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FINAL ENVIRONMENTAL ASSESSMENT FOR THE APPROVAL TO TRANSPORT
CLASSIFIED MATTER AND WASTES FROM THE AMERICAN CENTRIFUGE
LEAD CASCADE FACILITY IN PIKETON, OHIO

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ACRONYMS

ACO	American Centrifuge Operating, LLC
ACP	American Centrifuge Plant
ALARA	As Low As Reasonably Achievable
Centrus	Centrus Energy Corp.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DP	decommissioning plan
DUF ₆	depleted uranium hexafluoride
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1969
FWS	U.S. Fish and Wildlife Service
GCEP	Gas Centrifuge Enrichment Plant
ha	Hectare
LCF	Lead Cascade Facility
LLMW	low level mixed waste
mSv	milli Sievert
microCi/ml	micro Curie per millimeter
microR/hour	micro Roentgen per hour
MOU	Memorandum of Understanding
NMFS	U.S. National Marine Fisheries Service
NNSS	Nevada National Security Site
NRC	U.S. Nuclear Regulatory Commission
ODH	Ohio Department of Health
ODOT	Ohio Department of Transportation
Ohio EPA	Ohio Environmental Protection Agency
Ohio SHPO	Ohio State Historic Preservation Office
PORTS	Portsmouth Gaseous Diffusion Plant
USCB	U.S. Census Bureau

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1.0 INTRODUCTION AND BACKGROUND

American Centrifuge Operating, LLC (ACO or the licensee) plans to transport classified matter and unclassified contaminated waste generated at its American Centrifuge Lead Cascade Facility (LCF). The LCF has operated since 2006 under License No. SNM-7003, issued by the U.S. Nuclear Regulatory Commission (NRC) in 2004 (NRC, 2004a). The LCF is located on an approximately 3,700 acre (1,500 hectare) site in Pike County, Ohio that is owned by the U.S. Department of Energy (DOE). DOE leases portions of this site, including the LCF buildings, to the licensee. The LCF waste would be sent to the DOE's Nevada National Security Site (NNSS) for permanent disposal there (ACO, 2017a).

On February 24, 2017 and on March 10, 2017, the licensee provided the environmental information on which this final environmental assessment (final EA) is primarily based (ACO, 2017b and 2017c). In this final EA, the NRC staff evaluates the potential environmental impacts associated with this proposed action in accordance with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," and applicable guidance found in NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" (NRC, 2003).

In the early 1980s, the DOE initiated its construction of the Gas Centrifuge Enrichment Plant (GCEP) at the Portsmouth Gaseous Diffusion Plant site (PORTS) in Piketon Ohio. After installing and operating several hundred centrifuges, the DOE terminated the GCEP project in 1985. About fifteen years later, USEC, Inc. decided to use and expand the existing GCEP facilities for deploying its own commercial centrifuge plant. In 2004, USEC, Inc. signed a lease agreement with the DOE to use certain GCEP facilities for testing and eventual commercial production as part of its overall gas centrifuge uranium enrichment project.

The NRC issued License No. SNM-7003 to USEC, Inc. on February 24, 2004 (NRC, 2004a). USEC, Inc. under contract with the DOE, dismantled and packaged for transport to the NNSS the DOE's contaminated and non-contaminated GCEP classified waste comprising of centrifuges and equipment. After licensing by the NRC, USEC Inc. began to install its own centrifuges in a portion of one of the two existing GCEP process buildings, and began operating the LCF as a testing facility in August of 2006. The LCF's purpose was to provide reliability, performance, cost and other data for use in the decision whether to construct and operate a commercial uranium enrichment plant, commonly referred to as the American Centrifuge Plant (ACP) [NRC, 2004b]. To govern any future operation of the ACP, NRC issued license SNM-2011 in 2007 (NRC, 2007). To date, no significant construction activities have occurred at the ACP. These NRC licenses were subsequently transferred to ACO and then to Centrus Energy Corp. (Centrus) (NRC, 2017a). The LCF lies completely within the ACP site, occupying about 10 percent of the space reserved for the ACP. The ACP site in turn lies completely within DOE's controlled access area where an adjoining uranium enrichment facility using a gaseous diffusion process previously operated for several decades.

