U.S. NUCLEAR REGULATORY COMMISSION
DOCKET NO. 70-0036
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT RELATED TO THE ISSUANCE OF AMENDMENT NO. 63 TO MATERIALS LICENSE NO. SNM-0033, WESTINGHOUSE ELECTRIC COMPANY, LLC HEMATITE DECOMMISSIONING PROJECT LOCATED IN FESTUS, MISSOURI (TAC NO. J00868) AND EXEMPTION TO US ECOLOGY IDAHO.

1. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to special nuclear material (SNM) license number SNM-33 issued to Westinghouse Electric Company, LLC (WEC or Westinghouse) for the former Hematite Fuel Cycle Facility in Festus, Missouri authorizing alternative disposal of soil and soil-like waste. Fuel cycle facility operations ceased at the facility in 2001 and the site is presently undergoing decommissioning. The facility is now referred to as the Hematite Decommissioning Project (HDP).

In addition, the NRC is considering the issuance of an exemption to US Ecology Idaho, Inc. (USEI), a Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste disposal facility permitted by the Idaho Department of Environmental Quality (IDEQ) and located near Grand View, Idaho in the Owyhee Desert. USEI is not an NRC licensed facility.

On May 28, 2013, WEC requested from the NRC (1) approval of an alternate disposal request pursuant to Section 20.2002 of Title 10 of the *Code of Federal Regulations* (10 CFR 20.2002), "Method of Obtaining Approval of Proposed Disposal Procedures," and (2) exemptions from the requirements of 10 CFR 30.3 and 10 CFR 70.3 pursuant to 10 CFR 30.11(a) and 10 CFR 70.17(a). WEC's request can be found in the NRC's Agencywide Documents Access and Management System (ADAMS) (ADAMS Accession No. ML13149A291).

On June 5, 2013, USEI requested that they be considered a party to WEC's May 28, 2013, alternate disposal request and requested exemptions from the requirements of 10 CFR 30.3 and 10 CFR 70.3 (ADAMS Access No. ML13227A016).

WEC's request involves the disposal of source, byproduct, and special nuclear materials contained in soils and soil-like (dewatered sanitary sludge) waste associated with the HDP. The NRC's approval of the 10 CFR 20.2002 request and the requested exemptions, would allow WEC to dispose of the specific waste at USEI's disposal facility.

The NRC is considering authorizing the disposal of approximately 22,000 m^3 of low activity (LA) low-level radioactive waste (LLRW) in the forms and the types of material noted above. If approved, this action would permit WEC to transfer byproduct material and SNM to a non-NRC licensed facility. As a separate action, the NRC would exempt USEI from the NRC's licensing requirements and permit it to receive, acquire, own, and possess this byproduct material and SNM without first obtaining an NRC license. WEC did not request, nor does it need, authorization to dispose of the source material at issue here because the quantities involved are "unimportant" and are exempt from licensing under 10 CFR 40.13(a). Because these materials

are exempt from licensing under 10 CFR 40.13(a), the NRC's exemption to USEI would not need to consider the quantities of source material involved in this potential disposal.

In response to WEC's May 28, 2013 request, the NRC published notice of the request and an opportunity to provide comments, request a hearing, or to petition for intervention in the *Federal Register* on August 23, 2013 (78 FR 52574). The NRC received no comments or requests for intervention or hearing.

Previously, on October 13, 2011, the NRC issued Amendment 57 to the Hematite license. License Amendment 57 (ADAMS Accession Nos. ML112101630, ML112101640, and ML112101699) approved the Hematite Decommissioning Plan (DP). Associated with the issuance of License Amendment 57 was the Notice of Availability of an Environmental Assessment (EA) and the Finding of No Significant Impact (ADAMS Accession No. ML112101726).

On October 27, 2011, the NRC issued Amendment 58 to the Hematite license (ADAMS Accession Nos. ML111441087, ML112560105, and ML112560193). This amendment approved WEC's request for alternate disposal of radioactive material soil and debris containing source, byproduct and SNM. Also associated with the issuance of License Amendment 58 was the Notice of Availability of Environmental Assessment and the Finding of No Significant Impact (ML111441101).

On April 11, 2013, the NRC issued Amendment 60 to the Hematite license (ADAMS Accession No. ML12158A384). This amendment approved WEC's request for alternate disposal of radioactive material containing source, byproduct and SNM contained in building slabs, asphalt, soils, buried piping and miscellaneous equipment. Also associated with the issuance of License Amendment 60 was the Notice of Availability of Environmental Assessment and the Finding of No Significant Impact (ML12348A064).

This EA and the EAs associated with the approval of the May 2009 and January 2012 alternate disposal requests address the environmental impact of disposing of soil and various debris containing source, byproduct, and SNM constituents at the USEI facility. However, this EA will also address the cumulative impacts on the USEI facility and surrounding environment resulting from the receipt of the waste material described in the May 2009 request, the January 2012 request, and the waste material referred to in the May 2013 request.

