PLANT		D5	L
X-611A	PRAIRIE		E6	R
X-611B	SLUDGE LAGOON		D6	L
X-611C	FILTER BLDG		D5	L
X-611D	RECARBONIZATION INSTRUMENT BLDG		D5	L
X-611E	CLEARWELL & CHLORINE BLDG		D5	L
X-612	ELEVATED WATER TANK		E3	L
X-614A	SEWAGE PUMPING STA		F4	L
X-614B	SEWAGE LIFT STA		E4	L
X-614D	S SEWAGE LIFT STA		I4	L
X-614P	NE SEWAGE LIFT STA		E5	L
X-614Q	SEWAGE BOOSTER PUMP STATION		G4	L
X-617	S HOLDING POND & PH CONTROL FAC		I4	L
X-618	N HOLDING POND STORAGE BLDG		D4	L
X-621	COAL PILE RUNOFF TREATMENT FAC		H4	L
X-622	S GROUNDWATER TREATMENT BLDG		H4	R
X-623	N GROUNDWATER TREATMENT BLDG		F5	R
X-624	LITTLE BEAVER GROUNDWATER TREATMENT FAC		E6	R
X-624-1	LITTLE BEAVER GROUNDWATER TREATMENT DECONTAMINATION PAD		E6	R
X-625	PILOT SCALE TREATMENT FAC		I3	R
X-626-1	RECIRCULATING WATER PUMP HOUSE		H4	R
X-626-2	COOLING TOWER		H4	R
X-627	GROUNDWATER TREATMENT FACILITY		F4	R
X-630-1	RECIRCULATING WATER PUMP HOUSE		E3	R
X-630-2A	COOLING TOWER		E4	R
X-630-2B	COOLING TOWER		E3	R
~~X-633-1~~	~~RECIRCULATING WATER PUMP HOUSE~~		~~E5~~	~~R~~
~~X-633-2A~~	~~COOLING TOWER~~		~~E5~~	~~R~~
~~X-633-2B~~	~~COOLING TOWER~~		~~E5~~	~~R~~
~~X-633-2C~~	~~COOLING TOWER~~		~~E5~~	~~R~~
~~X-633-2D~~	~~COOLING TOWER~~		~~E5~~	~~R~~
X-640-1	FIRE WATER PUMP HOUSE		E5	L
X-640-2	ELEVATED WATER TANK		F4	L
X-640-1A	FIRE WATER PUMP HOUSE SUBSTATION		E5	L
X-640-2A	ELEVATED WATER TANK AUX. BLDG.		F4	L
X-670	DRY AIR PLANT		G4	L
X-670A	COOLING TOWER		G4	L
X-675	PLANT NITROGEN STATION		G4	L
X-680	BLOWDOWN SAMPLE & TREATMENT BLDG.		G3	L
X-700	CONVERTER SHOP & CLEANING BLDG		F5	L
X-700A	AIR CONDITIONING EQUIP BLDG		F5	L
X-701B	HOLDING POND (DRAINED)		F5	R
X-701E	NEUTRALIZATION BLDG		F5	R
X-705	DECONTAMINATION BLDG		F4	L
X-705D	HEATING BOOSTER PUMP BLDG		F4	L
X-705E	OXIDE CONVERSION AREA		E4	R
X-710	TECHNICAL SERVICES BLDG		G4	L
X-710A	TECHNICAL SERVICES GAS MANIFOLD SHED		G4	L
X-710B	EXPLOSION TEST FAC		G4	L
X-720	MAINTENANCE & STORES BLDG		F4	L
X-720B	RADIO BASE STA BLDG		F4	L
X-720C	PAINT & OIL STORAGE BLDG		F4	L
X-721	RADIATION INSTRUMENT CALIBRATION FAC		F4	L
X-734	OLD SANITARY LANDFILL		B4	R
X-734A	CONSTRUCTION SPOILS DISPOSAL AREA		C3	R
X-734B	CONSTRUCTION SPOILS DISPOSAL AREA		D3	R
X-735	SANITARY LANDFILL		C5	R
X-735A	LANDFILL UTILITY BLDG		C5	R
X-735B	BORROW AREA		A7	R
X-736	W CONSTRUCTION SPOILS LANDFILL		C4	R
X-741	OIL DRUM STORAGE FAC		F5	L
X-742	GAS CYLINDER STORAGE FAC		G5	L
X-743	LUMBER STORAGE SHED		G4	L
X-744B	SALT STORAGE SHED		D3	L
X-744G	BULK STORAGE BLDG		F5	R
X-744H	BULK STORAGE BLDG		F5	L
X-744J	BULK STORAGE BLDG		F5	L
X-744K	WAREHOUSE K		H4	R
X-744L	STORES & MAINTENANCE BLDG		F5	L
X-744N	WAREHOUSE N NON UEA		G2	R
X-744P	WAREHOUSE P NON UEA		G2	R
X-744Q	WAREHOUSE Q NON UEA		G2	R
X-744S	WAREHOUSE S NON UEA		G3	R
X-744W	SURPLUS & SALVAGE BLDG		D3	L

FAC #	FAC DESCRIPTION	NT	GL	LS
X-744Y	WASTE STORAGE YARD		E3	R
X-745B	TOLL ENRICHMENT PROCESS GAS YARD		E4	L
X-745C	W DU6 STORAGE YARD		E3	R
X-745D	CYLINDER STORAGE YARD		E5	R
X-745E	NW DU6 STORAGE YARD		E3	R
X-745F	N PROCESS GAS STOCKPILE YARD		E4	L
X-745G	CYLINDER STORAGE YARD		D4	L
X-745G-1	CYLINDER STORAGE YARD		E3	R
X-745H	CYLINDER STORAGE YARD		D4	L
X-747	CLEAN SCRAP YARD		D3	L
X-747A	MATERIAL STORAGE YARD		G4	L
X-747B	MATERIAL STORAGE YARD		G4	L
X-747C	MATERIAL STORAGE YARD		E5	L
X-747D	MATERIAL STORAGE YARD		E5	L
X-747E	MATERIAL STORAGE YARD		E5	L
X-747F	MISCELLANEOUS MATERIAL STORAGE YARD		F5	L
X-747H	NW CONTAMINATED SCRAP YARD		D3	R
X-748	TRUCK SCALE FAC		G3	R
X-749	S CONTAMINATED MATERIAL STORAGE YARD (CAPPED)		I4	R
X-749A	S CLASSIFIED BURIAL YARD (CAPPED)		H5	R
X-749B	PETER KIEWIT LANDFILL (CAPPED)		I4	R
X-750	MOBILE EQUIP MAINTENANCE GARAGE		G4	L
X-750A	GARAGE STORAGE BLDG		G4	L
X-751	GCEP MOBILE EQUIP GARAGE		F3	R
X-752	WAREHOUSE		D3	R
~~X-760~~	~~CHEMICAL ENGINEERING BLDG~~		~~G4~~	~~R~~
X-1000	ADMINISTRATION BLDG		H4	L
X-1007	FIRE STA		H4	L
X-1020	EMERGENCY OPERATIONS CENTER (EOC)		H4	L
X-1300	DUF6 CONVERSION BUILDING		F3	R
X-1305	HYDROGEN FLUORIDE STORAGE TANK AREA		F3	R
X-1320	POTASSIUM HYDROXIDE REGENERATION BUILDING		F3	R
X-1745A	FULL CYLINDER STORAGE AREA		F3	R
X-1745C	OXIDE CYLINDER STORAGE AREA		FE	R
X-6613	SANITARY WATER STORAGE TANK		H3	L
X-6614E	SEWAGE LIFT STA		G2	L
X-6614G	SEWAGE LIFT STA	3		L
X-6614H	SEWAGE LIFT STA	3		L
X-6614J	SEWAGE LIFT STA	3		L
X-6619	SEWAGE TREATMENT PLANT		G2	L
X-6643-1	FIRE WATER STORAGE TANK #1		H3	L
X-6643-2	FIRE WATER STORAGE TANK #2		H2	L
X-6644	FIRE WATER PUMP HOUSE		H3	L
X-7721	MAINTENANCE, STORES & TRAINING BLDG		G3	L
XT-801	S OFFICE BLDG		I4	L
XT-847	WAREHOUSE		I4	L

Z-SWMU-QUAD-IV	SOUTHERN END OF RAILROAD SPUR WHICH IS USED AS DRUM STORAGE AREA
Z-SWMU-QUAD-IV	CHEMICAL & PETROLEUM CONTAINMENT TANKS E OF X-533C
Z-SWMU-X-701	NE OIL BIODEGRADATION PLOT AREA WHICH WAS FORMERLY USED FOR THE DISPOSAL OF X-615 SLUDGE
Z-SWMU-X-710	INACTIVE "HOT PIT" IN THE AREA OF X-710 THAT WAS ONCE USED FOR THE STORAGE OF RADIOACTIVE WASTEWATER
Z-SWMU-X-744	RETRIEVABLE WASTE STORAGE AREA
Z-SWMU-XXXX	SOLID WASTE MANAGEMENT UNITS AS IDENTIFIED ON PORTSMOUTH ENVIR INFORMATION MANAGEMENT SYSTEM DRAWING, PRINTED 2/9/93

GENERAL NOTES

1. THE COMMON AREA LEASED BOUNDARY ASSOCIATED WITH DITCHES, CREEKS, AND WATERWAYS (EXCEPT PONDS) IS DEFINED AS 100 FOOT PARALLEL TO THE CENTERLINE OF THE WATER EACH DIRECTION, EXCEPT WHERE THE BOUNDARY HAS BEEN DEFINED BY A ROADWAY OR OTHER PHYSICAL BOUNDARY.
2. THE COMMON AREA LEASED BOUNDARY ASSOCIATED WITH PONDS IS DEFINED 100 FOOT PARALLEL FROM TOP OF POND BANK, EXCEPT WHERE THE BOUNDARY HAS BEEN DEFINED BY A ROADWAY OR OTHER PHYSICAL BOUNDARY.
3. THIS FACILITY SHOWN IN EXHIBIT A, NOT SHOWN ON THIS REVISION OF OF LEASE MAP.
4. THE MAP FACILITY INDEX FIELDS ARE DEFINED AS FOLLOWS BELOW:



ABBREVIATION LEGEND

AOC = AREA OF CONTAMINATION	GL = GRID LOCATION
AUX = AUXILIARY	LS = LEASE STATUS
AVE = AVENUE	N = NORTH
BLDG = BUILDING	NT = NOTE
E = EAST	S = SOUTH
ENVIR = ENVIRONMENTAL	STA = STATION
EQUIP = EQUIPMENT	SWMU = SOLID WASTE MANAGEMENT UNIT
FAC = FACILITY	W = WEST

◇ MONITORING STATIONS

NO.	LOCATION	PHONE
1.	X-109C TRAILER SOUTHEAST OF X-100	2238
2.	X-106 TRT STATION	5956
3.	X-109B FRAME BUILDING EAST OF X-106	2535
4.	X-533H TRAILER – WEST SIDE OF X-640-1	4183
5.	X-630 PUMPHOUSE – INSIDE NORTH END	4185
6.	X-109A SOUTH OF X-530 SWITCHYARD	4122
7.	X-1007 FIRE STATION	5611

A PA/SIREN LOCATIONS

NO.	LOCATION
1.	SOUTH OF X-100
2.	NORTH SIDE OF X-745F
3.	NORTH EAST OF X-6619

PORTS PLANT LAYOUT INDEX

LC-EP F1.2a, Rev.1

Figure 1-2a PORTS Plant Layout Index

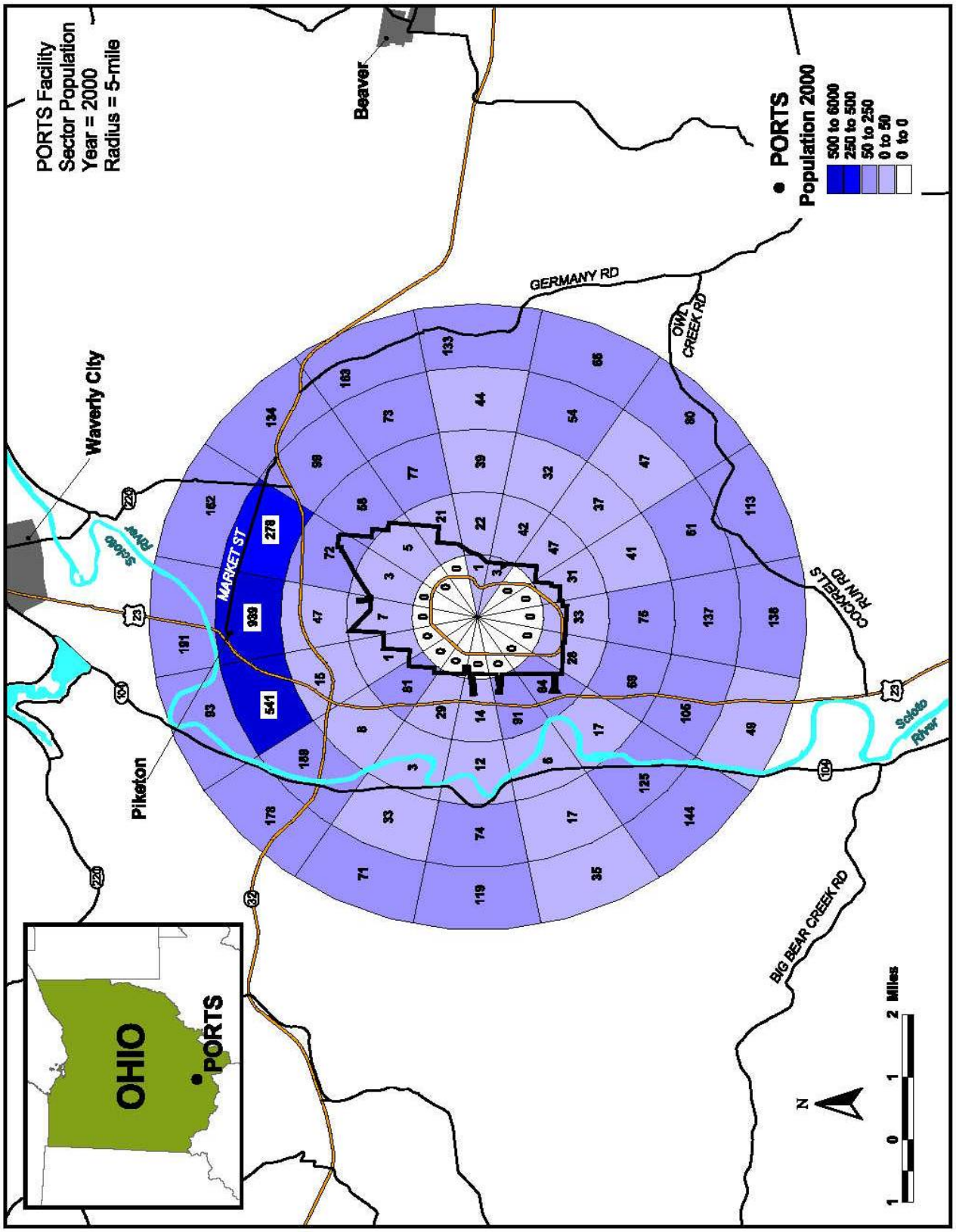


Figure 1-3. Population distribution around PORTS.