The LCF was authorized to contain a maximum of 240 operating centrifuges at any given time with a maximum enrichment of 10 percent in the fissile isotope uranium-235 (U-235) by weight. The product stream (enriched in U-235) was mixed with the tails stream (depleted in U-235). As

a result, other than small samples, no enriched uranium hexafluoride (UF_6) was withdrawn from the process (ACO, 2017d). The NRC's 2004 licensing EA (NRC, 2004b) contains further background information about the LCF.

Since both the DOE and the NRC have regulatory oversight responsibilities for the LCF, a Memorandum of Understanding (MOU) between the two federal agencies was signed on March 24, 2004 (NRC, 2004c). The purpose of the MOU is to (1) define roles and responsibilities of each agency, (2) clarify the regulatory boundaries and avoid dual regulation recognizing that Centrus will be conducting both NRC-regulated and DOE-regulated activities associated with the LCF concurrently in the same buildings, and (3) define the way in which the NRC and the DOE will cooperate to facilitate obtaining information and knowledge regarding gas centrifuge technology and facility operations.

On March 2, 2016 (ACO, 2016a), ACO notified the NRC, in accordance with 10 CFR 70.38(d)(2), of Centrus's decision to permanently cease operation of the LCF, and to terminate NRC License SNM-7003 following decontamination and decommissioning activities. Since then, under its existing LCF license, Centrus has removed all UF_6 from the installed process centrifuges and piping, disconnected its centrifuge machines from their mounts, and moved the centrifuges into temporary storage locations within the process building. Centrus is currently packaging its LCF centrifuges and equipment for transport and disposal at the DOE's NNSS. It is noted that a number of centrifuges and other pieces of equipment and process piping used in the LCF are DOE-owned. As part of decommissioning the LCF, Centrus will also dismantle and package for transport and disposal such DOE-owned centrifuges, equipment and process piping.

On May 17, 2016, Centrus submitted a license amendment application to the NRC to downgrade licensed activities at the LCF to "Limited Operations" and to remove enrichment capability from the license (ACO, 2016b). The NRC approved the amendment on December 23, 2016 (NRC, 2016). In order to terminate this NRC license, the licensee states that the LCF buildings would be emptied of classified and/or contaminated equipment (ACO, 2017e). The licensee states that following LCF license termination, the bare LCF process areas would be transitioned to the ACP license (ACO, 2017f).

1.1 Proposed Action

SNM-7003 allows ACO to possess and use special nuclear, source and by-product material in support of its LCF operations. As discussed above, ACO is packaging its classified matter and its unclassified, low-level contaminated waste, and is seeking NRC approval of ACO's plan to ship radioactively contaminated and non-contaminated classified material waste from the LCF to the NNSS, for permanent burial there (ACO, 2017e). The NNSS is located approximately 3,300 kilometers (2,050 miles) from PORTS.

ACO has identified three types of waste to be shipped: solid radioactive, liquid radioactive, and solid low level mixed waste (LLMW). ACO does not anticipate that any Class B, C or greater than Class C¹ solid radioactive, liquid radioactive or solid LLMW, would be generated during its decommissioning activities (ACO, 2017c). The LCF has a radioactive and mixed waste program in place that guides its handling of waste on-site. ACO manages this waste that is generated on-site in accordance with applicable state and federal regulations (ACO, 2017e).

¹ Class A, Class B, Class C, and Greater than Class C wastes are defined in 10 CFR 61.55, "Waste Classification."

ACO states that the Ohio Environmental Protection Agency (EPA) considers the LCF a conditionally exempt small quantity generator, and that because no treatment of mixed waste will be performed at the LCF, no permits are necessary (ACO, 2017d). Process equipment would be dismantled and handled as contaminated waste and containerized to minimize the potential spread of contamination and volume of waste (ACO, 2017c). ACO packages, labels, and tracks waste using shipping manifests in accordance with applicable Ohio, U.S. Department of Transportation (DOT), NRC, and EPA requirements (ACO, 2017e). ACO states that approximately 315 waste shipments to NNSS will be necessary, which the licensee anticipates will be completed in calendar year 2018, prior to license termination (ACO, 2017e).