2. Need for the Proposed Actions

The WEC HDP is a decommissioning and environmental restoration project that will generate, among other types of waste, approximately 22,000 m^3 (29,000 yd^3) of LLRW in the form of soil and soil-like wastes containing low concentrations of source material, byproduct material, and SNM. There is also the potential that this LLRW will contain hazardous constituents, such as metals and volatile organics, that exceed the levels identified in 40 CFR Part 261 for classification as hazardous waste and will require treatment at USEI prior to disposal. The need for the proposed actions is the safe and permanent disposal of HDP LLRW.

3. The Proposed Actions

Under 10 CFR 20.2002, WEC proposes to dispose of about 22,000 m^3 (29,000 yd^3) of LLRW from the HDP that contains source material, byproduct material, and SNM. Disposal would occur at the USEI hazardous waste disposal facility near Grand View, Idaho. The facility occupies Section 19 (2.59 square kilometers or 640 acres) of Township 4 South and Range 2 East in Owyhee County Idaho. This disposal is in addition to the approximately 46,000 m^3 (60,000 yd^3) of LLRW that was previously approved for alternate disposal by Hematite License Amendments 58 and 60. The LLRW associated with this proposed action will be generated as part of WEC's continued decommissioning activities at Hematite.

In addition to the alternate disposal action requested by WEC, the NRC has been requested to approve an exemption to USEI from the requirements of 10 CFR 30.3 and 10 CFR 70.3. This exemption, as requested in USEI's June 5, 2013 letter, is also considered in this EA.

As noted in the May 2009 Record of Decision related to Operable Unit 1, Buried Waste, Impacted Soils, and Sediment, "in 2002, WEC and the Missouri Department of Natural Resources (MDNR) entered into a Letter Agreement, which, among other things, provided for MDNR oversight of certain studies and response actions in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq." The Letter Agreement was terminated and WEC entered into a Consent Decree which provides for MDNR oversight of those portions of the investigation and selection of the remedy for Operable Units at the site that are not preempted by the Atomic Energy Act of 1954, as amended. The Selected Remedy for Operable Unit 1 at the HDP is Alternative 4: Removal, Treatment of Volatile Organic Compound Waste, and Off-site Disposal of Low-Level Radioactive Waste and Non-Hazardous Treatment Residues (WEC, May 2009).

4. Alternatives to the Proposed Actions

4.1 Alternative One—No-Action

The no-action alternative involves discontinuing ongoing decommissioning activities at the HDP and leaving soil and soil-like waste at the HDP site. This action would require an exemption from the requirement in 10 CFR 70.38(d) that decommissioning of facilities specifically licensed for possession and use of special nuclear material be completed and approved by the NRC after licensed activities cease. The no-action alternative would result in leaving approximately 22,000 m^3 of total waste volume onsite.

As was previously noted, the radiologically contaminated remediation waste, regulated by the NRC is co-mingled with chemically contaminated waste regulated under CERCLA. The "no action alternative" would not be in accordance with the July 2009 CERCLA Record of Decision for removal as described in Section 3 above and subsequent treatment of the chemically contaminated waste.

The no-action alternative would not allow WEC to meet the requirements of 10 CFR 20.1402 for unrestricted release. Selection of this alternative would require WEC to continue environmental monitoring and surveillance and to maintain administrative and engineered controls to ensure

facility safety and security. The environmental impacts of the no-action alternative would include continued contamination of soil and water, which could further escalate over time if groundwater contamination spreads and material such as Tc-99 continues to leach into the soil. The continued monitoring required at the site would result in environmental impacts due to the emissions from vehicular traffic associated with workers traversing to and from the site and entities providing services and supplies to the Hematite facility. Additional vehicular traffic could also impact public and occupational health with the potential for vehicle accidents.

No exemption would be granted to USEI because the waste from the HDP site would not be removed for offsite disposal.

4.2 Alternative Two—Disposal or Storage of LLRW at a Licensed Facility

Another alternative to the proposed actions is to dispose of the LLRW in a facility licensed by an NRC Agreement State for the storage and disposal of LLRW. For this EA, the NRC evaluated the Energy*Solutions*, LLC (Energy*Solutions*) Clive Utah facility as the alternative disposal site for the radioactive and chemically hazardous waste. This is the same facility that was evaluated as an alternative disposal site in the 10 CFR 20.2002 request approved in Hematite License Amendments 58 and 60.

The Energy*Solutions* LLRW disposal facility at Clive, Utah is located 128 kilometers (80 miles) west of Salt Lake City, Utah and 70 kilometers (45 miles) east of Wendover, Nevada. The site is arid with an annual precipitation of approximately 20 centimeters (8 inches). The facility is licensed by the State of Utah to dispose of Class A radioactive waste only (Utah License 2300249) and 11e.(2) byproduct material (UT2300478) and holds a Part B Resource Conservation and Recovery Act (RCRA) solid waste permit (EPA ID No. UTD982598898).