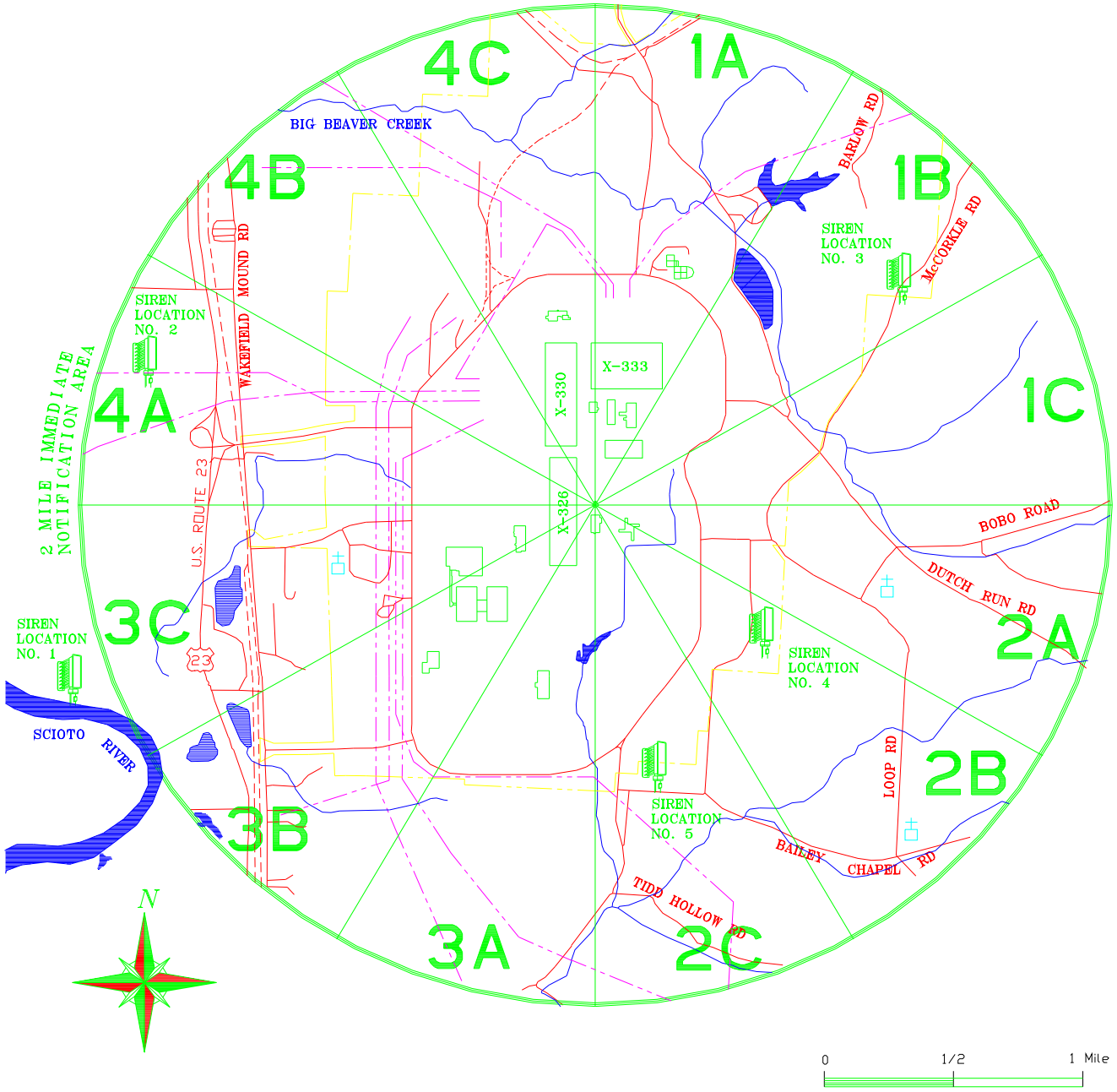


Figure 1-4. Immediate notification area.

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Copies of this oversized figure were provided separately
by USEC letter GDP 95-0010 dated September 15, 1995

Figure 1-5. U.S. Geological Survey Topographical Map.

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2. TYPES OF ACCIDENTS AND OTHER EMERGENCIES

2.1 FUEF DOE-REGULATED OPERATIONS

Hazards and consequence analyses reflected in FUEF Basis for Interim Operation (BIO) and supporting analysis, PHAs, and Emergency Planning Hazard Assessments and in the DOE Documented Safety Analyses and hazard assessments for the DUF_6 Conversion Plant and for the Category 2 Non-leased Facilities form the basis for emergency preparedness planning.

This Plan is based upon an evaluation of the risks associated with various accident scenarios identified in the site-specific hazards analyses for PORTS and other potential emergency situations at PORTS. Those analyses concluded that the most extreme credible scenario would be an accident involving a large UF_6 release. The analyses included consideration of the risks associated with the potential release of other hazardous radioactive and non-radioactive materials stored or used onsite. These other hazardous materials are identified in the Material Safety Data Sheets (MSDS), the chemical inventory, information from the Safeguards and Security Plan, the Spill Contingency, Control, and Countermeasures Plan, and Hazardous Waste Contingency Plans.

Due to the small quantity of licensed material ($\leq$ 250 kg UF_6), the consequences of any Lead Cascade accident postulated in the Integrated Safety Analysis would be minor when compared to the postulated accidents at the FUEF. Therefore, postulated accidents addressed in the PORTS Emergency Plan bound identified Lead Cascade accidents.

Each type of credible accident or event that could result in an emergency associated with these hazards has been identified and analyzed to assess the potential consequences to plant workers, the public, the environment, and onsite and offsite property.

This plan is applicable to radiological and non-radiological accidents or other emergencies that could occur at the site, including the following:

1. Hazardous materials (HAZMAT) releases involving toxic or radioactive materials;
2. Equipment failures and industrial accidents;
3. Natural phenomena, such as tornadoes and earthquakes, and fires; and
4. Security-related events, such as bomb threats and civil disturbances.

2.1.1. Description of Postulated Accidents and Other Emergencies

Various hazardous materials are used or stored at the site. Accidents involving the release of these materials could require an emergency response. Fires, a nuclear criticality event, or severe natural phenomena could also require an emergency declaration and/or response.

It should be noted that other events that do not meet the criteria for classification as an emergency under this Plan may also require reporting to Federal, State, and local agencies, require time-urgent mitigation efforts, or possibly impact plant operations. Examples of these types of events include certain equipment failures or industrial accidents and loss of power, steam, process water, or compressed air to certain areas of the site.

The following sections contain brief descriptions of each type of accident and other events that could be classified as potential emergencies under the Plan, based upon the hazards analyses.

2.1.1.1 Nuclear Criticality Event

Based on the safe operating history of the gaseous diffusion plant, a nuclear criticality event at the FUEF is very unlikely. In case of a criticality event, detectors and alarm systems are in place in the gaseous diffusion plant as described in Chapter 6 of the BIO. The consequences of an inadvertent criticality event are likely to be limited to a localized region. Because criticality produces primarily local radiation effects, the expected consequences are limited to the onsite workers with no offsite effects to the public health and safety. No significant fission product release and transport are anticipated from an inadvertent criticality event.

2.1.1.2 Uranium Hexafluoride (UF_6) Release

When UF_6 reacts with moisture in the air, the resulting hydrolysis produces uranyl fluoride particles and hydrogen fluoride (HF) gas. The radiotoxicity of uranium is insignificant when compared with its chemical toxicity. Radiation doses received by persons at the DOE reservation boundary due to a UF_6 release would also be insignificant.

2.1.1.2.1 Liquid Cylinder Rupture

The dropping and rupturing of a UF_6 liquid cylinder could result in a significant onsite and offsite hazard. Historical evidence indicates that an incident involving the rupture of a liquid 14-ton UF_6 cylinder could release UF_6 into the atmosphere. In the worst-case scenario, serious injuries or fatalities could occur onsite to the reservation boundary and beyond. Sheltering citizens in the path of the plume would greatly mitigate the consequences.

2.1.1.3 Nitric Acid (HNO_3) Release

Nitric acid stored in the X-705 and X-720 areas is used for miscellaneous chemical operations and maintenance activities. Because of the volatility and corrosive nature of the material, releases could result in personal injuries or fatalities onsite, but would pose no hazard to offsite populations.

2.1.1.4 Fluorine (F_2) Release

Fluorine generated from Hydrogen Fluoride gas in the X-342A is pumped to storage tanks in the X-342B facility. Fluorine is used to pacify metal surfaces prior to exposure to UF_6 and for cell treatment on an as-needed basis. Because fluorine is an extreme irritant and readily combines with water vapor to form HF, releases could result in personal injuries or fatalities onsite. However, because of the small quantities of material available for releases, no hazards are projected to offsite populations.

2.1.1.5 Chlorine (Cl_2) Release

Chlorine is used in water and wastewater treatment. Chlorine is located at the water treatment plant (X-611E) in 1-ton cylinders and at the sewage treatment plant (X-6619) in 150 pound cylinders, and in X-742 in 150 pound cylinders. A cylinder or valve rupture could release Cl_2 gas and in a worst-case scenario the resulting plume could be carried offsite. Unprotected on- and offsite personnel could experience serious injuries or fatalities. Sheltering citizens in the path of the plume would greatly mitigate the consequences.

2.1.1.6 Hydrogen Fluoride (HF) Release

Hydrogen fluoride is stored in the X-342A area. Releases could result in on- and offsite fatalities or serious injuries. Possible releases could be attributed to valve failure, pigtail failure, vessel failure, or temperature/pressure control failure.

2.1.1.7 Chlorine Trifluoride (ClF_3) Release

ClF_3 stored in cylinders and drums in the X-330 process building and the X-742 could be released if containment is lost (e.g., due to a valve break). Dispersion estimates indicate this release could result in an offsite hazard. Sheltering citizens in the path of the plume would greatly mitigate the consequences. Fatalities or serious injuries could be experienced in an unprotected onsite population.

2.1.1.8 Other Nonradioactive Hazardous Material Releases

Other nonradioactive hazardous material releases from offsite sources may pose a threat to the safety of personnel and impact plant operations and activities. In addition, hazardous material releases from onsite and offsite transportation activities may pose a threat to the safety of personnel and impact plant operations and activities.

2.1.1.9 Natural Phenomena and Fire

Natural phenomena, such as earthquakes, tornadoes, severe storms, and fires may cause varying degrees of damage to the plant. In themselves, these types of events may disrupt or threaten plant operations sufficiently to warrant the declaration of an emergency. These types of events may result in a nuclear criticality or hazardous material release as described earlier in this section.

2.1.1.10 Security-Related Events

Security-related events, such as bomb threats, civil disturbances, extortion, and hostage taking, could also result in personal injuries or fatalities to on- and offsite personnel.

2.1.2 Detection of Accidents and Other Emergencies

Personnel, located in building X-300, monitor, coordinate, and/or control critical plant processes, power distribution, utilities, communications, plant alarm systems, and emergency operations.

Each process building has an area control room (ACR), which permits operators to monitor any operating process equipment, make changes in operations, and take corrective action to mitigate abnormal operating conditions.

Systems are designed to ensure that the consequences of a major malfunction are mitigated prior to any adverse effect on the plant population and the general public. These include UF_6 detection equipment and associated alarms, a criticality accident alarm system (CAAS), automatic sprinkler systems, various chemical detectors, and other alarm systems. Alarm systems are under continuous observation by operations personnel stationed locally, in the ACRs, and in the PCF, and are tested in accordance with plant programs and procedures.

The Lead Cascade is small in area and is manned on a continuous basis while UF_6 is present in the system. UF_6 leak detection and criticality accident detection instrumentation is not utilized in the Lead Cascade. Therefore, abnormal operating conditions and accidents are identified by human observation and reported accordingly.

Descriptions of the various alarms and detection methods for the hazards that have been analyzed follow.

2.1.2.1 Nuclear Criticality

Plant analyses show the risk associated with inadvertent criticality is extremely low. Analyses of possible criticality incidents reveal that both a fast-burst type reaction and a low-power incident have little effect on personnel except those in the immediate vicinity of the incident.

Criticality alarms are installed in facilities containing fissile material as described in Section 2.6 and Chapter 6 of the BIO. The criticality detection system consists of locator clusters and an alarm system. When a criticality accident alarm activates, a radiation alarm is generated actuating building local horns and lights as well as audible and visual alarms in the PCF. Alarm activation requires evacuation of personnel from the affected area to a designated monitoring station that is located a safe distance from the area. On the basis of the alarmed location, the PSS or designee can direct the actions necessary to respond to the accident.

2.1.2.2 Uranium Hexafluoride (UF_6)

Since the enrichment process is shutdown, there is no potential for a large UF_6 release from the enrichment process. When operating UF_6 release detectors in withdrawal and toll enrichment areas provide both alarm actuation and system isolation capability. A system may be isolated by automatic shutdown, automatic valve closing, or automatic valve opening.

Upon a UF_6 detection system actuation, audible and visual alarms located locally and in the ACR and PCF alert operators to take appropriate response measures delineated by plant policy. Another means of detecting UF_6 releases is by physical operator observation and normal visual or smell senses.

Emergency response measures for a UF_6 release incident classified as an emergency are provided in Section 5.

2.1.2.3 Other Toxic Chemical Releases

Detection equipment and/or chemical release alarms for various toxic chemicals in the plant have been installed at strategic locations where the appropriate chemicals are present. As in a UF_6 release, if an operator is in the immediate vicinity of a chemical release, the operator should detect the release by sight or smell. Upon recognition or detection of a release, the release is reported immediately to fire services and the PSS or designee. Both fire services and the PSS respond simultaneously to the incident area upon receiving an indication of a chemical release. Section 5 describes emergency response measures in detail, including onsite and offsite protective actions.

2.1.2.4 Natural Phenomena and Fire

2.1.2.4.1 Fire

An extensive fire protection system is installed throughout the plant site, primarily consisting of automatic sprinkler systems and fire alarms as described in Section 2.6 and Chapter 11 of the BIO. Upon actuation of a sprinkler system, affected ACR and PCF operators in the gaseous diffusion plant receive a visual and audible fire alarm for the specific building area. Lead Cascade alarms are received in the alarm receiving area in the X-1007 Fire Station. Alarm announcement is not local, but a building evacuation system can be manually initiated from the Lead Cascade ACR and X-300 PCF. The actuation of a fire alarm reported to the PSS requires the activation and response of onsite field Emergency Response Organization (ERO) personnel.

2.1.2.4.2 Earthquake

PORTS has digital strong motion accelerographs located in the X-300 facility for detecting earthquake-type movements. The strong motion accelerograph units are electronically connected in such a way that if one is triggered, all will start recording. Activation of the seismic detection system alarms an audible and visual annunciation in the PCF to alert the X-300 plant personnel that an earthquake has occurred. Section 5 describes emergency response measures in detail, including onsite and offsite protective actions.

2.1.2.4.3 Tornadoes/Strong Winds

Like earthquakes, tornadoes can produce multiple emergency categories and emergency action levels due to the great amount of energy that is released. Personnel injury, building and facility damage, hazardous material releases, or electrical hazards can be expected, depending upon the location of touchdown and width/path of the tornado. If a tornado watch is issued, the PCF is automatically notified by the National Weather Service (NWS). Upon receiving a tornado watch, a public address (PA) announcement is made. Monitoring of communications and warning systems is increased during a tornado watch.

When the NWS issues a tornado warning or a tornado is sighted, announcements are made to plant personnel through the plant PA system and other communication devices directing the plant personnel to take appropriate protective response actions in accordance with plant implementing procedures.