ACO estimates that the volume of Class A solid radioactive waste that would be shipped to NNSS is approximately 180,000 cubic feet (approximately 5,097 cubic meters) (ACO, 2017c), and identifies the following three types of solid radioactive waste containers to be used: (1) sealed centrifuge casings containing contaminated cascade components; (2) Intermodal Freight Transport containers filled with contaminated cascade components; and (3) B-25 box containers filled with centrifuge assemblies and remaining cascade parts. The sealed centrifuge casings meet the packaging requirements for a type 1 industrial package (IP-1) set forth in 49 CFR 173.411(b) by meeting the general design requirements in 49 CFR 173.410 (ACO, 2017g). B-25 box containers are used in industry to store waste, and they are nominally 4 x 4 x 6 feet (ft) steel containers with a bolted lid (ACO, 2017h). Dry active waste could be added to each of these solid radioactive waste containers. Dry active waste might include paper, cloth, plastic, rubber, glass, metal, cardboard, gloves as well as other miscellaneous debris (ACO, 2017h). The material being shipped from the LCF is low specific activity (LSA) material, and comes within the 10 CFR 71.14(b)(3) exemption for low-level radioactive materials; the LSA material also meets the definition of surface contaminated objects as specified in 49 CFR 173.427 (ACO, 2017b).

ACO's liquid radioactive waste consists of oils removed from the LCF process equipment during disassembly. ACO plans to handle this waste in accordance with its procedures and would implement additional handling and packaging procedures as needed for disposal at NNSS (ACO, 2017c). ACO also plans to transfer unclassified, low-level contaminated liquid waste to an on-site processing facility at the PORTS reservation, where Fluor-B&W Portsmouth LLC would process the unclassified low-level contaminated liquid waste and then ship it offsite for incineration and disposal. This waste will not be shipped to NNSS as part of the proposed action (ACO, 2017h).

Solid LLMW includes various electronic components from the LCF, such as distribution control systems, acquisition systems, and mass spectrometer electrical components. Minimal radioactive contamination for these solid LLMW is anticipated (ACO, 2017c). Only Class A solid LLMW would be present and this would be packaged within B-25 containers for disposal. This LLMW would be shipped off-site to the EnergySolutions Bear Creek Facility in Oak Ridge, Tennessee, for macro-encapsulation prior to being shipped to NNSS (ACO, 2017c). Macro-encapsulation generally involves the application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media (40 CFR 268.45). No treatment of this LLMW would be performed at the LCF facilities (ACO, 2017c).

1.2 Purpose and Need for the Proposed Action

By letter dated March 2, 2016, the licensee notified the NRC of its decision to permanently cease LCF operations and to terminate license SNM-7003 (ACO, 2016a). In preparation for

future decommissioning of the LCF, ACO is packaging classified matter and/or contaminated waste for transport to the NNSS for permanent burial.

1.3 Scope of the Environmental Analysis

The NRC staff evaluated the potential environmental impacts associated with the proposed action and the no-action alternative, and has documented the results of the assessment in this final EA. The NRC staff performed this review in accordance with the requirements of 10 CFR Part 51 and applicable staff guidance found in NUREG-1748 (NRC, 2003). The NRC reviewed relevant information in documents submitted by the licensee as well as NRC's previous EA for the licensing of the LCF (NRC, 2004b). These documents are identified in Section 9.0 of this EA.

2.0 ALTERNATIVE

The alternative considered in this final EA is the no-action alternative. Under the no-action alternative, all waste generated by LCF operations to date would remain onsite. The no-action alternative does not comply with commitments made during licensing or the decommissioning requirements of 10 CFR 70.38, "Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas." Therefore, the NRC staff concludes that leaving all of the LCF waste onsite is not a reasonable alternative to approving the shipment of the waste to NNSS as proposed. The no-action alternative serves as a baseline for the comparison of potential environmental impacts.