The Energy*Solutions* LLRW facility routinely manages the disposal of Class A LLRW containing low concentrations of SNM in above ground disposal cells. SNM quantities below what the NRC would consider to be a critical mass (i.e., 350 grams of U-235) do not require an NRC SNM license under 10 CFR Part 70. In this particular case, regulation would be by the State of Utah, as an agreement state authorized under 10 CFR Part 150, "*Exemptions and Continued Regulatory Authority in Agreements States and in Offshore Waters Under Section 274."* Energy*Solutions*, however, operates under a concentration-based SNM limit instead of a total mass limit of 350 grams of SNM. This revision to the Energy*Solutions* license was approved after the NRC independently confirmed that the concentration limits ensured that all potential criticality safety concerns had been met. The SNM concentration limits are specified in the facility's radioactive materials license (Utah License 2300249). The U-235 concentration limit is 1,900 pCi/g for enrichments below 10% and 1,190 pCi/g for enrichments above 10%, thus allowing the facility to routinely operate above a mass limit of 350 grams of SNM.

The selection of this alternative would allow WEC to meet the requirements of 10 CFR 20.1402 for unrestricted release. In addition, this site is environmentally similar to USEI. However, this alternative was not selected by the licensee.

5. Affected Environment

This assessment of the affected environment pertains to those environments affected either by the transportation of the material to USEI or burial activities at the USEI facility itself. The impact of loading the waste material at Hematite was previously addressed in the October 24, 2011 EA associated with License Amendment 58. These impacts include noise, visual, and potential radiological doses to operators and offsite personnel.

5.1 Land Use

The USEI facility occupies Section 19 (2.59 square kilometers or 640 acres) of Township 4 South and Range 2 East in Owyhee County Idaho in the Owyhee Desert of southwestern Idaho. Based upon 2010 census data, the county is sparsely populated with an average population of 0.6 persons/km^2 (1.5 persons/$mile^2$). This region has an arid climate. The USEI site is located on a 1.6 kilometers (1 mile) wide plateau. Maximum surface relief on the facility is 27 m (90 feet), and the mean surface elevation is 790 m (2,600 feet) above sea level. The nearest residence is 1.6 kilometers (1 mile) southwest of the site. Land adjacent to the facility is utilized for dry land ranching, which is the only land use activity in the immediate vicinity of the USEI facility. The nearest town is Grand View, Idaho, approximately 17 kilometers (10.5 miles) southeast of the disposal site and the nearest city is Boise, Idaho, approximately 113 kilometers (70 miles) to the northwest of the site.

The USEI site is almost totally encompassed by federally-owned grazing land. The Natural Resource Conservation Service maintains a national resource inventory data base that includes the category of grazing land on Federal and private lands. Over the past 25 years there has been no observable trend in the grazing land acreage category in the vicinity of USEI.

5.2 Transportation

WEC plans to transport the LLRW generated by the proposed action to the USEI facility by gondola railcar. WEC plans to load the identified waste onto the railcar using an HDP onsite rail spur. The LLRW waste will be entirely enclosed in an approved U.S. Department of Transportation (DOT) packaging suitable for the shipment of the waste and transported by rail to an existing USEI rail spur. At the USEI spur, the waste will be offloaded into trucks and transported approximately 58.4 kilometers (36.5 miles) to the USEI disposal facility following the same route for all rail shipments. LLRW shipped under this proposal would require no changes in USEI's infrastructure, mode of transportation, or the routing of the waste shipments.

5.3 Geology and soils

There are five major geologic units at the USEI site: (1) the uppermost Bruneau Formation that ranges up to 30 meters (100 feet) in thickness; (2) the Glenns Ferry Formation that ranges in thickness from 80 to 240 meters (260 to 800 feet); (3) the Chalk Hills formation that ranges in thickness from approximately 240 to 700 meters (800 to 2,300 feet); (4) the Banbury Basalt ranging in from 700 to 760 meters (2,300 to 2,500 feet) in thickness; and (5) the Poison Creek Formation that is over 760 meters (2,500 feet) in thickness.

Soils in the vicinity of the site are composed primarily of layers of silty sands, sandy silts, silts, and massive clays. The top 9 to 12 meters (30 to 40 feet) are composed primarily of silty and gravelly sands, which are underlain by silty sands and clays to a depth of 45 meters (150 feet). Below 45 meters (150 feet), thick beds of inorganic silts and clays are encountered.