Strong downbursts of wind are more likely to occur than tornadoes. An intense downburst can produce straight-line damaging winds of up to 100 mph over a very limited area. Downbursts can occur in association with any severe thunderstorm. Tornadoes or strong winds may produce effects that would be classified as emergencies. Section 5 describes emergency response measures in detail, including onsite and offsite protective actions.

2.1.2.5 Security-Related Events

Security-related events will generally be detected by observation of the event by plant personnel, communication with individuals who initiated the event, or law enforcement agencies.

2.2 DOE-REGULATED NON-FUEF ACTIVITIES

2.2.1 Description of Postulated Accidents and Other Emergencies

2.2.1.1 DUF_6 Release

The DUF_6 Conversion Facility and the associated DUF_6 Cylinder Storage yards have postulated accidents that could result in the release of large quantities of DUF_6. When UF_6 reacts with moisture in the air, the resulting hydrolysis reaction produces uranyl fluoride particles and hydrogen fluoride (HF) gas. The radiotoxicity of uranium is insignificant when compared to its chemical toxicity. Radiation doses received by persons at the DOE reservation boundary due to a UF_6 release would be insignificant. However, the chemical toxicity effects could result in significant onsite and offsite hazards. In the worst-case scenario, serious injuries or fatalities could occur onsite to the reservation boundary and beyond. Sheltering citizens in the path of the plume would greatly mitigate the consequences.

2.2.1.2 Hydrogen Fluoride Release

Hydrogen Fluoride (HF) is produced, condensed, collected and stored as part of the conversion process; it is found primarily in the Conversion Building and the HF Storage Area and in railcars for offsite shipment. Releases could result in onsite and offsite injuries or fatalities. Sheltering citizens in the path of the plume would greatly mitigate the consequences.

2.2.1.3 Uranium Oxide Release

Uranium oxides are less chemically toxic than UF_6; however, the radiological hazard is greater. Based on analyses of consequences from potential releases, no hazards are projected to the offsite public.

2.2.1.4 Other Hazardous Material Releases

Other releases of hazardous materials may occur; however, they would not be expected to pose a hazard to the offsite public.

2.2.1.5 Natural Phenomena and Fire

Natural phenomena (such as earthquakes, tornadoes, severe storms) and fires may cause varying degrees of damage to the conversion plant. In themselves, these types of events may disrupt or threaten operations sufficiently to warrant the declaration of an emergency. These types of events may result in a hazardous material release as described earlier in this section.

2.2.1.6 Security-Related Events

Security-related events, such as bomb threats, civil disturbances, extortion and hostage taking could also result in personal injuries or fatalities to onsite and offsite personnel.

2.2.2 Detection of Accidents and Other Emergencies

Personnel, located in the Conversion Building Control Room, monitor, coordinate and control critical plant processes and to allow operators to take corrective action to prevent or mitigate abnormal operating conditions.

Systems are designed to ensure that the consequences of a major malfunction are mitigated prior to an adverse effect on the plant population and the general public. These include DUF_6 release detection equipment and alarms, HF release detection equipment and alarms, automatic sprinkler systems and alarms and other alarm systems. Alarm systems are under continuous observation by control room personnel.

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3. CLASSIFICATION AND NOTIFICATION OF ACCIDENTS AND OTHER EMERGENCIES

Significant emergencies are classified as either Alerts or Site Area Emergencies (SAEs). This classification system facilitates the notification process and the implementation of immediate response actions applicable to a specific emergency. This system also provides for upgrading or downgrading the response accordingly in the event of a change in the severity of the condition.

Emergency Action Levels (EALs) are used to determine whether any given accident or event rises to the level of an emergency and, if so, whether it should be classified as an Alert or SAE. These levels are used to give a relatively quick indication to the plant staff of the severity of an accident or event. The EALs provide the earliest possible indication of actual or potential emergency conditions. EALs associated with off site radiological or nonradioactive hazardous materials releases are based upon the U. S. Environmental Protection Agency's Protective Action Guides (PAGs), as summarized in EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, and the Emergency Response Planning Guides (ERPGs) established by the American Industrial Hygiene Association for extremely hazardous chemicals, Acute Exposure Guideline Levels (AEGLs) established by the USEPA, and the toxic endpoints established by the USEPA in 40 CFR Part 68, Appendix A. Additionally, examples from NRC Regulatory Guide 3.67, Appendix A, have been used to develop EALs. The plant emergency response organization determines the potential for reaching or exceeding the PAGs or ERPGs/toxic endpoints in the event of a radiological or non-radioactive hazardous materials release to the environment.

EALs associated with on-site radiological releases are based on the U.S. EPA PAGs. EALs associated with on-site non-radioactive releases are based on the initial isolation and protective action distances as defined in the current edition of the U.S. Department of Transportation (DOT) North American Emergency Response Guidebook, and on the AEGLs/ERPGs/toxic endpoints. The plant emergency response organization determines when an on-site radiological or non-radioactive hazardous materials release to the environment reaches or exceeds the PAGs or the DOT initial isolation and protective action distances.

EALs may be symptom-based or event-based. However, the nature of plant operations and instrumentation generally precludes symptom-based EALs. Developed EALs are provided in an EPIP.

3.1 CLASSIFICATION SYSTEM

The classification system is based on the requirements of 10 CFR 70.22(i)(3). A single emergency classification system is in place at PORTS. The Portsmouth DOE Site Office has an exemption, to implement the NRC emergency classification system indefinitely, as long as NRC-regulated activities are in operation on-site.

3.1.1 Alert

An Alert is defined as an incident that has led or could lead to a release to the environment of radioactive or other hazardous material. Such a release is not expected to require a response by an offsite response organization to protect the general public offsite.

An Alert involves an emergency situation that could have a direct effect on the health and safety of plant personnel. The ERO is activated and key offsite authorities are notified. An Alert also addresses limited releases of radioactive or hazardous material and therefore might require some onsite monitoring and assessment actions by the plant ERO.

An Alert ensures that emergency personnel are readily available to respond to a change in plant conditions and to provide assessment support as required. An incident classified as an Alert may require offsite emergency support organizations to respond to an onsite emergency, such as a fire or security-related event. Declaration of an Alert will ensure that appropriate onsite and offsite personnel are properly advised and available for activation with appropriate resources if the situation becomes more serious.

3.1.2 Site Area Emergency (SAE)

The most severe classification used in emergency planning at the plant is the Site Area Emergency (SAE). An SAE is defined as an incident that has led or could lead to a significant release to the environment of radioactive or other hazardous material. Such an incident could require a response by an offsite organization to protect persons offsite.

An SAE could result in offsite releases that exceed the Environmental Protection Agency (EPA) PAGs for radiological releases or AEGLs/ERPGs for toxic materials releases.

Declaration of an SAE requires the full activation of the ERO and other appropriate personnel and resources as necessary to mitigate the consequences of emergency conditions, monitor the situation, and ensure protection of onsite and offsite personnel. The nature of SAEs requires prompt protective actions for onsite personnel in the vicinity of the incident area and may require protective response measures for the entire site population and members of the public. Actions include completely activating the onsite ERO, alerting or mobilizing field monitoring teams, notifying appropriate offsite authorities, and activating the public warning system.

The SAE classification includes accidents or other emergency conditions that have a significant potential for the release of radioactive or hazardous materials. The PSS or designee declares an SAE whenever conditions exist that indicate protective actions are or may be required for the general public offsite. An SAE may also result in the request for assistance from offsite emergency support organizations.

3.2 NOTIFICATION AND COORDINATION

This section describes the methods used for notification of emergency response personnel, appropriate local, State, and Federal agencies and response organizations. The PSS, or designee, is responsible for initial notifications. The PSS or designees are individuals properly trained in performing notifications in accordance with specific EPIP. If initial notifications include activation of the EOC cadre, the EOC becomes operational within approximately sixty minutes. Section 3.3, describes requirements, content, and format of the information to be provided to offsite authorities during a declared plant emergency.

3.2.1 Alert

The purposes of declaring an Alert are to ensure that appropriate emergency response personnel are activated and stationed at their emergency duty stations to mitigate the consequences of the

accident, the emergency is properly assessed, offsite officials are notified, and steps can be taken to escalate the response if necessary.

The PSS is responsible for initially classifying the event and activating the plant ERO. This activation is accomplished by using the plant radio system, pagers, PA system, or the plant telephone system. The means for notification of plant personnel is the Protective Alarm System, which consists of several distinct alarms, the PA system, pagers, and telephones.

The PSS, or designee, promptly notifies the appropriate county and state authorities as soon as possible, normally within 15 minutes after an event is declared an Alert. The emergency notifications to state and local authorities are conducted via telephone or radio if the telephone system is not operational. The specifics of this notification process are described in Section 3.3 and in more detail in the appropriate EPIP. Additional information on emergency communications equipment is provided in Section 6.2.

The PSS, or designee, notifies the NRC Operations Center by telephone immediately after notification of appropriate state and local authorities, but no later than one hour after the declaration of an Alert. The PSS also notifies, as soon as possible, the PPPO Site Lead, PPPO Manager, DOE OROC duty officer, and DOE-HQ operations center duty officer. When the EOC has been activated and is operational, the Crisis Manager (CM) assumes responsibility from the PSS or designee for NRC notification.

Based on the nature of the event, the PSS or designee, or the CM in the EOC once the EOC is activated and operational, issues protective response measures to the applicable plant population at his/her discretion. Typically, during an Alert, protective actions for plant personnel, if any at all, are limited to the particular incident area. Specific plant protective actions are described in detail in Section 5.4, and more thoroughly in designated EPIPs.

Although very unlikely during Alerts, the PSS or designee determines need for and subsequently requests offsite assistance. The various offsite emergency support organizations and agencies that may be requested to provide assistance to the plant are listed in Section 4.3.

The PSS or designee, or the CM in the EOC once the EOC is operational, monitors emergency conditions during an Alert for potential changes in the emergency classification. This entails the decision to escalate the emergency class to an SAE as plant conditions degrade and the decision to terminate the emergency and begin plant recovery operations when specific event termination criteria have been reached.

3.2.2 Site Area Emergency (SAE)

The purpose of declaring an SAE is to ensure that offsite officials are informed of potential or actual offsite consequences, that offsite officials are provided with recommended actions to protect persons offsite as necessary, and that the plant's ERO is augmented by additional personnel and equipment as necessary.

It is possible that an SAE may be declared without the initial declaration of an Alert. The PSS is responsible for the initial classification of the event. Once the EOC is operational, the CM assumes responsibility for declaring the appropriate class of emergency and making any changes to the emergency classification, including event termination. The declaration of an SAE requires the full activation of the ERO. Plant emergency response personnel receive notification of activation through the plant telephone system, PA system, radios, and pagers.

The PSS, or designee, promptly notifies the appropriate county and state authorities as soon as possible, normally within 15 minutes after an event is declared an SAE. The state and local notifications shall include any appropriate recommended protective actions for the general public near the plant property. The NRC Operations Center is notified as soon as possible after the state and local notifications have been made, but no later than one hour after the declaration of an SAE. The PSS also notifies, as soon as possible, the PPPO Site Lead, PPPO Manager, DOE OROC duty officer, and DOE-HQ operations center duty officer. Once the EOC is operational, the CM and EOC staff are responsible for appropriate offsite notifications, including the NRC and DOE. The emergency notifications to state and local authorities are conducted via telephone. The specifics of this notification process are described in Section 3.3. Additional information on emergency communications equipment is provided in Section 6.2.

The PSS or designee, or CM once the EOC is operational, directs plant personnel to take appropriate protective response actions based on the assessment of the emergency. During an SAE, protective actions for plant personnel may range from evacuating a particular building or area to a full site evacuation, based on emergency conditions. Specific plant protective actions are described in detail in Section 5.4, and more thoroughly in designated EPIPs.

During an SAE, additional emergency support may be necessary to augment the plant ERO. The PSS or designee normally makes the determination of need for and subsequently requests assistance from offsite emergency support organizations. The various offsite emergency support organizations and agencies that may be requested to provide assistance to the plant are listed in Section 4.3.

The CM monitors emergency conditions during an SAE for potential changes in the emergency classification. The CM may downgrade the emergency class to an Alert or may terminate the emergency and begin recovery operations when specific termination criteria have been reached.

3.2.3 Other Emergency Events

For those emergency events that are not classified as Alerts or SAEs, the plant maintains the responsibility and capability for assessment of the event, implementing appropriate protective actions, and ensuring that offsite officials are informed of potential or actual consequences, if necessary.

3.3 INFORMATION TO BE COMMUNICATED

Upon declaration of an Alert or an SAE, the PSS, or designee, conducts initial emergency notifications to offsite authorities as soon as possible, normally within 15 minutes of declaration. Additional emergency information is provided to offsite authorities periodically as new information becomes available. Notifications to offsite authorities are provided when a change in emergency classification occurs and when protective action recommendations offsite are required. An example of the form used for offsite notifications is included in the appropriate EPIP for emergency notification.

Information communicated to offsite authorities shall be conveyed by properly trained individuals in accordance with specific EPIPs. The information provided in emergency notifications includes plant status conditions, radiological/hazardous materials release data, recommendations for protective actions to be implemented by offsite response organizations, and other applicable emergency information as necessary. Protective response actions offsite are the responsibility of governmental authorities. Offsite protective action recommendations for the different types of postulated emergencies requiring protective measures are discussed in detail in Section 5.4.2.

The PSS or designee ensures that at a minimum, the following Federal, State, and local agencies, are notified as soon as possible, normally within 15 minutes of the initial emergency declaration:

1. Pike County Emergency Management Agency director,
2. Pike County Sheriff's Office/Local Emergency Planning Committee (LEPC),
3. Ohio Emergency Management Agency, and
4. DOE-entities as described earlier in this section.

Upon the issuance of protective action recommendations, the plant may request verification callbacks from state and local agencies responsible for implementing offsite protective actions to ensure that the recommendations are understood. Callbacks also enable plant officials to receive information regarding offsite protective actions implemented.

Based on the nature and status of the incident, in addition to the primary agencies listed above, other offsite organizations may be notified of emergency conditions. These include the following:

1. Scioto County Sheriff's Office/LEPC,
2. Scioto County Emergency Management Agency director,
3. Ohio Environmental Protection Agency (EPA) Emergency Response Center,
4. U.S. National Response Center,
5. U.S. Occupational Safety and Health Administration (OSHA), and
6. Other affected organizations.

The U.S. Nuclear Regulatory Commission (NRC) Operations Center is notified immediately after notification of the appropriate state and local agencies but no later than one hour after the declaration of an Alert or an SAE.

USEC-HQ is notified immediately after the declaration of an emergency, but no later than one hour.
Once the EOC is operational, a dedicated open communications telephone line will be maintained with the NRC Operations Center. This communications line is used during a declared emergency (Alert or Site Area Emergency) to keep the NRC Operations Center current as the event is occurring.

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4. RESPONSIBILITIES

USEC Inc. is responsible for the control of the Plan. FBP provides emergency management and response services. USEC Inc., FBP and other DOE contractors and subcontractors will each meet the requirements of the Plan

4.1 NORMAL FACILITY ORGANIZATION

FBP is responsible for the safe operation of the FUEF and is responsible for the day-to-day management and operation of the FUEF, including the program of emergency management and response services. An FBP organizational chart showing the functional levels and reporting responsibilities is provided in the BIO Chapter 17. The administrative and technical support personnel staffing the plant organization are normally onsite daily, Monday through Thursday or Friday, holidays excluded. Plant operational personnel are on duty 24 hours per day. Descriptions of the key managers at the plant and their responsibilities are provided below.