3.0 AFFECTED ENVIRONMENT

The licensee conducted the LCF process operations on a 640-acre (259-ha) site leased from the DOE. These operations involved the use of existing GCEP buildings to provide process and administrative support; centrifuge training and testing; centrifuge storage, handling, and assembly; and transporter storage and maintenance. An enclosed transfer corridor was used to move the centrifuges between the process and testing buildings. The LCF used two additional buildings for non-process support (ACO, 2017e). The LCF is located within a highly developed DOE industrial site that is marked by signs and fences, and gates are in place where public roads cross into the site boundary (ACO, 2017d). At the LCF, the licensee operated centrifuge machines in the recycle mode as "closed loop" systems. The system was operated in such a way that the only enriched materials removed were laboratory samples used for analysis (ACO, 2017d). In February 2016, the LCF operations were shut down, and ACO is currently in the process of disassembling and preparing waste for shipment to the NNSS.

The LCF is located near Piketon in Pike County, Ohio, a rural, sparsely populated area in south central Ohio (ACO, 2017d). Piketon lies about 6 km (4 mi) north of the site on U.S. Route 23. In 2014, Piketon's population was 2,146 persons (USCB, 2017), representing a 12.5 percent increase from the population in year 2000. The largest town in Pike County is Waverly, located approximately 13 km (8 mi) north of the site, with a population of 4,274 persons in the year 2014 (USCB, 2017) which represents a 3.6 percent decrease from the year 2000 population. The largest cities within an approximate 50-mile radius are Portsmouth, Ohio (approximately 43 km (27 mi) to the south) and Chillicothe, Ohio (approximately 43 km (27 mi) to the north). Two major 4-lane highways serve the PORTS industrial site; U.S. Route 23 runs north-south and State Route 32/124 runs east-west (ACO, 2017d).

Although there are several environmentally sensitive areas within the larger DOE site, the areas occupied by the LCF are either inside an existing concrete-floored building or are located on paved surfaces that are not in proximity to these environmentally sensitive areas (NRC, 2004b). As discussed earlier, all planned packaging and preparation for shipping activities would occur within the existing leased facilities, and no new construction or land disturbance is expected (ACO, 2017e).

Environmental monitoring for both radiological and chemical components is required by State and Federal regulations and/or permits. There were no spills during LCF operations wherein radioactive material contaminated local ground water supplies (ACO, 2017e). Currently at the LCF there are no liquid operations, permanent contamination areas or instances of airborne radioactivity exceeding 0.1 percent of the LCF derived air concentrations set at 1×10^{-10} micro Curie per millimeter (microCi/ml). No radiological work was performed outside the facility buildings, and there is no evidence of soil contamination attributable to the LCF (ACO, 2017e).

Prior to the NRC's issuance of License No. SNM-7003 for the LCF in 2004 (NRC, 2004a), the Ohio State Historic Preservation Officer (Ohio SHPO) in 2003 made a finding that the licensing action would have no adverse effect on historic properties. The Ohio SHPO stated that the LCF licensing action met the National Register Criteria for Evaluation (36 CFR 60.4) Criterion A because of the site's previous significance in the development of nuclear energy potential in post-World War II U.S. history (NRC, 2004b). For the present action, the NRC staff again consulted with the Ohio SHPO as discussed in Section 6.0 of this final EA.

4.0 ENVIRONMENTAL IMPACTS

The NRC staff reviewed the documents identified in Section 9.0 and independently evaluated the potential environmental impacts to the various resources of the affected environment that would result from the proposed action. The NRC staff used the guidance outlined in NUREG-1748 (NRC, 2003) in its evaluation. In accordance with this guidance, the NRC staff evaluated the direct effects, indirect effects, and cumulative impacts that each resource area may encounter from the proposed action.

For the purposes of this final EA, in determining whether a proposed action may have significant effects on the human environment, the NRC staff categorizes environmental impacts in terms of small, moderate, or large, defined as follows:

- **SMALL**—environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.
- **MODERATE**—environmental effects are sufficient to alter noticeably, but not to destabilize important attributes of the resource.
- **LARGE**—environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

The proposed action is described above in Section 1.1. The onsite and offsite environmental impacts of the proposed action are addressed below. Packaging and preparation of waste for shipping occurs inside the LCF and no activities involving land disturbance are planned. Therefore, the NRC staff finds that there would be no impacts to the following resources areas: land use, geology and soils, water resources, ecology, meteorology, climate, air quality, noise, visual and scenic resources, and socioeconomic resources.