5.4 Water Resources

The groundwater resources were extensively characterized and documented in the EA associated with License Amendment No. 58 and have not changed since that amendment was approved. The most significant source of groundwater, referred to as the Lower Aquifer, is found in the Poison Creek geologic formation at a depth of approximately 3,000 feet. The groundwater is considered to be fossil groundwater and has been dated as being approximately 10,000 to 12,000 years old, and the recharge is thought to originate south southwest at an elevation approximately 1,000 feet higher than Castle Creek west of the site. The groundwater flow direction is from the southwest to the northeast, exiting the USEI site under the eastern boundary. The aquifer is considered to be a deep artesian thermal aquifer with an estimated flow rate of 300 gallons per minute (gpm) and a water temperature of 170 degrees Fahrenheit. There are two perched saturated water zones approximately 200 to 300 feet below the site and are referred to as the Upper Aquifer. The groundwater in this formation is also considered to be fossil water and has been dated as being approximately 1,000 years old. The groundwater flow direction is from the northwest to the eastern boundary of the site. Both aquifers are of poor quality with total dissolved solid (TDS) concentrations of approximately 900 mg/L and low yields of 5 gallons per minute (gpm) and 0.5 gpm for the two perched saturated water zones. Neither aquifer is considered to be a viable or economically significant resource (American Geotechnics, 2006).

The average annual precipitation at the site is approximately six inches per year and the evapotranspiration rate is approximately 57 inches per year; consequently, precipitation at the site is not considered to be a potential source of aquifer recharge. Based on the “US Ecology Idaho – IDD073114654, 2012 Environmental Monitoring Summary Report – Radiological,” there is no indication that groundwater samples have exceeded EPA or NRC regulatory limits.

There are no surface water resources at the site and there are no surface streams or springs within 762 meters (2,500 feet) of the facility in accordance with US Ecology Idaho RCRA Permit EPA ID. No. IDD073114654.

5.5 Ecological Resources

Previously, the U.S. Fish & Wildlife Service and the Idaho Fish and Game Department concluded that there were no federally-listed endangered or threatened species on or near the USEI site (ADAMS Accession No. ML100070569). USEI had completed a consultation with the U.S. Fish & Wildlife Service, which described several protected species in the general area. However, the Idaho Fish and Game Department concluded that no federally-listed endangered or threatened species were located on, or near, the USEI site (American Geotechnics, 2006). To the west, north, and east of the USEI site is the Morley Nelson Snake River Birds of Prey National Conservation Area (SRBPNCA), established in 1993 by Public Law 103-65. It contains 196,000 hectares (485,000 acres) of public lands set aside by the Bureau of Land Management (BLM) as part of its National Landscape Conservation System. The SRBPNCA hosts about 800

pairs of falcons, eagles, hawks and owls that arrive each spring to mate and raise their young (BLM, 2008).

For the purpose of this EA, the NRC initiated a consultation with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service to determine if any listed species were present at the USEI site. It was determined that several listed species exist in Owyhee County, Idaho, but that the site would not be considered habitable for them. The U.S. Fish and Wildlife consultation identified one particular species, the Snake River Physa snail, which could be impacted by USEI operations if hazardous wastes are able to migrate toward its habitat in the nearby Snake River. It was determined that the site barriers and construction should prevent groundwater migration that might affect species further away from the site (ML13211A102). In the event that contamination were able to leach into groundwater, the flow of the upper aquifer does not go toward the Snake River, as it flows from the northwest to the eastern boundary of the site (American Geotechnics, 2006). Hazardous materials would not be expected to enter surface waters since there are no surface water resources at the site and there are no surface streams or springs within 762 meters (2,500 feet) of the facility.

5.6 Air Quality

The USEI site is located in an attainment area for National Ambient Air Quality Standards (NAAQS), and the air emissions from USEI are permitted under and in compliance with the June 2006 permit issued by the Idaho Department of Environmental Quality (IDEQ) (Permit No. 073-00004, permit last modified January 2009).

By permit, the USEI site is required to submit an annual environmental report to the IDEQ. Radionuclide concentrations for airborne particulates are required to meet applicable NRC requirements in Appendix B of 10 CFR Part 20. Data from 2010 through 2012 annual environmental reports (US Ecology Idaho – IDD073114654 "2012 Environmental Monitoring Summary Report – Radiological," "2011 Environmental Monitoring Summary Report – Radiological," and "2010 Environmental Monitoring Summary Report – Radiological – Revised") are representative of the air quality at the site. Investigative levels are set at 10% of the permit or regulatory limit. Historically the site has not exceeded the 10% limit and has been below regulatory limits.

Air quality at the HDP site was previously addressed in the Amendment 57 EA associated with the HDP Decommissioning Plan. No additional air quality impacts are expected to result from the currently proposed actions. Similar site operations and excavation that may affect air quality at the HDP would take place regardless of whether or not this 20.2002 authorization and exemption are granted.

5.7 Noise

As noted in Section 5.1, the USEI site is located in the Owyhee Desert nearly 1.6 kilometers (1 mile) from the nearest residence, 16 kilometers (10 miles) from the nearest school, 29 kilometers (18 miles) from the nearest airport, and nearly 48 kilometers (30 miles) from the nearest hospital. Therefore, noise levels are significantly attenuated in populated areas outside the USEI site. The current noise levels at the USEI site result from use of heavy vehicles and

earth-moving equipment used to construct disposal cells and manage and transport wastes as part of their normal day-to-day activities.