Other senior managers are responsible for the Lead Cascade and the DUF_6 Conversion Facility. Senior managers from these site entities may be designated and qualified as Crisis Managers. The Crisis Manager is authorized to declare an emergency, initiate the appropriate response, and assign a Recovery Manager when emergency conditions no longer exist. (The duties and responsibilities of the Recovery Manager are addressed in Section 9.)

4.1.1 FBP Organization

4.1.1.1 Program Manager

The Program Manager has direct responsibility for operation of the FUEF in a safe, reliable, and efficient manner.

The Program Manager also oversees FUEF industrial safety, nuclear safety, and nuclear criticality safety functions which provide support to the Emergency Plan and emergency plan management function. These areas are managed by directors who report to the Program Manager.

4.1.1.2 Project Support and Oversight Directors

Project Support and Oversight Directors are responsible for technical functions in direct support of plant activities. These positions oversee engineering; environmental; waste management; records management document control; procedures and training; radiation protection and health physics and industrial hygiene technician functions, fire services; emergency management; emergency medical services, work control and maintenance of the work control database. These services are managed by functional area managers who report through this Director.

4.1.1.3 Project Execution Directors

Project Execution Directors are responsible for the day-to-day operations of shift operations; power, utilities, chemical services; and related infrastructure support systems. These responsibilities are managed by managers who report through these Directors.

Project Execution Directors are also responsible for day-to-day activities of project maintenance; X-326/X-330/X-333 operations; X-340 Complex activities; X-705, X720, X-700 operations; and project management and oversight of special projects. These responsibilities are managed by managers who report through these Directors.

4.1.1.4 Training Manager

The Training Manager is responsible for the FUEF training and procedures programs.

4.1.1.5 Shift Operations Manager

The Shift Operations Manager oversees the activities of the Plant Shift Superintendents and has the responsibility and authority to make decisions to assure safe operation of the FUEF.

4.1.1.6 Quality Assurance Manager

The Quality Assurance Manager is responsible for implementing and directing independent assessments, quality systems, quality control, and administration of the problem reporting, commitment management and corrective action system.

4.1.1.7 Emergency Management Manager

The Emergency Management Manager is responsible for ensuring that the emergency management program is designed to comply with Federal, State, and local regulations.

4.1.1.8 On-Duty Plant Shift Superintendent

The on-duty PSS responsibilities include operational, technical and/or environmental, safety, and health support functions to site operations. The on-duty PSS reports directly to the Shift Operations Manager, who in turn, reports to the Site Infrastructure & Utilities Services Manager.

The on-duty PSS is responsible for making proper notifications of abnormal plant conditions, determining the severity of the event declaring an emergency, and initiating appropriate response. The on-duty PSS acts as the on-scene Incident Commander and subsequently as the Crisis Manager until relieved by a member of management designated in the Emergency Line of Executive Succession. While acting as the Crisis Manager, this position has the authority to declare an emergency.

4.1.1.9 Assistant Plant Shift Superintendent (APSS)

The APSS responsibilities include operational, technical and/or environmental, safety and health support functions to the plant shift operating staff. The on-duty APSS reports directly to the on-duty PSS.
The on-duty APSS may function as the IC when necessary and, if acting as the Crisis Manager, has the authority to declare an emergency.

4.1.1.10 Nuclear Criticality Safety Manager

The Nuclear Criticality Safety Manager is responsible for implementing the nuclear criticality safety program. This position reports to the Nuclear Safety Manager.

4.1.1.11 Protective Force Manager

The Protective Force Manager is responsible for plant police services and security.

4.1.2 USEC Inc. Organization

4.1.2.1 General Manager, American Centrifuge Plant Operations

As described in Chapter 2.0 of the license application, the General Manager, American Centrifuge Plant Operations is responsible for the day-to-day management of Licensee activities in the Lead Cascade. The General Manager, American Centrifuge Plant Operations also oversees activities of line management organizations that support Lead Cascade operations, as applicable. The General Manager, American Centrifuge Plant Operations may delegate responsibility for this day-to-day interface to the Organizational Managers.

4.1.2.2 Organizational Managers

As described in Chapter 2.0 of the license application, the Organizational Managers are responsible for managing the activities in their area of responsibility in direct support of the Lead Cascade. These managers oversee technical services; operations; maintenance; environmental; waste management; records management; procedures and training; radiation protection and health physics, fire services, emergency management, quality assurance, and security.

4.1.2.3 Fire Safety/Emergency Management Manager

The Fire Safety/Emergency Management Manager is responsible for maintenance and control of the plan. The Fire Safety/Emergency Management Manager has established an agreement with the DOE for emergency management program support, fire services testing and inspections, emergency response and event notification.

4.1.2.4 Operations Shift Supervisors

As the senior manager on shift (one per shift), the Operations Shift Supervisor represents the General Manager, American Centrifuge Plant Operations and has the authority and responsibility to make decisions, as necessary, to ensure safe operations. The Operations Shift Supervisors are responsible for accumulation and dissemination of information regarding plant activities to the Incident Commander during emergencies. The Operations Shift Supervisors are also responsible for directing the operation of systems within the facilities necessary to support the Lead Cascade enrichment operation.

4.2 ONSITE EMERGENCY RESPONSE ORGANIZATION

The Emergency Response Organization (ERO) is responsible for taking immediate mitigative and corrective actions to minimize the consequences of an incident to workers, public health and safety, and the environment. The ERO is staffed with trained personnel who respond to events and are required to participate in formal training, drills, and exercises. The ERO is comprised of personnel from USEC Inc. and DOE Contractors/Subcontractors from various site entities. The incident type and severity dictate the level of ERO activation.

The ERO has the following specific functions and responsibilities, depending on the incident and level of response needed to mitigate the problem: event categorization, determination of emergency class, notification, protective action recommendations, management and decision making, control of onsite emergency activities, consequence assessment, medical support, emergency public information, activation and coordination of onsite response resources, security, communications, administrative support, and coordination and liaison with offsite support and response organizations.

The ERO is divided into functional groups as follows:

1. Field ERO,
2. EOC cadre, and
3. Joint Public Information Center (JPIC).

Members of these groups are assigned to on-scene response locations and emergency response centers such as the EOC. Emergency assignments correspond as closely as possible to daily duties. Primary and alternate personnel are assigned to the ERO positions. Assignments are updated periodically. Management ERO positions in each group provide oversight and final authority in the group's decision-making process.

4.2.1 Direction and Coordination

The initial ERO consists of the appropriate shift personnel with the PSS or designee as IC. Upon classification of the emergency as an Alert or SAE, the PSS becomes the CM and maintains overall control of the plant during the emergency until relieved. Once the EOC is operational, the Crisis Manager relieves the PSS as CM and the overall control of the emergency shifts from the PSS to the CM.

The PSS conducts transition and turnover of command and control authority and responsibility of the CM function in a formal manner by use of specially developed procedural checklists and, if possible, face-to-face briefings. A primary and alternates are identified for the CM.

The order of succession for the CM position is identified in an EPIP and includes the following:

1. PSS

2. Crisis Manager (Crisis Managers are designated by the Program Manager and trained and qualified as CM.)

Because of the importance of some emergency responsibilities, these responsibilities may be performed only by the ERO position assigned to address them. The following responsibilities are transferred when the overall responsibility for emergency response is transferred.

1. Emergency Classification — Initially this is a PSS responsibility as CM. Once the EOC is operational, this responsibility is transferred from the PSS to the CM in the EOC.

2. Protective Action Recommendations — Initially this is a PSS responsibility as CM. Once the EOC is operational, approval of offsite protective action recommendations is transferred to the CM in the EOC.

3. Facility Activation — The PSS or designee is responsible for directing activation of the EOC. The EOC is automatically activated for Alerts and SAEs and may be selectively activated for other emergencies related to non-E-Plan described activities.

4.2.2 Onsite Staff Emergency Assignments

4.2.2.1 Plant Field Emergency Response Organization

Capability for initial site-level response prior to EOC activation is provided by the following:

1. PSS personnel,
2. Protective force personnel,
3. Fire services personnel,
4. Emergency squad personnel, and
5. Local emergency director.

Fire services personnel are trained and have experience in fire fighting, HAZMAT response, health physics, environmental response, and emergency medical treatment. Plant emergency squad personnel are trained in basic fire fighting response. Figure 4-2 illustrates a typical plant initial on-scene ERO. In addition, shift personnel can provide support for various technical areas, such as operations and maintenance activities.

4.2.2.2 Emergency Operations Center Cadre

The Emergency Operations Center (EOC) cadre provides the external support to the IC and provides information to Federal, State, and local government agencies. Specifically, the EOC cadre provides additional technical expertise in engineering, radiological/hazardous materials monitoring and assessment, logistics support, such as transportation, food, communications, materials, and supplies, and other needed services.

The EOC is the primary facility for coordinating onsite response and mitigation and offsite interface activities. EOC staff confer, provide personnel and materials, coordinate activities, and communicate with onsite and offsite personnel. A support staff serves on the EOC cadre and provides technical advice to other members of the EOC staff and to the IC at the scene.

The EOC cadre is updated by the Crisis Manager by the use of the EOC Briefing Checklist, which is part of the Emergency Operations Center Concept of Operations Procedure.

4.2.2.3 Joint Public Information Center

The Joint Public Information Center (JPIC) is activated at the declaration of an SAE or for other events that may generate significant interest from the media. This organization provides for timely information dissemination to the media and to the public regarding a plant emergency.

4.3 LOCAL OFFSITE ASSISTANCE TO FACILITY

The severity of some emergencies may warrant the use of offsite individuals, organizations, and agencies. As a result, letters of agreement (as identified in Appendix B) have been entered into with offsite groups to provide assistance in the event of an emergency. These support services encompass areas such as medical assistance, fire control, evacuation, and ambulance services. When the PSS or designee or CM determines that offsite assistance is needed, the appropriate organization is notified and assistance is requested. Properly trained members of the ERO which conduct these notifications and requests for assistance include but are not limited to the PSS or designee, APSS, and EOC Director. Plant protective force personnel provide site access control and escort support for the responding offsite organizations. Thermoluminescence

Dosimeters (TLDs) will be provided to off-site responders as required when entering the CAA. Necessary emergency information is provided to the responding organizations, including potential hazards associated with the incident.

The offsite emergency support organizations are described in the following subsections.

4.3.1 Medical Support

In certain instances, medical emergencies may require the transport of an injured person from the plant to an offsite medical facility. Transportation of injured persons to the medical facility is normally provided by the plant's onsite ambulance. To maintain a state of readiness the onsite ambulance is tested for operability and inspected for response capability on a daily basis.

In the event the onsite ambulance is not available, the Pike County Emergency Medical Service or locally based paid ambulance services provide the transportation of injured persons to an offsite medical facility. This includes contaminated injured onsite workers. Ambulances are equipped with radios to maintain communications with local hospitals. The primary medical facilities for injured personnel with or without contamination are Pike Community Hospital, Southern Ohio Medical Center, and Medical Center Hospital. These hospitals have agreed to accept injured personnel or victims of radiation/hazardous materials-related accidents for emergency medical and surgical treatment and observation. These hospitals are notified by telephone or radio of the need for offsite assistance.

4.3.2 Fire Support

When the PSS or designee or CM determines that offsite fire support is needed, the applicable offsite fire departments are notified by telephone call or radio transmission to the Pike County Sheriff's Office.

The offsite fire departments include Beaver Fire Department, Benton Township Fire Department, Camp Creek Fire Department, Elm Grove Fire Department, Jackson Township Fire Department, Pebble Township Fire Department, Pike Forest Fire Department, Piketon-Seal Township Fire Department, Scioto Township Fire Department, Stockdale Fire Department, and Waverly Fire Department. These fire fighting groups have agreed to furnish the plant with fire-fighting personnel and necessary resources upon request. The fire services are under the direction and control of the plant PSS or designee, who retains responsibility for the overall on-scene emergency response effort. In instances when offsite fire-fighting assistance is needed to fight a fire involving radioactive/hazardous materials, radiological/toxicological information and assistance is provided by knowledgeable members of the plant ERO.

4.3.3 Law Enforcement Assistance

The nature of an emergency may require that the local law enforcement agencies be activated to assist in the emergency response effort. The Pike County Sheriff provides local law enforcement assistance through a written agreement. The emergency support may include the following:

1. Furnishing personnel and equipment as necessary to supplement the protective force,
2. Controlling access to areas affected by the emergency,
3. Directing area evacuation, and
4. Responding to bomb threats.

4.4 COORDINATION WITH PARTICIPATING GOVERNMENT AGENCIES

Coordination between the local, state, and plant emergency plans serves to better ensure the safety and health of the general public. It also enables emergency organizations to participate in the emergency effort with a minimum of confusion and hesitation. During an emergency effort, participating agencies must have a clear picture of their responsibilities which are provided for in their respective emergency plans and procedures. Appendix C provides a list of supporting documents.

Emergency management coordinates required emergency planning activities directly with these organizations and agencies. Emergency management personnel offer to meet at least annually with each offsite response organization to review emergency plans and procedures and any changes relevant to the plant's emergency management program. Plant emergency action levels, notifications, and the overall response coordination process are discussed at these meetings. Response roles of the key agencies are summarized in this section.

4.4.1 State of Ohio Government Interfaces

The State of Ohio's Emergency Response Annex for Events at DOE Facilities provides guidance on dealing with all types of disasters or incidents and outlines the state response to incidents at PORTS. The Ohio Emergency Management Agency (EMA) is responsible for coordinating overall state response and overseeing the local implementation of recommended protective actions. The EMA also assists the Governor in formulating policy, establishing priorities, gathering and analyzing information, monitoring the execution of planned actions, and directing modifications as necessary. The Ohio State Highway Patrol provides support to offsite law enforcement agencies as requested. The Ohio Department of Health coordinates hazard assessment and is the principal contact for technical information and recommendation of protective actions. The Ohio EPA oversees removal and disposal of hazardous waste generated as a result of a PORTS emergency.

The State of Ohio has a permanent EOC that has been designed and equipped to be the direction and control center for all major emergencies in the state. The EOC is manned 24 hours a day by operations duty officers and has the capability to provide almost instantaneous communications with key state officials.

4.4.2 Local Government Interfaces

The Pike County commissioners have overall responsibility and authority for conducting county emergency responses and exercises. They serve as the officials-in-charge during an emergency and are supported by the county EOC staff. The county EOC is at the Pike County Airport two miles north of Waverly, Ohio, which is approximately seven miles north of PORTS.
The Pike County EMA director serves as the chief of staff for the county EOC staff. The director is responsible for ensuring that the EOC is fully functional. In addition, the director is responsible for coordinating local government emergency management planning and response activities.

The Pike County commissioners and Pike County EMA director can authorize the opening and staffing of the county EOC. The EOC may be opened and staffed on the threat of an emergency or because of an actual emergency. Minor emergencies may be directed by agency officials from their normal work stations.

Pike County authorities can also authorize the opening and staffing of the JPIC to ensure that the public and media can obtain information during an emergency. Rumor control measures are addressed in specific EPIPs.

Local law enforcement and fire services assistance is coordinated with the director and staff in the county EOC.

Notification and warning points have been established for each local government entity. Local government entities coordinate response efforts from the Pike County EOC.