4.1 Radiological Impacts

The radioactive material, centrifuge casings, and solid radioactive waste would be shipped via truck directly to the NNSS. The LLMW would first be shipped to EnergySolutions, Bear Creek Facility in Oak Ridge Tennessee (approximately 483 km (300 mi) from PORTS) for macro-encapsulation treatment there before being shipped via truck over the approximately 3,140 km (1,950 mi) to the NNSS. Shipping containers would contain items that may be internally contaminated. Each LCF centrifuge would be packed individually. Solid radioactive waste and mixed waste would be shipped in B-25 containers. The exterior of each waste shipping container would be surveyed prior to loading for transportation. Health physics surveys performed in support of the proposed action indicate a maximum contact reading of 220 micro Roentgen per hour (microR/hour). The expected exposure rate at 18 inches from the shipping containers once the waste component is loaded is estimated to be between 3 and 6 microR/hour (ACO, 2017c). For comparison, the average annual dose in the United States from background radiation due to natural sources is 3.1 milliSievert (mSv) which equates to an average annual exposure rate of 310,000 microR/hour (HPS, 2015).

Occupational Dose

To protect LCF personnel from unnecessary exposure to ionizing radiation ACO maintains a radiation protection program to ensure that radiation doses are maintained as low as reasonably achievable (ALARA) in accordance with 10 CFR Part 20, "Standards for Protection Against Radiation" (ACO, 2017c). Recent surveys at the LCF indicate a background dose rate of approximately 6 microR/hour (ACO, 2017c). Personnel working in restricted areas would continue to use thermo-luminescent dosimeters accredited under the National Voluntary Laboratory Accreditation Program (ACO, 2017c). Personnel external doses are expected to remain less than 100 millirem/year (1 mSv/year) (ACO, 2017c) which is within the occupational dose limits specified in 10 CFR 20.1201, "Occupational does limits for adults." For those driving the transport vehicles to the NNSS, the occupational doses are estimated to be minimal and indistinguishable when compared to background radiation. Therefore, the NRC staff concludes that the radiological doses to workers from the proposed action would be SMALL.

Dose to the Public

Based on the radiological dose rate information provided above, the dose to the public is estimated to be minimal and indistinguishable when compared to background radiation. Therefore, the NRC staff concludes that the radiological impacts to the public from the proposed action would be SMALL.

4.1.1 Waste Management

Each waste shipping container would be surveyed prior to loading onto the transport vehicle (ACO, 2017c). ACO would ensure that waste is packaged for transport in compliance with approved procedures, and applicable laws and regulations. Waste would be transported in accordance with NRC approved transportation security plans. ACO anticipates shipping the classified and/or contaminated waste to the NNSS site for permanent disposal there (ACO, 2017e).

Accordingly, the NRC staff concludes that the waste management impacts to workers and the public from the proposed action would be SMALL.

4.2 Non-Radiological Impacts

The packaging and transportation of the LCF wastes offsite does not include any activities involving land disturbance, and ACO's packaging and preparation of waste for shipping would occur within approved LCF structures. Environmental monitoring of chemical parameters is required by State and Federal regulation and/or permits (ACO, 2017e). ACO states that the packaging and shipment of hazardous materials would be in compliance with applicable NRC, DOT, and state regulations (ACO, 2017e). Therefore, the NRC staff concludes that the non-radiological impacts from the proposed action would be SMALL.

4.3 Transportation

Two major highways serve the DOE site: U.S. Route 23 runs north-south and State Route 32/124 runs east-west. The site is 5.6 km (3.5 mi) from the intersection of U.S. Route 23 and Ohio SR 32 interchange. Access from the site to U.S. Route 23 is via a four-lane interchange road that is closed to the public. On U.S. Route 23 at the entrance to the DOE site, the average daily number of trucks is 1,770, and the total traffic volume is 14,030 vehicles (ODOT, 2014). U.S. Route 23 intersects Interstate (I)-270, I-70 and I-71 approximately 113 km (70 mi) north of the site. Access to I-64 is approximately 105 km (65 mi) southeast of the site, via U.S. Route 23 and U.S. Route 52 (ACO, 2017e). Waste would be shipped using authorized commercial carriers and travel through the following states on its way for permanent disposal; Arizona, Arkansas, California, Kentucky, Ohio, Oklahoma, Nevada, New Mexico, Tennessee, and Texas. The shipments would occur primarily on state highways using well-established routes to the final burial site at NNSS (ACO, 2017e). Offsite shipments are packaged and labeled, and are required to have shipping manifests in accordance with applicable State, DOT, NRC and EPA requirements.