5.8 Historic and Cultural Resources

At the USEI site, one small potentially significant historic site had been identified at the southern boundary. The Bureau of Land Management inspected and inventoried the site, declared that no further cultural work was necessary, and granted full cultural resource clearance. According to the State Historical Preservation Office (SHPO), the site contains no property eligible for the National Register of Historic Places (American Geotechnics, 2006). In the development of this EA, an inquiry was made to USEI regarding any changes to the footprint of the disposal area and to determine if any site activities have occurred that may affect cultural or historical resources. USEI indicated that the only activity that has occurred at the site since the previous Westinghouse Hematite alternate disposal authorization is the construction of the first phase of Cell 16, which began in March 2012 and was completed in November 2012, and that nothing beyond the scope of what was authorized by the Idaho State Historical Society in their May 18, 2006 letter has been undertaken. USEI also noted that nothing of cultural or historical significance was discovered during Cell 16 construction activities (ML13211A069).

5.9 Visual/Scenic Resources

The USEI site complies with the Idaho Administrative Code for the Department of Environmental Quality in IDAPA 58.01.06-013.01.g, which specifies that the boundaries of the active portions of the facility “shall not be located closer than one thousand (1,000) feet from the boundary of any state or national park, or land reserved or withdrawn for scenic or natural use including, but not limited to, wild and scenic areas, national monuments, wilderness areas, historic sites, recreation areas, preserves and scenic trails.”

Bruneau Dunes State Park is located approximately 48 kilometers (30 miles) southeast. The SRBPNCA occupies several miles of the Snake River and adjacent lands to the northwest, but the boundaries of the area are greater than 300 meters (1,000 feet) from any portion of the facility. The site also maintains a 150 meter (500 foot) inactive buffer zone between active facilities on USEI property, and adjacent BLM-owned land to ensure that monitoring wells and associated access roads would not be required on BLM-owned land adjacent to the site.

5.10 Socioeconomics

The USEI site is located in Owyhee County, Idaho. The 2012 population of Owyhee County was estimated to be 11,439, an increase of approximately 7.5% in population from the 2000 census population of 10,644. The unemployment rate as of May 2013 was 6.2% in contrast to an unemployment rate of 4.0% in 2000.

USEI continues to be the largest property tax payer in the Bruneau-Grand View School District and is the largest private non-agricultural employer. The 2010 census population of Grand View is 452 people and is a 3.8% decrease in population from the 2000 census population of 470. The largest city near the site is Boise. The 2010 census population of Boise is 205,671 and is a 11.7% increase in population from the 2000 census population of 185,787.

The socioeconomic significance of the USEI site has not changed since the April 11, 2013 License Amendment No. 60 was approved. In 2005, and again in 2012, USEI commissioned economic impact studies. The results of the 2012 study titled "The Economic and Fiscal Impact of US Ecology's Idaho Operations," are provided in Table 1. This report noted that USEI provided 239 jobs in 2010, and USEI and its employees in Boise and Grand View added an estimated $23 million to Idaho's economy that year.

Table 1. Direct and Indirect Economic Impacts of USEI, Idaho, as of 2010

Description	**Economic Impact**
Payroll and bonuses	$13.7 million
Goods and service purchases	$4 million
Taxes and fees for state and local government	$4.7 million
Capital spending	$410 thousand
Total Impact	$23 million

5.11 Public and Occupational Health

There are no known public health effects associated with current operations at the USEI site. The activities associated with USEI disposal operations continue to comply with applicable non-NRC regulated requirements under the Occupational Safety and Health Administration (OSHA), the EPA, the Toxic Substances and Control Act (TSCA), or their state equivalents. The USEI facility was designated as a "Star" site by OSHA for the period 2007 to 2012. This designation is the highest level of safety performance recognition by OSHA and exempts the facility from OSHA program inspections. On March 23, 2012, USEI received its second award, which will encompass the period from 2012 to 2017. Table 2 provides data on work-related injuries at UESI from 2001 – 2012.

Table 2. Work-related Injuries at USEI

Year	Work Hours	Injuries	OSHA Cases	Fatalities	Injuries per 10,000 hours
2001	87,362	9	5	0	1.0
2002	81,707	8	3	0	1.0
2003	93,490	18	2	0	1.9
2004	94,872	16	3	0	1.7
2005	121,048	20	4	0	1.6
2006	158,800	22	5	0	1.4
2007	180,683	40	7	0	2.2
2008	179,072	30	3	0	1.7
2009	138,005	18	3	0	1.3
2010	117,151	14	2	0	1.2
2011	133,366	5	2	0	0.4
2012	120,251	12	3	0	1.0
Total	1,517,731	210	42	0	N/A

IDEQ conducts annual RCRA facility inspections. There were no violations from 2002 – 2005. There were minor violations from 2006 – 2012. The violations were resolved through enforcement warning letters with no monetary fines. There were five EPA Toxic Substances and Control Act (TSCA) inspections from 2004 – 2011 and no violations. In 2012, the EPA determined that USEI had failed to report for 2009 the on-site disposal for 20 chemicals and 20 chemical categories. A Consent Agreement and Final Order were filed on March 12, 2012, when USEI agreed to pay a $184,400 civil penalty.