4.4.3 Federal Government Interfaces

4.4.3.1 United States Nuclear Regulatory Commission (NRC)

The NRC provides regulatory oversight over the USEC Inc. Lead Cascade uranium enrichment activities to ensure compliance with the License requirements, including the emergency planning requirements. The NRC Operations Center is notified of any emergency immediately after notification of the appropriate offsite organizations, within one hour after the declaration of an alert or SAE. The NRC evaluates the protective actions taking place and coordinates with USEC and DOE to ensure that all reasonable and appropriate actions are being taken to protect the public health and safety.

4.4.3.2 United States Department of Energy (DOE)

The DOE provides oversight for those activities onsite involving DOE environmental management and FUEF facilities and operations. Additionally, DOE provides control and oversight of activities involving uranium enriched to greater than 10% ^{235}U. Events involving DOE operations or property are reported to DOE's Paducah Portsmouth Project Office (PPPO), Oak Ridge OROC duty officer (ORO/DOE), and DOE HQ operations center. The DOE maintains various emergency response assets capable of providing radiological monitoring and support assistance during an emergency.

4.4.3.3 Federal Bureau of Investigation (FBI)

The FBI has jurisdictional authority for safeguards and security emergencies involving violations of Federal criminal law. A representative of the FBI may assume command and control of these types of emergencies. The FBI Hostage Rescue Team or regional SWAT team may also be provided if requested. The FBI will coordinate all responding Federal law enforcement agencies.

4.4.3.4 Other Federal Agencies

The following Federal Agencies that may be involved in plant emergencies:

1. *Federal Aviation Administration (FAA).* FAA restricts airspace over the plant at the request of the CM or the PSS or designee, as appropriate.

2. *Federal Emergency Management Agency (FEMA).* FEMA is the primary Federal government agency for the administration of planning, preparedness, operational coordination, and recovery programs.

3. *U.S. Environmental Protection Agency (USEPA*). USEPA is the major Federal government agency for the regulation and control of pollution and waste management programs. USEPA provides a Federal on-scene coordinator for significant hazardous materials incidents.

4. *U.S. Occupational Safety and Health Administration (OSHA).* OSHA is the primary Federal government agency for the regulation of nonradiological worker safety.

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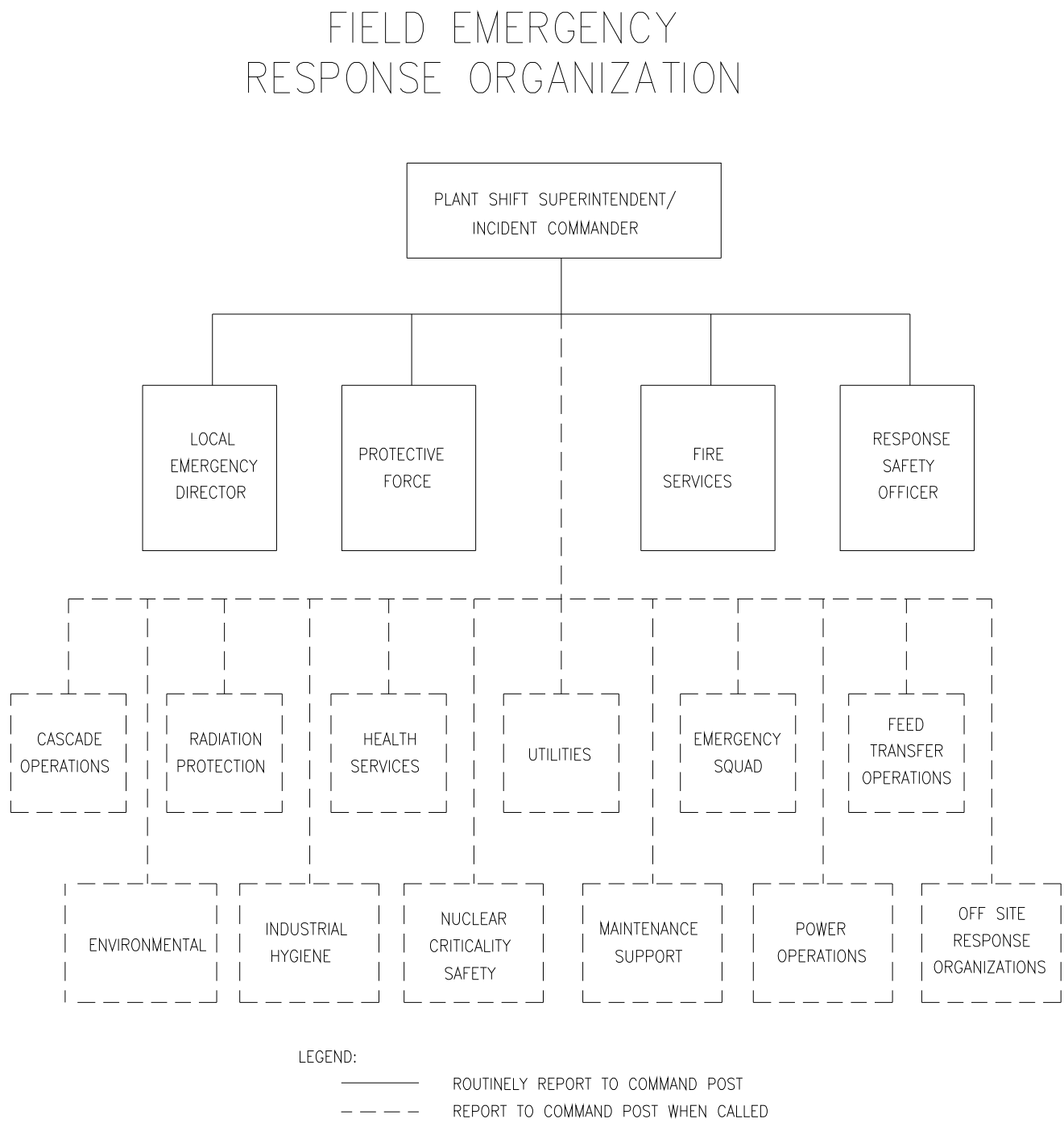
Figure 4-2 Field Emergency Response Organization



5. EMERGENCY RESPONSE MEASURES

Emergency measures must be taken in response to an emergency. Upon recognizing that an emergency exists, the ERO is activated. Once activation has taken place, assessments of the condition are made, corrective and protective actions are taken, and aid to affected persons is administered as required.

After becoming aware that an emergency exists, the PSS does the following:

1. Takes actions to ensure the safety of plant personnel and the general public,

2. Takes actions to ensure safe operation/activities of the plant,

3. Classifies the emergency and makes the required notifications,

4. Takes actions to ensure that safeguards and security measures are maintained,

5. Takes actions to ensure that material control and accountability measures are maintained,

6. Performs assessment actions,

7. Performs other emergency actions as appropriate, and

8. For Lead Cascade emergencies, takes actions to ensure that items relied on for safety are assessed for collateral damage.

5.1 ACTIVATION OF EMERGENCY RESPONSE ORGANIZATION

Upon recognition of an emergency, the PSS, or designee, responds to the incident scene as the IC. The IC determines appropriate immediate protective actions at the incident scene. The PSS classifies the event if applicable. If the emergency is classified as either an Alert or SAE, the PSS as CM activates the EOC. Minimum staffing requirements for activation and operation of the EOC are identified in an EPIP, and must be met prior to assumption of command and control by the crisis management team. CM responsibilities are assumed as designated in the emergency line of executive succession when the EOC is operational. Methods for ERO notification/activation are the same regardless of the time of the emergency and include plant radios, emergency pager system, and telephones. When notified, EOC cadre members are required to respond immediately. ERO activation is accomplished through the appropriate EPIPs.

The CM delegates public information duties to the public information advisor, who is responsible for activating the JPIC.

The IC maintains command and control over the specific area response and protective actions. The IC coordinates mitigation and protective action strategy and direction and keeps the EOC informed of the incident status when the EOC is operational.

In the event that two or more emergencies occur simultaneously so that they cannot be managed effectively as a single incident scene, provisions in the appropriate EPIPs allow for the establishment of additional incident scenes, designation of multiple incident commanders, and division of response resources as necessary.

5.1.1 Deleted

5.1.2 Deleted

5.2 ASSESSMENT ACTIONS

This section describes the processes used for assessing the actual or potential onsite and offsite consequences of an emergency. Initial and continuing assessment actions are the responsibility of the PSS or designee. Post-accident assessments are a shared responsibility between the PSS or designee, the CM, and the recovery manager (RM), if assigned.

Continuous assessment throughout the course of an emergency is necessary to effectively coordinate and direct the elements of the ERO. The initial assessment actions are dictated, in part, by the nature and severity of the emergency. Emergency assessment provides an indication of the vulnerability to life, the environment, and property to injury or damage if an emergency occurs. The different assessment actions for Alert and SAEs are described in Sections 5.2.1 and 5.2.2; specific assessment actions are provided in the EALs for the various classified emergencies including anticipated responses and protective actions. Equipment used to assess releases is described in Section 6.4.

5.2.1 Assessment Actions During an Alert

An Alert requires basic emergency assessments. Attention must be paid to parameters that may indicate a possible worsening of conditions (e.g., radioactive/hazardous materials releases). The existence of an Alert requires the following initial and ongoing assessment actions as applicable:

1. Increased surveillance of applicable plant instrumentation and visual observation of the incident conditions,

2. Determination of the resources necessary to mitigate the event on the basis of evaluation of reports of damage and injury or by on-scene inspection, and

3. Monitoring event conditions for potential changes in emergency classification level.

5.2.2 Assessment Actions During a Site Area Emergency (SAE)

In the event of an SAE, assessment activities are more extensive than for an Alert. During a release of radiological/hazardous materials, assessment of onsite and offsite exposures are performed regularly to determine if and when onsite sheltering or evacuation, or offsite sheltering or evacuation, may be required. The results, including methods and assumptions, are communicated to appropriate offsite officials as offsite protective action recommendations. In addition to the activities that would be carried out during an Alert, the following activities are performed at the direction of the PSS or designee or the CM when the EOC is operational, as appropriate:

1. Performing continuing emergency assessments for mitigating events and protective actions onsite based on on-scene and field monitoring results, release information, and meteorological conditions for radiological/hazardous material releases; and

2. For offsite hazardous material releases, providing specific material information, release information, plume direction, projected plume location, appropriate meteorological information, and field monitoring results to responsible offsite authorities.

5.2.3 Post-Accident Assessment

Post-accident emergency assessments are provided by the PSS or designee, the CM, and the RM, if assigned. EPIPs contain criteria that must be met before recovery can be initiated. These criteria may be radiation readings for criticality events, airborne concentration values for hazardous material releases, or other

appropriate identifiable conditions. Concurrence from offsite officials must be obtained before downgrading from an SAE.

In the event of a radioactive or other hazardous materials release, post-accident assessment activities may include monitoring individuals and sampling of water, air, and soil. Personnel involved in an emergency submit urine samples for analyses when the possibility exists for exposure to contamination. Monitoring team personnel conduct fenceline sampling when applicable, depending upon the location of the emergency and meteorological conditions at the time of the event.

During post-accident assessments, specific recovery goals are identified, such as the removal of contaminated soil or the return of a damaged facility to productivity. These actions may be based on survey or inspection data obtained prior to entry into the recovery phase or based on new data obtained specifically for the proposed recovery goal. See Section 9, for information regarding plant restoration and recovery activities.

5.3 MITIGATING ACTIONS

5.3.1 Personnel Actions

Plant personnel who are technically trained and capable of implementing the plant's emergency plan and procedures perform mitigating actions. Emergency procedures have been established to provide effective response to the various emergency events described in this plan. During emergency conditions, the primary concern is to minimize the impact on plant personnel and the general public. By initiating prompt protective actions, such as evacuating personnel in the immediate incident area and controlling access to the surrounding accident vicinity, consequences to plant workers as well as the general public are minimized. Additional information on protective actions is provided in Section 5.4. Emergency operating and implementing procedures also provide for the proper mitigating actions to reduce or stop releases.

5.3.2 Safe Shutdown

An emergency condition that may have an actual or potential impact on operations may require the safe shutdown of process equipment or systems. The FUEF BIO and DSAs for the DUF_6 Conversion Facility and other facilities/operations, and in the case of the Lead Cascade, the Integrated Safety Analysis (ISA) Summary, describes the plant systems and instrumentation available for detecting abnormal operating conditions that could result in an emergency and the methods and criteria used to ensure a safe shutdown of plant equipment and systems. The PSS or designee or CM determines which, if any, equipment or systems require shutdown in connection with a specific accident or emergency and takes appropriate action to ensure that the designated equipment or systems are shut down safely and promptly. After an accident or other emergency, the plant is restored to a safe condition before the PSS or designee issues an all clear. The means for ensuring that the plant is in a safe condition include monitoring, visual inspections, and equipment testing.

The period of time involved in a safe shutdown depends on such factors as the location of the emergency, the magnitude of the emergency, and events that caused the emergency condition. Emergency shutdown of isolated areas, such as a ruptured pigtail or feed line, occurs within minutes. If the emergency is of such magnitude that an entire building is shutdown, plant procedures and operating methods are in place that direct personnel on the methodology for the safe shutdown. The BIO/DSAs/ISA Summary describes various accident scenarios and covers shutdown actions.

The major physical components of the fire protection system consist of water supply system, pumps, sprinkler systems, and fire alarms. Mobile fire equipment is maintained onsite to support fire fighting activities and back up the fixed fire suppression systems. The fire services, using test frequencies established

in group procedures, oversees the testing and inspection program for the fire protection system and equipment. Further information pertaining to fire protection is provided in Chapter 11 of the BIO.

In the event of an ongoing release of radioactive or hazardous material, the goal is for personnel to escape from the vicinity without personal contact with the release and assist in ensuring that non-response personnel do not enter the vicinity of the release. In some cases, approved engineering controls are used to mitigate the effects of a minor release, i.e., gulpers at the autoclaves and on the cylinder valve change cart. In other cases, authorized members of the ERO shall take the appropriate actions to reduce and contain the release.

5.4 PROTECTIVE ACTIONS

During emergencies, the PSS or designee or CM must determine the best possible means to limit exposure of onsite and offsite personnel to potential or actual threats, such as radioactive or toxic materials that may be accidentally released to the environment. Guidelines are provided to limit the exposure of personnel in the case of accidental releases to the environment. These guidelines are prescribed according to potential health effects and are called PAGs for radioactive materials and ERPGs or AEGLs for hazardous materials. Specific EPIPs have been developed for the protection of emergency workers and other onsite and offsite personnel.

This section describes the protective actions developed to limit exposure of plant personnel and the public following an emergency. The protective actions to be implemented onsite are the responsibility of qualified plant personnel. In the event of an emergency the PSS or designee notifies onsite agencies such as the Ohio National Guard and Ohio Valley Electric Corporation via telephone. The time of notification will be affected by the location of the emergency and the impact on the operations of these organizations. The appropriate offsite authorities are responsible for providing offsite protective actions.

5.4.1 Onsite Protective Actions

5.4.1.1 Alerting

Whenever it is determined that a threat or potential threat to the safety of personnel on the DOE reservation exists, the PSS or designee directs that persons on the DOE reservation or within a specified area are alerted, whichever is appropriate. Alerting is accomplished by use of the PA system, plant radios, telephones, or if required, by runner. Transients on the DOE reservations (i.e. commercial deliveries, school buses, area residents) will be directed to exit the reservation. The alerting time will depend upon the severity and location of the threat to safety.