As stated in Section 1.1 above, under the proposed action approximately 315 waste shipments would occur prior to license termination expected in calendar year 2018. Given the relatively small total number of shipments spread over an extended period of time when compared to the ODOT data referenced above, and the limited duration of the packaging and shipping process, the NRC staff concludes that the proposed action's impact on traffic flow would be SMALL.

5.0 CUMULATIVE IMPACTS

The NRC staff's following assessment of cumulative impacts considers the impacts of the proposed action when combined with other past, present, and reasonably foreseeable future actions at the DOE's site that could affect the same resources impacted by the proposed action.

DOE is in the process of decontaminating and decommissioning the former Portsmouth gaseous diffusion plant (GDP) that enriched uranium at a location adjacent to the ACP site for many years (Ohio EPA, 2017). In May 2001, the GDP ceased enriching uranium and was placed in cold stand-by mode until September 2005 when the GDP was placed in cold shut down.

Previously, in 1989, DOE and the State of Ohio entered into a consent decree that outlined the requirements for handling hazardous waste generated by the GDP, and for conducting investigation and environmental remediation at the DOE's site. Additional consent agreements were negotiated involving EPA's role under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as integration of the Resource Conservation

and Recovery Act and CERCLA into an overall GDP cleanup process. Since the 1989 consent decree, several landfills, ground water plumes and various units have been closed, remediated or removed under Ohio EPA oversight. By the end of 2007, DOE had removed all GDP legacy waste from these areas. Additionally, DOE began operating a depleted uranium hexafluoride (DUF_6) deconversion facility on its site in 2011. This facility is in the process of deconverting DUF_6 generated during operation of the GDP (NRC, 2017b).

Currently, Ohio EPA is working with DOE to plan for long term decontamination and decommissioning of obsolete buildings and infrastructure at DOE's site. Negotiations addressing natural resource damages are also ongoing (Ohio EPA, 2017). In a January 24, 2017, public meeting (DOE, 2017), DOE provided a status of the GDP-related activities to include:

- “Advancements toward demolition-ready state for the first of three massive uranium process buildings with deactivation of the second building underway;
- Timing these future demolitions with the ongoing construction of the On-Site Waste Disposal Facility that will hold some demolition debris and whose site preparation, infrastructure construction and utilities installation are largely completed; and
- Near completion of waste shipping and right-sizing of key infrastructure while recovering some costs and supporting local economic development through recycling.”

By letter dated March 1, 2017, ACO submitted its request for NRC review and approval of ACO’s decommissioning plan (DP) for the LCF (ACO, 2017h²). Assuming its DP is approved, ACO states that it would be able to complete decommissioning within 24 months of NRC’s approval, as required under 10 CFR 70.38(h). ACO’s planned decommissioning activities would occur within the LCF and would involve decontaminating radiologically-contaminated structures and areas and conducting final radioactive and site surveys. ACO had previously notified the NRC of its plans to terminate NRC Source Material license SNM-7003 for the LCF following decontamination and decommissioning activities (ACO, 2016a).

The NRC staff has determined that the proposed action discussed in Section 4.0 above would not have a significant impact on environmental resources. Therefore, the NRC staff concludes that the proposed action would not significantly contribute to potential cumulative impacts when added to the past, present, or reasonably foreseeable future actions at the PORTS site.