IDEQ performs periodic radiological monitoring at the USEI site and generates an annual report of its oversight. IDEQ monitors penetrating gamma radiation, airborne radon concentrations, groundwater for gross alpha and beta, and soil for Ra-226, Th-232, U-234, U-238, Am-241, and Cs-137. For the years 2009-2012, IDEQ identified some programmatic deviations and exceeding of site radiological action levels. There was no indication that any regulatory limits were exceeded, and IDEQ ultimately concluded that there is no reason to suspect that USEI site operations have a negative impact on human health or the environment. There has been only one air quality permit inspection. The IDEQ inspection was in 2008 and a warning letter was issued that has since been resolved.

5.12 Waste Management

The USEI facility is a hazardous waste, polychlorinated biphenyl, (PCB) and LLRW disposal facility that provides treatment and disposal services to both government and private industry waste generators. The land disposal at the facility is regulated by the State of Idaho under RCRA permit IDD073114654. The permit, in part, allows for the facility to receive and dispose of NRC exempted low activity fission and activation products and SNM as LLRW. LLRW is currently disposed of in Cell 15. As of the end of May 2013, Cell 15 had 680,361 yd^3 (520,170 m^3) of space remaining. This equates to 1.6 years of capacity at approximately 40,000 yd^3 per month of usage. On May 22, 2012, the IDEQ approved a permit modification that will allow USEI to construct and operate Cell 16. Construction on the first phases of Cell 16 has been completed, which adds an additional USEI disposal capacity of approximately 800,000 yd^3. Total permitted capacity of Cell 16 at complete build-out is 10 million yd^3.

The facility permit specifies that the total concentration of source, byproduct, and special nuclear material in waste must be less than 3,000 pCi/g. The total amount of SNM that can be onsite at any given time, prior to being disposed of, is 350 g. USEI stated that the composite average activity concentration of radioactive material in waste disposed of at the USEI facility through 2012 was approximately 79 pCi/g and is well below the site's concentration based limit of 3,000 pCi/g. The average concentration was based on all regulated and unregulated radioactive materials (naturally occurring radioactive material or NORM, technically enhanced NORM, formerly utilized sites remedial action program or FUSRAP waste, and regulatory exempt waste that includes any waste approved by the NRC under 10 CFR 20.2002).

6. Environmental Impacts

6.1 Proposed Action

The NRC evaluated whether there are significant environmental impacts related to the proposed actions of granting the 20.2002 request and exemption, which would result in the shipment and

disposal of 22,000 m^3 (29,000 yd^3) of LLRW at the USEI facility. The NRC considered adverse and cumulative impacts to each resource area, taking into account the impacts associated with the prior approval for the disposal of approximately 46,000 m^3 (60,000 yd^3) of LLRW in License Amendments 58 and 60.

6.1.1 Land Use

The USEI site has a long operating history as a permitted waste disposal facility and has had a minimal impact to land use in the area surrounding the site. The expected operational life of the facility can only be estimated and is dependent on unknown waste volumes that will be shipped to the site in the future. In May 2012, the IDEQ approved a permit revision to construct and operate a new disposal cell that will allow the site to operate for an estimated additional 20 years. Any additional waste associated with the proposed 10 CFR 20.2002 alternate disposal request and exemption would have no impact on the land use at this site since the facility would continue to operate as a disposal facility with or without the waste associated with the proposed actions.

6.1.2 Transportation

6.1.2.1 Transportation at the HDP Site

WEC plans to use existing rail lines to transport waste to USEI. St. Louis, Missouri, which is near the HDP, is the nation's third largest rail center, with over 85 Union Pacific trains passing through each day (Union Pacific, 2012). Union Pacific, one of seven national Class I rail service providers, originated an average of over 107,000 rail cars in Missouri from 2008–2012 (Union Pacific, 2012). The estimated 372 gondola rail cars that are required to transport the HDP wastes over a period of about 2 years are a small fraction (< 0.4%) of the average number of rail cars originating in Missouri annually, and would not have a significant impact on rail transportation resources. Waste from the HDP will be shipped in compliance with NRC and DOT regulations for IP-1 packages containing LLRW. The waste packages will also be fissile exempt under 10 CFR Part 71.

At the HDP, WEC will load waste into gondola cars at an onsite rail spur. The risk to human health from the transportation of all radioactive material in the U.S. was evaluated in NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Materials by Air and Other Modes." The principal radiological environmental impact during normal transportation is direct radiation exposure to transport workers and nearby persons from radioactive material in the package. The average annual individual dose from all radioactive material transportation in the U.S. was calculated as approximately 0.005 mSv per year (0.5 mrem per year), well below the 10 CFR 20.1301 limit of 1 mSv per year (100 mrem per year) for a member of the public.