5.4.1.2 Personnel Evacuation and Accountability

Protective actions for onsite personnel (including visitors and contractor personnel) include alerting, assembling and accounting for, sheltering in place, evacuating, monitoring, and decontaminating. As previously described, the plant's primary concern is to minimize the impact on plant personnel and the general public.

1. Evacuation. When it is determined that a threat to the safety of plant personnel exists, the PSS or designee or CM may order an evacuation of personnel from affected plant areas. Criteria that should be considered before ordering an evacuation includes wind direction, wind speed, and location of the emergency. Evacuation will be implemented immediately in the event of actuation of the radiation and gas release alarm systems. The evacuation alarm and announcement, including any special instructions, is sounded over the PA system, plant radios, or other plant communications systems as appropriate.

At the discretion of the PSS or designee or CM, plant personnel, visitors, and contractors will evacuate to a designated assembly point or monitoring station or be sent to reception centers. Personnel are sent to assembly points during non-radiological events. However, personnel report to a monitoring station if the event involves a radiological release. Refer to Figure 1-2, PORTS Plant Layout, for locations of monitoring stations. If a site-wide evacuation is ordered, personnel report to offsite reception centers.

The PSS or designee will provide directions on the specific evacuation routes. The appropriate selection of an assembly area and evacuation route is based upon plant conditions, wind direction, and weather. Evacuation to offsite reception centers is generally by individually owned vehicles.
As discussed in this section, emergencies include natural events as well as radiological/hazardous materials incidents. The procedures to be followed in these evacuations are included in the EPIPs, including designation of assembly areas. Provisions are made for consideration of impediments to evacuation caused by weather conditions, traffic, or radiological/hazardous materials release. When sheltering personnel would greatly mitigate the consequences of an emergency, the CM or PSS or designee recommends to shelter-in-place and plant personnel are notified over the PA system, plant radios, or other plant communications systems as appropriate.

2. Accountability. In an emergency, one of the most probable protective actions for site personnel is evacuation of a building or area. Provisions for determining and maintaining the accountability of personnel are established. Search and rescue operations may be initiated if a person is determined to be missing.

   Monitoring stations are identified in Figure 1-2. Personnel permitted unescorted site access are provided training on their assembly/accountability roles and responsibilities. To ensure proficiency, site personnel participate in annual retraining and periodic evacuation and accountability drills.

   Visitors that have a current plant clearance/badge are accounted for through their points of contact. Visitors within plant property that do not possess a clearance are assigned to an escort. This escort is responsible for informing the visitors of emergencies when they occur and for taking action as necessary.

   Plant employees and contractor personnel are trained on actions to be taken in an emergency prior to their work assignments. Untrained personnel must be escorted by an individual who has received GET emergency preparedness training. The training includes instructions on reporting emergencies and the required actions in the event of an emergency.

3. Search and Rescue. If an accountability reveals that a missing person might be located within the incident area, the PSS or designee may assemble a search and rescue team made up of members of the field ERO. The search and rescue team obtains information on the latest known location, and likely areas are searched until missing persons are located. The PSS or designee directs on-scene search and rescue teams. Teams are briefed prior to entry on their specific mission, route of ingress/egress, area of danger, personal protective clothing/equipment required, and stay times associated with control of exposure to radioactive or hazardous materials.

4. Monitoring and Decontamination. Personnel involved in an emergency shall be required to submit urine samples for analyses when the possibility exists of exposure to contamination. Monitoring team personnel shall conduct fenceline sampling when applicable, depending upon the location of the emergency and meteorological conditions at the time of the event. If decontamination is necessary, decontamination sectors are established using appropriate decontamination equipment. Decontamination and waste disposal are conducted in accordance with specific implementing procedures.

5.4.1.3 Use of Protective Equipment and Supplies

All individuals entering an area during an emergency where airborne concentrations of contaminants are considered immediately hazardous or potentially immediately hazardous to life or health are required to wear appropriate protective clothing and self-contained breathing apparatus. Plant personnel assigned emergency response tasks requiring the donning of protective equipment maintain communications with the PSS, or designee, via the plant radio system, either by hand-held radio or radios within the self-contained breathing apparatus. Protective clothing and other required personal protective equipment are available throughout the plant at predesignated areas. Emergency personnel receive training on donning and using specific protective clothing and related equipment.

Individuals arriving or remaining at the plant during certain emergency situations are provided monitoring equipment, protective clothing, and respiratory equipment. These supplies are on emergency vehicles. Specific procedures dictate the requirements for use of this equipment. The facilities, equipment inventory, and emergency equipment maintenance are described in Section 7.6.

5.4.1.4 Contamination Control Measures

The PSS or designee or CM directs personnel evacuating areas potentially contaminated by an incident proceed to monitoring and decontamination stations. Monitoring and decontamination is performed in accordance with plant procedures. Access to the potentially contaminated area is controlled to provide for plant contamination control.

Contamination control measures for both radiological and toxic materials are implemented in plant procedures.

5.4.2 Offsite Protective Actions

The PSS or designee or CM is responsible for providing protective action recommendations to local officials as part of initial notifications and ongoing communications. These recommendations are based on assessment actions and a thorough understanding of the actual or potential plant conditions. These recommendations can take the form of sheltering in place, evacuation, or advisories that no action is needed.

County officials are responsible for determining and recommending protective actions for the public in potentially impacted areas. If a release of material exceeds the plant reservation boundary, plant personnel provide recommendations based on accident assessment to aid the county in the decision-making process.

The plant is equipped with detection and warning systems to recognize hazardous materials and radiation releases and to warn personnel on and offsite. Upon recognition that a situation exists requiring offsite protective actions, plant personnel recommend protective actions to the appropriate off-site authorities, who in turn are responsible for alerting and notifying persons living within the offsite impacted areas.

The most severe credible accident at the plant would involve the dropping and rupturing of a liquid UF_6 cylinder. During a liquid UF_6 cylinder release incident, the UF_6 reacts with moisture in the air. The resulting hydrolysis products are uranyl fluoride particles and HF gas. An offsite hazard could result from the chemical toxicity of HF and uranium. The radiotoxicity of uranium is insignificant when compared with its chemical toxicity. Analysis suggests that there is some possibility of an offsite hazard from a release of other plant hazardous materials. (Section 2 describes the various types of hazards and their consequences.) In either event, sheltering citizens in the path of the plume can greatly mitigate the consequences.

5.5 EXPOSURE CONTROL IN RADIOLOGICAL EMERGENCIES

In the event of a radiological/hazardous material release, potentially affected personnel are evacuated or sheltered in accordance with an EPIP. A monitoring and decontamination station is established at designated plant locations when directed by the PSS or designee or CM. Plant emergency response personnel perform personnel monitoring and decontamination in accordance with plant procedures.

When releases occur onsite before the evacuation of non-essential personnel can be completed, personnel are routed to the established evacuation/decontamination monitoring stations.

Onsite contamination control measures are described in other plant procedures.

5.5.1 Emergency Radiation Exposure Control Program

5.5.1.1 Radiation Protection Program

This section of the plan describes measures that are used to provide necessary assistance if individuals are injured or radiologically exposed or contaminated.

In certain emergency situations, the acceptance of above-normal radiation exposure may be warranted. It may not be possible to perform corrective/protective actions while maintaining exposures below limits specified in l0 CFR 20 or 10 CFR 835.

Although an emergency situation transcends the normal requirements for limiting exposure, there are EPA recommended levels of exposure acceptable in emergencies (set forth in Section 5.5.1.2).

Three categories of risk versus benefit are considered:

1. Saving of human life and reduction of injury,

2. Protection of health and safety of the public, and

3. Protection of property.

The CM authorizes emergency workers to receive emergency doses above the established plant administrative exposure limits. Exposure guidelines for emergency situations are described in the following section.

5.5.1.2 Exposure Guidelines

Exposure guidelines for radiological emergencies are consistent with the U.S. Environmental Protection Agency's PAGs summarized in EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. Exposure guides for toxic/hazardous chemicals have been incorporated in EPIPs and are consistent with the ERPGs established by the American Industrial Hygiene Association and AEGLs established by the USEPA for extremely hazardous chemicals.

The following are radiation exposure guidelines:

- Doses to all workers during emergencies to the extent practical, are limited to 5 rem. Justifications for exposing workers beyond the 5 rem limit include the presence of conditions that prevent the rotation of workers or other commonly used dose-reduction methods.

- Emergency exposures are limited to 10 rem for protecting valuable property.

- Emergency exposures are limited to 25 rem for life saving activities and the protection of large populations.

- Emergency exposures in excess of 25 rem are authorized only for rare situations when such exposure is unavoidable in order to carry out a lifesaving operation or to avoid extensive exposure to large populations. Persons undertaking any emergency operation in which the dose will exceed 25 rem to the whole body do so only on a volunteer basis and with full awareness of the risks involved, including the numerical levels of dose at which acute effects of radiation will be incurred and the numerical estimates of the risks of delayed effects. Details for providing this information and for documenting an individual's willingness to volunteer are in an EPIP.

For hazardous material/toxic gas release incidents, the IC and emergency response personnel assess the incident scene and take appropriate protective and mitigative response actions based on available information, such as material safety data sheets, emergency response guidebooks, professional industrial hygiene guidance, and meteorological conditions.

During a UF_6 release onsite, the resulting hydrolysis products are uranyl fluoride particles and hydrogen fluoride (HF) gas. The radiotoxicity of uranium is insignificant when compared with the chemical toxicity of HF and uranium. Therefore, exposure control during an emergency involving UF_6 will be based on chemical toxicity.

5.5.1.3 Monitoring

Provisions have been made for 24-hour-per-day capability to determine uranium uptakes received by emergency personnel. Personnel who may be required to respond to the scene of an emergency are required to wear thermoluminesence dosimeters (TLDs). Issuance of self-reading dosimeters and maintenance of interim emergency whole body dose records are addressed in an EPIP. Emergency worker dose records are maintained in accordance with radiological protection procedures.

5.5.2 Decontamination of Personnel

Onsite personnel decontamination facilities for emergency conditions are equipped with decontamination material and necessary supplies. The primary means of decontamination is through the use of equipment and supplies carried on emergency response vehicles. Other decontamination facilities are located in other areas of the plant. The decontamination facilities have provisions for disrobing, collecting contaminated clothing, showering of contaminated personnel, and donning clean clothing. Onsite personnel contain and process contaminated wastes.

Personnel exiting contamination control zones, contamination areas, high contamination areas, or airborne contamination areas are monitored for contamination. The instruments used for this monitoring procedure are portable contamination survey instruments. If personnel contamination is detected, preventive measures are initiated to mitigate the possibility of the spread of contamination.

5.6 MEDICAL TRANSPORTATION

Injured employees are normally transported to the plant medical treatment facility using a plant ambulance. An onsite ambulance normally provides transportation of injured persons to an offsite hospital. In the event that an onsite ambulance is unavailable, the local offsite ambulance service provides the transportation of injured persons to an offsite hospital.

Contaminated injured persons are decontaminated prior to transport if medical conditions permit. In the event that contaminated injured persons must be transported, contamination control materials and measures are taken to protect response personnel and prevent contaminating the ambulance.

5.7 MEDICAL TREATMENT

In the event of a serious accident requiring medical treatment, local hospitals have agreed to provide the required assistance. The hospitals are equipped to handle the initial evaluation and treatment of radiologically contaminated injured individuals. Upon request from the hospitals, plant Health Physics personnel are dispatched to assist in contamination control and decontamination of the patient, hospital staff, and hospital facilities/equipment. Letters of agreement (listed in Appendix B) have been obtained to document these arrangements.

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6. EMERGENCY RESPONSE EQUIPMENT AND FACILITIES

Emergency planning requires facilities and equipment that allow the emergency organization to perform the following actions:

1. Assess the extent of the emergency,
2. Perform the proper corrective actions to mitigate the effects of the emergency,
3. Perform actions to protect onsite and offsite personnel,
4. Provide information to offsite support agencies, and
5. Perform the proper recovery actions.

Emergency facilities, equipment, and materials are established and maintained to adequately support emergency response operations. Response activities are coordinated at the emergency facilities required to be activated for each particular classification. These facilities and associated equipment are used to coordinate and manage response as well as to assess and monitor functions. Additional facilities provide for specific response activities, such as security, decontamination, medical support, laboratory analyses, and media interface.

6.1 EMERGENCY FACILITIES

Emergency facilities are activated as needed to provide direction and control, offsite resource coordination, and public information for emergencies. Facilities are declared operational when minimum staffing is present and vital equipment is operational, as outlined in procedures. The following are descriptions of facility locations, composition, activation criteria, and functions.

6.1.1 Section Deleted

6.1.2 Plant Control Facility

The PCF is located in building X-300 is used to maintain surveillance and control of operational processes, conduct incident assessment and mitigation, and initially direct protective actions. The PSS or designee, who in an emergency becomes the IC, directs response actions of the PCF staff. The PSS or designee provides command and control over the specific incident area response. PCF personnel under the direction of the PSS or designee are responsible for initially performing the following duties until the EOC is operational:

1. Assessing abnormal conditions,
2. Notifying EOC personnel,
3. Making offsite notifications,
4. Activating the public warning system if necessary,
5. Performing corrective actions,
6. Directing plant operations, and
7. Implementing onsite protective actions.

6.1.3 Command Post

The Command Post is a distinctly marked vehicle or specific area equipped with communications capabilities and other resources required to manage the incident. The Command Post provides the PSS or designee and emergency response personnel with a location as close as possible to the actual scene from which they can operate and assess the situation.

Uncontrolled events, such as meteorological changes or escalation of the emergency, may cause the relocation of the Command Post.

6.1.4 Emergency Operations Center (EOC)

The EOC is the onsite facility for the overall management of the emergency response. The EOC, a dedicated facility located in building X-1020, is the primary facility for coordinating onsite response and mitigation and offsite interface activities.

The PSS or designee activates the EOC for Alerts and SAEs. In addition, the EOC may be activated for other emergencies at the discretion of the PSS or designee. Once operational, the EOC provides coordination and management for the overall site emergency response. The EOC communicates with USEC Inc., FBP and other DOE prime contractors and Federal, State, and local organizations.

The CM directs activities at the EOC and is supported by the EOC Director. The EOC Director is responsible for coordination of EOC functions and communications.

EOC personnel are responsible for performing the following functions:

1. Technical interactions with offsite Federal, State, and local officials,
2. Generation of emergency information for public information activities,
3. Ensuring required support to the incident scene, and
4. Coordination of support for onsite response and mitigation.

The plant has planned for and has established alternate EOCs in the unlikely event that the primary EOC, the X-1020 building, becomes uninhabitable due to a radiological/toxic materials release. The requirements, responsibilities, and activities pertaining to the activation of an alternate EOC are described in the EPIPs.

The alternate EOC is located in the X-300 PCF. In the unlikely event that the EOC is evacuated, the key EOC personnel evacuate the area and relocate to the alternate EOC in accordance with the EPIPs and direction from the PSS or designee or the CM. The plant mobile communications vehicle may also be used as an alternate EOC.

6.1.5 X-104

The X-104, serves as a focal point for security activities during an emergency. The X-104 is operated on a 24-hour basis and is, therefore, immediately available to support emergency security operations. The Shift Commander is responsible for coordinating activities and communications and performs the following functions:

1. Dispatches protective force personnel,
2. Maintains communications with the protective force officer at the emergency scene,
3. Advises protective force personnel management, and
4. Advises the EOC staff.