6.0 AGENCIES AND PERSONS CONSULTED

Under Section 7 of the Endangered Species Act of 1969 (ESA) and through its implementing regulations (50 CFR Part 402, Subpart B), prior to taking a proposed action, a federal agency must determine whether: (i) endangered and threatened species or their critical habitats are known to be in the vicinity of the proposed action and if so, whether (ii) the proposed federal action may affect listed species or critical habitats. If the proposed action may affect listed species or critical habitats, the federal agency is required to consult with the U.S. Fish and Wildlife Service (FWS) and/or the U.S. National Marine Fisheries Service (NMFS). Accordingly, in preparing its EA for the initial licensing of the LCF in 2004, the NRC consulted with the FWS and determined that operation of the LCF would not affect listed species or critical habitat.

² The documents submitted by ACO on March 1, 2017 (ACO, 2017h) are undergoing NRC’s initial acceptance review to determine whether the documents are sufficient to warrant detailed technical review. A decision regarding the approval of these documents has not been made.

As noted in the 2004 EA, the LCF is in an industrial area, and a favorable habitat does not exist for species of concern as identified by the FWS (NRC, 2004b).

As in 2004, the proposed action involves the same industrial area in which a favorable habitat does not exist for species of concern. Additionally, the proposed action will not result in construction activities or land disturbance, and the impact on traffic flow will be small. Accordingly, consistent with guidance provided in NUREG-1748, the NRC determined that – even if, unlike in 2004, listed endangered or threatened species or their critical habitats were now present in the vicinity of the LCF -- the proposed action will not affect such species or their habitats. Therefore, the NRC has determined that no further consultation is required under Section 7 of the ESA.

The NRC spoke with the Ohio State Historic Preservation Officer's office and consulted by letter dated April 13, 2017 (NRC, 2017c). In the consultation letter, the NRC staff further explained the activities involved in the proposed action and noted that the LCF buildings would remain intact after the LCF equipment was packaged and shipped. The Ohio SHPO responded by letter dated May 8, 2017, stating that a finding of No Adverse Effect for the proposed action is appropriate (Ohio SHPO, 2017). The Ohio SHPO also stated that during future decommissioning activities further consultation under Section 106 of the National Historic Preservation Act would be necessary.

On May 25, 2017, a copy of the draft EA was sent to the Ohio Department of Health (ODH) for comment. ODH responded in a letter dated June 1, 2017, from the Interim Director of Health for the State of Ohio. The letter stated in relevant part that ODH agrees with the NRC "that the packaging of radioactive and low level mixed waste from the Lead Cascade Facility and transport to the waste repositories will have no detectable or destabilizing impacts to the surrounding environment" (ODH, 2017). ODH also provided editorial comments and clarifications that are reflected in this final EA.

7.0 FINDING OF NO SIGNIFICANT IMPACT

In accordance with the requirements in 10 CFR Part 51, the NRC staff has concluded that the proposed action will not significantly affect the quality of the human environment. As discussed in this final EA, no significant radiological or non-radiological impacts are expected to result from approval of the proposed action. Occupational dose estimates associated with the proposed action are expected to be ALARA and within the limits of 10 CFR 20.1201. Approval of the proposed action is not expected to result in measurable radiation exposure to a member of the public. Therefore, the NRC staff has determined that pursuant to 10 CFR 51.31, preparation of an environmental impact statement is not required for this proposed action, and pursuant to 10 CFR 51.32, a finding of no significant impact is appropriate.

8.0 LIST OF PREPARERS

Jean Trefethen, Office of Nuclear Material Safety and Safeguards, U.S. NRC
James Park, Office of Nuclear Material Safety and Safeguards, U.S. NRC

9.0 REFERENCES

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- (ACO, 2017b). Shipment of American Centrifuge Lead Cascade Facility Classified Matter and/or Contaminated Waste for Disposal. ADAMS Accession No. ML17073A109. February 24, 2017.
- (ACO, 2017c). Supplemental Information for Shipment of American Centrifuge Lead Cascade Facility Classified Matter and/or Contaminated Waste for Disposal. ADAMS Accession No. ML17087A285. March 10, 2017.
- (ACO, 2017d). License Application, Revision 62, American Centrifuge Lead Cascade Facility in Piketon, Ohio. ADAMS Accession No. ML17107A403. January 2017.
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- (ACO, 2017h). Email response from K. Wiegle of Centrus Energy for the American Centrifuge Lead Cascade Facility in Piketon, Ohio. ADAMS Accession No. ML17153A273. April 13, 2017.
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