6.1.2.2 Transportation at the USEI Site

At the USEI facility, the waste will be offloaded from the railcars onto trucks. It was estimated that eight individuals would be assigned to survey the waste prior to offloading from the gondola car to the trucks and that 14 drivers would transport the waste approximately 36.5 miles from the existing USEI rail spur to the USEI site. WEC estimated that 1,117 truckloads will be required to transport the entire 22,000 m^3 to USEI. Each trip was estimated to take 45 minutes.

The 45 minute time estimate for the truck drivers includes the time to transfer the waste from the railcar to the trucks at the rail transfer facility.

6.1.3 Geology and Soils

Environmental impacts on USEI soils and geology will be small and temporary. The utilization of erosion controls to restrict the transport of sediment within the site area will ensure that disposal of wastes has a minimal effect on site geology and soils.

6.1.4 Water Resources

Based upon the results of the USEI 2012 Environmental Monitoring Summary Report – Radiological and 2012 IDEQ inspection and oversight reports there is no indication that facility operations and the disposal of hazardous and radioactive waste have resulted in the exceedance of EPA or NRC regulatory limits. However, it is conservatively assumed that the disposal of LLRW from the HDP will result in contamination of the Upper and Lower Aquifers during the 1,000 year post-closure period of performance. Given the poor water quality and low yields, such contamination is not expected to result in degradation of important water resources in the human environment.

There are no surface water resources at the site and there are no surface streams or springs within 762 meters (2,500 feet) of the facility. The USEI site maintains a runoff and runon control system such that no surface water from precipitation events or processing leaves the site. Consequently, there are no impacts to offsite surface water.

In May 2012, the IDEQ approved a permit request that would allow the facility to continue to operate for a projected 20 years. As part of the approval process, the IDEQ performed RESRAD modeling to confirm that the EPA limit of 15 mrem/year total effective dose equivalent to a member of the public would not be exceeded during the 1,000 year post closure period of performance. The RESRAD model assumed a resident farmer scenario and radionuclide inputs based on the current radioactive waste acceptance criteria. The radionuclide waste acceptance criteria bounds the radionuclide characteristics of the waste from the proposed actions. Consequently, there is a minimal impact to groundwater based on the EPA criteria.

6.1.5 Ecological Resources

There are no significant ecological resources that are likely to be affected by waste disposal operations at the USEI site. A buffer area around the USEI site ensures protection of the SRBPNCA from waste disposal operations.

6.1.6 Air Quality

The facility RCRA permit requirements for dust control onsite and wind dispersal of dust offsite have been effective in maintaining emissions well below regulatory requirements. The type and volume of waste proposed for shipment under the proposed 10 CFR 20.2002 request and exemption would not require a change in operating procedures or air quality monitoring and would be considered part of normal operations. Consequently, there would be no impact to USEI's air quality.

6.1.7 Noise

At USEI, noise levels associated with off-loading the waste, transportation to the disposal cell and disposal of HDP decommissioning waste would be no different than that currently being experienced as part of normal operations. Consequently, there would be no additional noise impact associated with the proposed actions.

6.1.8 Historic and Cultural Resources

The waste shipped under the proposed actions will be disposed of within USEI's permitted area and will have no impact on the historical or cultural resources of the area.

6.1.9 Visual and Scenic Resources

The projected life of the disposal facility is approximately 20 years regardless of whether or not the facility receives this relatively small volume of waste. As such, USEI continues to operate as a waste disposal facility and is required to comply with the Idaho Administrative Code for the Department of Environmental Quality (IDAPA 58.01.06-013.01.g), which specifies that the boundaries of the active portions of the facility "shall not be located closer than one thousand (1,000) feet from the boundary of any state or national park, or land reserved or withdrawn for scenic or natural use including, but not limited to, wild and scenic areas, national monuments, wilderness areas, historic sites, recreation areas, preserves and scenic trails." Consequently, the proposed actions will have no impact on the visual and scenic resources at USEI.

6.1.10 Socioeconomics

The disposal of a total of 68,000 m^3 (89,000 yd^3) from previously approved 10 CFR 20.2002 requests and the proposed actions is insignificant based on the current existing approved cell capacity. It is representative of a small fraction of the amount of waste USEI is capable of receiving over the expected time period of the HDP shipments. This amount of waste is not anticipated to alter significantly the number of jobs or create significant beneficial economic effects, either directly or indirectly.

6.1.11 Public and Occupational Health

During transportation to the USEI site, the potential for exposure from airborne contamination is essentially eliminated since the contents of the gondola railcar will be enclosed in wrappers meeting DOT Industrial Type-1 Package (IP-1) requirements, which preclude dispersal of waste to the air or loss of material during transport.