6.1.6 Decontamination Facilities

Specific facilities, resources, and provisions for the decontamination of personnel, vehicles, and equipment are provided. These facilities are located, designed, and equipped to handle potential emergencies identified in the Emergency Plan.

6.1.7 Joint Public Information Center

The JPIC is the designated location for the dissemination of official information about the emergency to the media and to the public. The JPIC accommodates the following:

1. Coordination of information with interfacing Federal, State, and local organizations and spokespersons,
2. Press releases and media briefings, and
3. Work space for site personnel, interfacing organization personnel, and representatives of the news media.

The JPIC is located at the Word Alive Fellowship. JPIC operations are described in designated EPIPs.

6.2 COMMUNICATIONS EQUIPMENT

This section describes the communications systems in place to support emergency response. The communications systems are designed to ensure the reliable, timely flow of information and action directives between all parties having a role to play in the mitigation of emergencies. Reliability is provided via redundancy, dedicated communication equipment to preclude delays due to system overload, and routine use and testing of many of the systems, which lowers the probability of undetected system failures. Timeliness of information flow is achieved by prompt notification, predefined lines of communications, predefined emergency action levels and predefined levels of authority and responsibility. The communications network is formulated around this basic concept and is designed to channel information directly to the key parties having closely related functions, thus eliminating errors often associated with second-hand information. The essential communications links are manned continuously and are periodically tested to ensure availability. The communications systems in place include the following:

1. Commercial telephone system,
2. Facsimile machines,
3. Secure telecommunication devices (STD),
4. Radio repeater networks for plant groups,
5. Mobile communications system,
6. Two designated pagers programmed for weather advisories,
7. Local emergency response agency radio networks,
8. PA system,
9. Cellular telephones,
10. Pagers, and
11. Public Warning System.

6.2.1 Onsite Communications

The telephone systems serve as the primary emergency communications systems. Maintenance and operational testing of primary and alternate communications systems are described in Section 7.6.

6.2.1.1 Telephone Systems

The administrative telephone system provides business and emergency communications. The telephone system consists of single line, multiline, and programmable digital units. The EOC telephones are tested by Emergency Management personnel.

STDs provide secure voice communications to onsite and offsite users of other STDs. They can also operate as a normal telephone in the “clear” mode.

Cellular telephone service is available from the plant site. Certain emergency response vehicles are equipped with cellular telephones and emergency response personnel also have access to other cellular telephones. This service also provides back-up for the plant telephone system.

6.2.1.2 Public Address (PA) System

A PA system is in place with the capability to cover most occupied site buildings. During emergencies, the system is not used for routine traffic. The system is tested daily. Two-way radios, telephones, and runners are used to communicate with individuals who are not covered by the PA system.

6.2.1.3 Radio Systems

Radio systems that support emergency response include system title, call sign, frequencies, and locations. Radio systems for the most part are used on a daily basis throughout the plant and problems are addressed as they occur. Operational console checks and quarterly drills are used to test the systems.

Radio net communications are recorded 24 hours a day.

Some plant radio frequencies are compatible with offsite frequencies and are capable of supporting emergency communications between onsite emergency responders and offsite mutual aid organizations.

6.2.1.4 Pager System

Key EOC personnel have pagers which provide access from any tone-type telephone, can relay return telephone numbers or coded responses to the holder of the unit. Pagers are used frequently for non-emergency use, which enhances the regular testing program.

6.2.2 Offsite Communications

The plant uses the commercial telephone system for offsite emergency communications. The plant's alternate means of emergency communications with offsite authorities include cellular telephones and the plant radio system.

The public warning system, consisting of outdoor warning sirens and emergency alert system announcements, is used to provide emergency notification to the public. Inaudible testing of the public warning system sirens occurs on a monthly basis, and audible testing is conducted semiannually.

6.2.3 Mobile Communications Vehicle

In addition to the fixed communications system at PORTS, a mobile communications vehicle is available to provide communications support during any on- or offsite emergency. When the vehicle is activated, a three person crew provides round-the-clock operation of the vehicle's communications and technical functions, security, and on-board power source. This provides a remote communications capability.

6.3 ONSITE MEDICAL FACILITIES

The plant maintains medical coverage consistent with the activities being conducted onsite. In an emergency, off-duty medical personnel are notified and directed to required locations as needed. The PSS or designee notifications include alerting appropriate occupational health services and medical personnel in the event of emergencies ranging from industrial accidents to toxic or radiological releases. Letters of Agreement are maintained with area hospitals. These offsite hospitals also have facilities, equipment, and supplies for the treatment of contaminated individuals. A summary of the medical resources follows.

A plant medical facility is maintained onsite during the day shift excluding weekends and holidays. This facility has the supplies, equipment, and personnel to treat most injuries. This includes capabilities for the treatment of contaminated individuals including a shower for contaminated ambulatory patients, radiation survey instruments, and decontamination supplies. Medical personnel assess patient condition, provide necessary emergency care, and determine appropriate supplemental treatment.

Health services personnel are available during the day shift hours with plant fire fighters providing emergency medical coverage the remainder of the time. Health services personnel may be called onsite during off shifts, as deemed necessary.

Emergency medical technicians provide ambulance service. Additional ambulance support is available from offsite. Emergency air ambulance service is also available upon request from plant personnel for transport of injured non-contaminated personnel.

6.4 EMERGENCY MONITORING EQUIPMENT

The plant maintains various radiation detection equipment onsite for normal and emergency response use. Criticality accident alarms have been placed in those areas and facilities containing fissile material as described in Chapter 6 of the BIO. The criticality accident alarm system provides for radiation detection and an alarm system to alert plant personnel.

Persons requiring radiation exposure monitoring wear beta-gamma-sensitive dosimeters (TLDs), which are processed and evaluated by a processor holding current accreditation from the National Voluntary Laboratory Accreditation Program of the National Institute of Standards and Technology. These personnel exposure monitoring dosimeters are exchanged and analyzed in accordance with Chapter 7 of the BIO. As appropriate, other types of dosimeters (e.g., finger rings, direct-reading dosimeters, and neutron dosimeters) are used.

Radiation dose rate and contamination survey instruments used are appropriate to measure the types and energies of radiation encountered at PORTS. Instruments capable of supporting radiography operations are also maintained in inventory.

Instrumentation includes alpha/beta count rate and scalar instrumentation as well as ion chambers used to evaluate personnel exposure.

Radiological instruments are calibrated routinely as specified in procedures.

Designated plant emergency vehicles responding on scene and containing necessary emergency equipment and supplies ensure that personnel and monitoring equipment are readily available to emergency personnel. This equipment and supplies include count rate monitors for measuring contamination, dose rate monitors for measuring radiation, and portable airborne monitors. This equipment is tested daily.

Monitoring stations are strategically located onsite for evacuation during radiological events. Emergency monitoring equipment is stored and always available at each monitoring station.

In addition to radiological monitoring equipment, the plant maintains emergency monitoring instrumentation for chemically toxic material releases. These instruments are maintained in dedicated emergency response vehicle kits and will also be supplied from the plant's inventory of routinely used monitoring equipment.

The primary source of meteorological information is the X-120H South Weather Station consisting of a tower with a data terminal, a data acquisition system, and meteorological sensors located at ground level, 10 meters, 30 meters, and 60 meters. This system measures wind speed, wind direction, and temperature. It also automatically measures temperature differential, humidity, stability, and precipitation. The data is displayed in the PCF and displayed and recorded in the EOC. Refer to Figure 1-2 for the location of the X-120H South Weather Station. Meteorological data is used to ensure safe emergency scene response (from the upwind direction), facilitate plume dispersal modeling, and to enable appropriate protective action recommendations in the event of an airborne release.

Weather forecasting information is also available at the X-300 Plant Control Facility via commercial telephone call to the National Weather Service in Wilmington, Ohio. Weather forecasts are used to inform plant personnel of impending related hazards, driving hazards, and may be used to inhibit proposed plant evolutions such as cylinder movements.

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7. MAINTAINING EMERGENCY PREPAREDNESS CAPABILITY

This section describes the responsibilities for developing, maintaining, and updating the plan and EPIPs and for maintaining emergency preparedness capability.

7.1 WRITTEN EMERGENCY PLAN AND PROCEDURES

USEC Inc. is responsible for maintaining and updating the Plan, as appropriate. USEC Inc. may make changes to the Plan without prior NRC or DOE approval if the changes do not decrease the effectiveness of the Plan. USEC Inc. will furnish these changes to DOE and to the NRC in accordance with License requirements and to affected offsite response organizations within six months after the change is made. USEC Inc. RMDC provides the onsite distribution of the Emergency Plan to ensure that groups having responsibilities for response functions are included in the distribution.

Most EPIPs are level 2 plant procedures and are revised, reviewed, approved, controlled, and distributed in accordance with plant administrative procedure requirements. In part, these requirements ensure that new or revised EPIPs state duties, responsibilities, and actions to be taken by individual groups or individuals in response to an emergency condition. Level 2 procedures are required to be reviewed by subject matter experts and personnel in affected areas and are approved by the FBP Level 1 Managers. Level 2 procedures are distributed to each controlled procedure set holder. The revisions of the procedures incorporate required changes to correct deficiencies identified in emergencies, training, drills, or exercises.

7.2 TRAINING

FBP Emergency Management (EM) is responsible for administering the emergency management training program. A series of course modules has been developed for onsite training programs.

Personnel assigned to the ERO are required to satisfactorily complete an initial training program followed by retraining. Required continuing or refresher training is conducted biennially, except for firefighting, hazardous material emergency response, and emergency medical recertification which are described in an applicable implementing procedure. A physical examination and respiratory protection training are prerequisites to both firefighting and hazardous material emergency response initial and refresher training. The initial training program is composed of a collection of functional modules, which emergency personnel receive based on their emergency assignment. Specific training requirements are defined in the Training, Development and Administrative Guide for the Emergency Management Training Program.

A formal training record retention program has been established and is maintained for ERO members, support personnel, and offsite agency response organizations. Evaluation records for each course are maintained for incorporation into upgrades of the program.

The emergency management staff participates in professional emergency management development training activities and other related training.

7.2.1 General Emergency Plan Training

FBP, contractors, and subcontractors requiring unescorted access must attend General Employee Training (GET) on a biennial basis.

GET is completed in order to ensure proper response to emergencies. The emergency preparedness subjects covered include the following:

1. Emergency plant safety objectives and priorities,
2. Ways to report emergencies,
3. Recognition and correct responses to plant alarm signals,
4. Evacuation guidelines for radiological and nonradiological emergencies,
5. Methods of personnel accountability, and
6. Personnel responsibilities during emergencies.

USEC Inc., DOE employees, contractors, and subcontractors requiring access to the security controlled area also receive biennial training on the six emergency plan elements listed above. This training requirement may be satisfied by attending GET delivered by the FBP Training Organization, or training prepared by USEC Inc., DOE, or by a DOE contractor/subcontractor that has been reviewed by the FBP Training organization manager or designee to ensure the training, including subsequent revisions, is equivalent with respect to the six emergency plan elements listed above and requirements for unescorted access in BIO Section 12.4.

All personnel requiring unescorted access to the security controlled area (DOE, DOE contractors/subcontractors, USEC Inc., and FBP) are subject to direct control of their training through denial of access if the individual does not present evidence of having current GET.

7.2.2 Specialized Emergency Plan Training for the Emergency Response Organization

A formal training program, which includes classroom-type training (lectures, seminars), practical applications (tabletop drills, functional drills, and exercises), and self-study programs has been developed for the ERO and support personnel. The ERO receives training commensurate with assigned positions. This training program ensures the continued emergency management training of persons who may respond/participate during a plant emergency. Specialized emergency management training is provided and includes but is not limited to the following categories of topics:

1. Emergency Management Overview. This course provides an orientation to the PORTS Emergency Management Program. Subjects covered in this training include emergency response, responsibilities and authorities, requirements, facilities and equipment overview, and offsite interface summary. This course is provided initially.

2. Operational Facility Training. This course covers the operation of the EOC during a declared emergency, including the interface with the Incident Commander and an overview on communications with onsite support groups and offsite agencies. This course is provided initially with biennial retraining requirements

3. Credible Emergencies. This course covers the response to a threat to the facility of a bomb threat, tornado, or earthquake. This course is provided initially.

4. Emergency Management Drill and Exercise Participation. This course covers the Emergency Management Drill and Exercise Program. This course is provided initially with biennial retraining requirements.

5. Emergency Classification and Protective Actions. This course covers the event classification systems and PORTS EALs. The course also provides instruction about onsite and offsite protective actions. This course is provided initially with biennial retraining requirements.

6. Emergency Notifications/Communications. This course is provided to those personnel who are responsible for preparing, approving, and/or conducting emergency notifications to on- and offsite authorities. This course is provided initially with biennial retraining requirements.

7. Operational Facility Support. This course provides instruction about how to use the communication and computer equipment available at EOC positions. This course is provided initially.

8. Emergency Response Activities. This course provides emergency response activities being directed from other than the EOC and subsequent responsibilities and authorities following the exit of an emergency classification. This course is provided initially with biennial retraining requirements.

The Emergency Management Training procedure establishes the requirements for the formal Emergency Management training program. The procedure is supplemented by the Training, Development and Administrative Guide for the Emergency Management Training program. Specific emergency training requirements for each position are described in the Training, Development and Administrative Guide, which includes lesson plans for the emergency management training, frequency of retraining, and the number of hours of initial and retraining that are provided to the ERO.

7.2.3 Offsite Emergency Management Training

Training is offered biennially by letter of invitation to non-licensee emergency support organizations that may be called upon to respond to emergencies at the plant, including Lead Cascade. These agencies include local fire, law enforcement, ambulance, and hospital services. In addition to fire services/emergency management, personnel from other plant groups such as training, health physics, industrial hygiene, and security, provide assistance as needed. This training includes the following topics as a minimum:

1. Site-specific information on hazards, onsite and offsite protective actions, and emergency response from personnel or organizations augmenting the ERO,

2. Orientation tours of the PORTS reservation, and

3. Information briefings for the news media on operational emergencies, site-specific hazards and responses, site points of contact, and procedures for the release of information in the event of an emergency.

7.3 DRILLS AND EXERCISES

Emergency management drills and exercises are conducted to develop, maintain, and test the response capabilities of emergency personnel, facilities, equipment, procedures, and training.

A drill is a supervised instruction session that develops, tests, or maintains a specific emergency response capability using a limited scope scenario. Drills are held quarterly and involve decision-making and actions by participating personnel to simulate emergency conditions but do not involve offsite response personnel.

An exercise is a training session that tests the integrated capability of all or most of the basic elements existing within the emergency plan and EPIPs. Exercises use scenarios that are wider in scope than drills and may involve offsite response personnel and agencies.

Drills and exercises are conducted by persons trained in the control and evaluation of drills. Controllers and evaluators are assigned to various locations if a drill or exercise involves simultaneous activities at more than one location. Evaluators are provided with criteria for acceptable performance to evaluate the performance of participants.

The FBP EM manager has overall responsibility for implementing a coordinated program of emergency drills and exercises identified in an EPIP. The EPIP requires emergency management to promulgate a drill and exercise schedule annually, which identifies drill/exercise category, shift/group, and tentative dates. Management personnel are responsible for ensuring that employees under their oversight are available to participate in drills and exercises. Personnel are required to participate in drills and exercises in a safe and realistic manner.

The Emergency Management Drill and Exercise Committee is responsible for exercise scenario development, establishing a planning schedule, and identifying participants and evaluators. The committee is chaired by a representative of emergency management and consists of members representing the areas of security, fire services, PSS staff, and others as appointed.

Members of the ERO are required to participate in drills and exercises. This requirement is met if the activated personnel of the ERO respond to an emergency and meet response objectives, keep records, and critique the response.

7.3.1 Biennial Exercises

Plant personnel plan and conduct biennial exercises. Offsite response organizations, DOE and the NRC are invited to observe or participate in these scheduled exercises.

An exercise is an event that tests the integrated capability of the basic elements existing within emergency plans and organizations. An exercise simulates an emergency resulting in potential or actual offsite impacts that may require response by offsite authorities.

An exercise scenario manual containing relevant documentation will be developed for each drill and exercise. The drill/exercise scenario contains a preplanned description of the accident to be used, prepared according to the scope and objectives of the drill/exercise. Each scenario describes a hypothetical situation that serves as the basis for emergency response actions. Scenarios are varied from year to year and are designed to minimize simulation. No scenario information is given to participants prior to a drill or exercise.

The exercise scenario manual is provided to the NRC and DOE at least 60 days before the exercise.

Drill and exercise controllers and evaluators are trained on the proper conduct of emergency exercises. This training includes information on safety precautions, scenario messages, simulated actions, participant interactions and controller input, evaluation methodology, and critique format.

7.3.2 Quarterly Communications Checks

Communications checks with offsite response organizations are conducted on a quarterly basis and include the checking and updating of necessary telephone numbers.

7.4 CRITIQUES

Formal critiques are conducted for key participants, controllers, and evaluators following each exercise. These critiques are conducted by personnel who were not participants, normally emergency management or contractor personnel.

Emergency management screens all critique comments. Critique items that have safety significance indicate a regulatory violation or reflect serious deficiencies in plan content or implementation are identified to the PSS and a Problem Report is initiated. Resulting corrective actions are tracked in the plant management tracking system in accordance with plant procedures. The remaining critique items are submitted to the Emergency Management Drill and Exercise Committee, which determines their validity and determines the appropriate method for corrective actions as required by an EPIP.

Emergency management tracks corrective actions identified by the Emergency Management Drill and Exercise Committee through completion or implementation. Management is responsible for implementing exercise corrective actions in their respective functional areas.

7.5 PROGRAM AUDIT

The Emergency Management Program is audited in accordance with Section 2.18 of the QAP to ensure adequate and effective program function. This ensures that changes in plant layout are included in revisions to the Plan. The scope of the audit includes the Plan and the EPIPS, training activities, exercise deficiencies, emergency facilities, equipment, and supplies, and those records associated with offsite support agency interface. Audit personnel do not have direct responsibilities for implementing the Emergency Management Program and are qualified according to established procedures.

Procedures provide measures that ensure that audit personnel are provided with appropriate training so that they are competent to perform the required audits. Procedures also require that lead auditors meet the training and experience requirements described in Section 2.2.4 of the Quality Assurance Program. Technical specialists may occasionally participate as audit team members provided that they receive the required indoctrination and guidance during the audit.

Procedures require that emergency management investigate adverse audit findings and schedule corrective actions that prescribe measures to prevent recurrence. The auditing organization evaluates the adequacy of the written responses.

Procedures require that follow-up actions be taken to verify that corrective actions be completed as scheduled.

7.6 MAINTENANCE AND INVENTORY OF EMERGENCY EQUIPMENT, INSTRUMENTATION, AND SUPPLIES

Adequate equipment and supplies are kept available, properly stored, and maintained in operable status for emergency response personnel to perform their respective duties and responsibilities. This includes equipment and materials for radiological and toxicological monitoring, protective clothing, fire fighting equipment, sampling equipment, respiratory protection equipment and emergency air supplies, damage control materials, dedicated spare parts, radios, telephones, vehicles, and administrative supplies.

The FBP EM manager has an administrative oversight responsibility for the quarterly inventory and inspection of emergency equipment and supplies. Identified deficiencies are corrected in a responsible period of time.

Emergency equipment and instruments are inspected, inventoried, and operationally tested quarterly and after each use. The appropriate groups manually track emergency equipment and supplies, i.e., respirators and medical supplies that have shelf-lives.

Sufficient reserves of emergency equipment and instruments are available to replace emergency equipment that is removed for calibration or repair. Emergency instruments are calibrated at the intervals specified for each type of instrument. A summary report of each inventory and inspection is prepared and submitted as emergency management documentation.

7.7 LETTERS OF AGREEMENT

Changes to the Plan are communicated to the appropriate offsite response organizations. Letters of Agreement with offsite support organizations and agencies are reviewed and updated every four years or more frequently if needed. A change in original signatory to a given Letter of Agreement does not in itself require revision of that letter. A change in applicability of content of a Letter of Agreement, however, does require a revision to that letter. Letters of Agreement are identified in Appendix B.

8. RECORDS AND REPORTS

8.1 RECORDS OF INCIDENTS

Event documentation includes the cause of the incident, personnel and equipment involved, extent of injury and damage (onsite and offsite) resulting from the incident, locations of contamination with final decontamination survey results, corrective actions taken to terminate the emergency, measures taken to restore the plant to normal conditions, and action taken or planned to prevent a recurrence of the incident. The documentation includes plant and offsite support assistance requested and received and any program changes resulting from a critique of emergency response activities.

The PSS or designee is responsible for reporting and recording events of abnormal operation, equipment failure, and accidents that lead to a plant emergency. Records unique to a radiological emergency and decommissioning are retained until the certificate is terminated.

8.2 RECORDS OF PREPAREDNESS ASSURANCE

Records are retained and maintained to document readiness assurance. These records include the following:

1. Emergency management training and retraining, including lesson plans and test questions,
2. Drills, exercises, and related critiques,
3. Inventories and locations of fire services emergency equipment and supplies,
4. Maintenance, surveillance, calibration, and testing of fire services emergency equipment and supplies,
5. Letters of Agreement,
6. Reviews and updates of the Plan and
7. Notification of personnel and offsite agencies affected by an update of the Plan or the EPIPs.

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9. RECOVERY AND PLANT RESTORATION

In an emergency, the immediate action is directed toward limiting the consequences of the incident in a manner that affords the maximum protection to plant personnel and the general public. Once the corrective and protective actions have established an effective control over the situation, and emergency conditions no longer exist, the emergency response shifts into the recovery phase.

Emergencies may or may not impact plant operations within the scope of NRC and DOE-regulated activities. Therefore, it may be possible to continue operations that are not impacted either directly or indirectly by an emergency situation.

It is the responsibility of the CM to determine when the recovery phase of the emergency can be initiated. The following criteria for terminating an emergency and beginning recovery operations are considered as appropriate:

1. If classified emergency conditions no longer meet any emergency classification criteria (EAL),

2. The affected facility/area is in a stable condition and can be maintained in that condition indefinitely,

3. Fire or other similar emergency conditions no longer constitute a hazard,

4. Releases of hazardous materials to the environment have ceased or are controlled, and

5. Discussions with the ERO and appropriate offsite agencies identify no valid reason to continue in any emergency classification.

9.1 RECOVERY

The nature and extent of the emergency determines what recovery operations are required and the extent of the recovery organization that must be formed. A recovery plan must be flexible enough to adapt to the existing conditions. It is not possible to anticipate in advance all of the conditions that may be encountered as a result of the emergency. General principles addressed in this section serve as a guide for developing a flexible plan of action.

Recovery includes those actions necessary to return an incident site and the surrounding environment to pre-emergency conditions to the maximum extent practical. Specific recovery plans are developed in accordance with the applicable EPIP.

The DOE site manager (or designee) is responsible for ensuring the adequacy and appropriateness of recovery operations involving nonleased portions of the facility. The General Manager, American Centrifuge Plant Operations is responsible for ensuring the adequacy and appropriateness of recovery operations involving the Lead Cascade.

9.2 RECOVERY ORGANIZATION

Prior to termination of an emergency and deactivation of the ERO, the CM appoints a recovery manager and a recovery organization is established to implement recovery plans. The recovery manager has overall responsibility for recovery activities, including ensuring that all safety equipment is checked and restored to normal conditions and evaluating and retaining ALARA records. Other duties of the recovery manager include coordination of interactions with vendors and contractors, approval of special procedures and related training, interfacing with offsite Federal, State, and local officials; and assignment of responsibility for compiling, evaluating, and ensuring retention of all records associated with the event. The key operating and management positions of the recovery organization are listed below:

1. Recovery Manager
2. Advisor, Operations
3. Advisor, Maintenance
4. Advisor, ES&H
5. Field Response Coordinator
6. Advisor, Engineering
7. Deleted
8. Advisor, Public Affairs
9. Health Physics Personnel
10. Protective Force personnel

Personnel radiation exposures during restoration activities shall be maintained in accordance with the As Low As Reasonably Achievable (ALARA) principle. After the emergency condition no longer exists, a thorough radiological evaluation of the situation shall be performed. Plant radiological protection procedures shall be followed during restoration activities.

10. COMPLIANCE WITH COMMUNITY RIGHT-TO-KNOW ACT

The plant complies with the EPA Superfund Amendments and Reauthorization Act (SARA) Title III regulations, also known as the Emergency Planning and Community Right to Know Act. Specific responsibilities include emergency response planning, emergency release reporting, hazardous chemical inventory reporting, and toxic chemical release reporting.

This Plan and appropriate EPIPs are used during any hazardous chemical release emergencies. Plant administrative procedures have been developed for hazardous materials releases that are not classified as emergencies to ensure that the requirements of SARA Title III are met. Material safety data sheets are maintained in several areas throughout the plant.

Hazardous materials spills or releases are reported to the PSS who responds to the incident scene as IC or dispatches a designee in that capacity. The IC directs the emergency containment of spills. Actions to be implemented are described in appropriate EPIPs and include the following:

1. Evacuate/isolate the area of release/spill activity, as necessary, and determine areas of concern,
2. Classify the emergency if appropriate,
3. Determine if activation of additional ERO personnel is necessary,
4. Take measures to minimize safety concerns,
5. Determine a course of action and personal protective equipment requirements,
6. Initiate containment procedures,
7. Terminate the source,
8. Make appropriate notifications to onsite and offsite officials,
9. Determine material disposal, and
10. Terminate the incident and enter recovery.

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Appendix A (Deleted)

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Appendix B

LETTERS OF AGREEMENT

1. Pike County Fire Fighters Association
2. Southern Ohio Medical Center
3. Pike Community Hospital
4. Medical Center Hospital
5. Pike County Emergency Medical Service
6. Word Alive Fellowship
7. Eastern High School
8. Waverly High School
9. Valley High School
10. Western High School
11. Pike County Sheriff

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Appendix C

LIST OF SUPPORTING DOCUMENTS

1. Pike County Emergency Management Agency, *Pike County Ohio Emergency Operations Plan, Annex N, Section 2, Site Specific Response Plan for a Hazardous Chemical Emergency.*

2. Ohio Emergency Management Agency, *State of Ohio Hazardous Materials Emergency Management Plan* and its *Department of Energy Facilities Annex to the State of Ohio Hazardous Materials Emergency Management Plan*.

3. USEC, *PORTS Communications Plan*.

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Appendix D

DEFINITIONS/ACRONYMS

Accident — A deviation from normal operations or activities associated with a hazard that has the potential to result in an emergency.

ACR — Area control room.

ALARA — As low as reasonably achievable.

APSS - Assistant Plant Shift Superintendent.

Assessment actions — Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

BIO – Basis for Interim Operation of FUEF.

CAAS — Criticality Accident Alarm System.

CAS — Central Alarm System.

CM — Crisis Manager.

Consequence — The result or effect (especially projected doses or dose rates) of a release of radioactive or hazardous materials to the environment.

Corrective actions — Those emergency measures taken to lessen the severity of or terminate an emergency situation at or near the source of the problem to prevent or control a release of radioactive material or to minimize the damage to plant equipment, e.g., shutting down equipment, fire fighting, repair, and damage control.

Decontamination — The removal of surface radioactive/hazardous material from individuals, equipment, surfaces, etc.

DOE — U.S. Department of Energy.

DOT — U.S. Department of Transportation.

Drill — A supervised hands-on instruction period intended to test, develop, or maintain a specific emergency response capability.

EMA — Emergency Management Agency.

Emergency — Any operational, civil, natural-phenomenon or security event that could endanger or adversely affect people, property, or the environment, which requires a time-urgent response for mitigation.

Emergency Action Level (EAL) — Specific, predetermined, observable criteria used to detect recognize, and determine the class of emergencies. An EAL can be an instrument reading, an equipment status indicator, a measurable parameter onsite or offsite, a discrete, observable event, a result of analyses, another observed phenomenon that indicates entry into a particular emergency class.

Emergency Operations Center (EOC) — An emergency response facility that accommodates personnel acting in support of the command and control functions but separate from the Incident Commander and on-scene command post. Under the guidance of the CM, these personnel supply strategic and corrective engineering and radiological, hazardous materials, and environmental support assistance to the PSS and on-scene emergency personnel.

Emergency Response Organization (ERO) — The designated group of personnel responsible for coping with and minimizing or mitigating the effects of any emergency.

Emergency Response Planning Guideline (ERPG) — A hazardous material personnel exposure level or range that, when exceeded by a short-term or acute exposure, will cause irreversible or other serious health effects in humans. The ERPGs are approved by a committee of the American Industrial Hygiene Association.

EPA — U.S. Environmental Protection Agency.

EPIP — Emergency Plan Implementing Procedure.

Event — Any real-time occurrence or significant deviation from planned or expected behavior that could endanger or adversely affect people, property, or the environment.

Exercise — A scheduled and planned large-scale activity that tests the integrated capability and most aspects of the emergency management program.

FAA — Federal Aviation Administration.

FBP — Fluor-B&W Portsmouth LLC.

FBI — Federal Bureau of Investigation.

FEMA — Federal Emergency Management Agency.

FUEF — Former Uranium Enrichment Facilities.

Hazardous Material (HAZMAT) — Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment.

IC — Incident Commander.

Immediate Notification Area (INA) — An area that extends approximately two miles from the center of the plant in which members of the public would be notified by Public Warning System sirens in the event of an emergency.

JPIC — Joint Public Information Center.

Letter of Agreement — An agreement drawn up between the plant and off-site local governments or other organizations for assistance in the event of an emergency (also called Memorandum of Understanding, Mutual Aid Agreement, Memorandum of Agreement and/or Letter of Assistance).

MSDS — Material Safety Data Sheet.

NRC — U.S. Nuclear Regulatory Commission.

NWS — National Weather Service.

PA — Public Address.

PCF — Plant Control Facility.

PGDP — Paducah Gaseous Diffusion Plant.

Plan — The plant emergency plan.

PORTS — Portsmouth Gaseous Diffusion Plant. (including all of DOE reservation).

Protective action — Physical measures, such as evacuation or sheltering, taken to prevent potential health hazards resulting from a release of hazardous materials to the environment from adversely affecting employees or the off-site population.

Protective Action Guide (PAG) — A radiation personnel exposure level or range beyond which protective action should be considered. PAG values should reflect a balance of risks and costs to on-site personnel, public health and safety, and the environment weighed against the benefits obtained from protective actions.

PSS — Plant Shift Superintendent.

PWS — Public Warning System.

Recovery — Actions taken after the emergency to restore the plant or area as nearly as possible to pre-emergency conditions.

RM — Recovery Manager.

SAE — Site Area Emergency.

TLD — Thermoluminescence Dosimeter.

USEC Inc. — United States Enrichment Corporation Incorporated.

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