To evaluate the potential dose to the public during transport of the waste to USEI, WEC calculated the maximum external dose at 1 m and 1 ft from a loaded gondola railcar using Microshield. It was found that the maximum radiation reading at 1 m is 0.18 µR/hr and at 1 ft is 0.25 µR/hr. WEC stated that based on these dose rates, an individual would have to spend 1007 hours at 1 m from the gondola railcar or 793 hours at 1 ft from the railcar to receive a higher dose than a site worker. WEC stated that these exposure times are "orders of magnitude greater than the expected exposure times of less than 20 hours." (WEC, 2012, Enclosure 1). In the submittal for this alternate disposal request, WEC provided a summary of doses to USEI

workers during transport, treatment, and disposal of HDP wastes. The highest annual cumulative dose estimate was to an excavator operator, and was 0.86 mrem/year. This value is substantially less than the 10 CFR 20.1301 limit of 1 mSv per year (100 mrem per year) for a member of the public (ML13149A291).

For the purposes of dose modeling, the radionuclide Tc-99 is the most limiting factor for making the determination that the TEDE contribution from the request would be only a "few millirem," which is the criterion specified in the NRC's NUREG-1757 guidance as it relates to 20.2002 alternate disposal requests. WEC's May 28, 2013 alternate disposal submittal states that "cumulatively, the total Tc-99 inventory for all three requests will be maintained at or below 1.3 Ci, and the amount of Tc-99 at the 95 percent confidence interval on the mean will be maintained below 2.05 Ci. This will ensure that the cumulative dose to the public from all three requests is maintained below 2.7 mrem based on the mean inventory and below 4.2 mrem at the 95 percent upper confidence interval on the mean." The NRC has independently verified WEC's dose analysis and finds that the anticipated dose values are within a "few millirem." Additionally, USEI's RCRA permit requires that USEI must ensure that the public dose limit must be less than 0.15 mSv per year for a post closure period of 1,000 years. USEI is required by their permit conditions to provide a running tally of the total quantities of Curie activity by radionuclide and the quantities are totaled on an annual basis and reported to the IDEQ. The total inventory is input into a RESRAD model and conservatively assumes a resident farmer scenario.

The shipment of this material from the HDP to USEI will not have a measurable impact on the amount of rail traffic; consequently, there would be no impact to the probability of a rail accident and no increased risk to the public or occupational workers.

At the USEI site, NRC does not expect the additional waste received from HDP to significantly alter USEI's worker safety compliance record, as described in Section 5.11. Also, based on the nature of hazardous waste and LLRW disposal operations, and, specifically, past industry experience, there is a very low likelihood of significant environmental impacts resulting from either accidents or malevolent acts against the USEI facility.

6.1.12 Waste Management

Through August 3, 2013, USEI has received approximately 22,000 m^3 (29,000 yd^3) of LLRW from the HDP. This waste is that approved for disposal in the October 27, 2011, License Amendment 58 and the April 11, 2013, License Amendment 60. The volume shipped represents approximately 49% of the volume approved in the previous 10 CFR 20.2002 requests. As of August 3, 2013, all waste acceptance criteria as well as License Condition No. 17 of Hematite License Amendment 60 have been met. As of August 3, 2013, a total of approximately 0.376 Ci of Tc-99 have been received and disposed of and the 95^{th} percentile value for the mean was 0.457 Ci of Tc-99 and represents approximately 29% of the limit associated with Amendment 60 Hematite License Condition No. 17.

Associated with the approval of the proposed actions, License Condition No. 17 will continue to limit the total inventory of Tc-99 based on the average concentration and total mass shipped to USEI in Grand View, ID to below 1.3 Ci or 2.05 Ci based upon the 95th upper confidence limit.

The chemical composition and the target radionuclides of the waste are expected to be similar to the waste from the previously approved 10 CFR 20.2002 requests. No changes in waste management practices would be anticipated as a result of the additional waste forms. Consequently, the October 27, 2011 License Amendment 58 Safety Evaluation Report (SER) would still be bounding relative to the sampling/analysis plan and associated quality assurance program, nuclear criticality, material control and accountability for SNM material as well as applicable physical security requirements and the potential for SNM reconcentration.

Table 3 contains estimates of the expected concentrations for the target radionuclides as they are shipped, as provided by WEC in their May 28, 2013 alternate disposal request. WEC has indicated that the expected concentrations for the radionuclides are based on the information associated with their Amendment 58 alternate disposal request, except that the total amount of Tc-99 will not exceed the numerical limits identified in their Amendment 60 request (below 1.3 Ci or 2.05 Ci based upon the 95th upper confidence limit).

Table 3 Expected Concentrations of Target Radionuclides in Waste

Shipped Volume (m^3)	U-234 (pCi/g)	U-235 (pCi/g)	U-238 (pCi/g)	Tc-99 (pCi/g)	Ra-226 (pCi/g)	Th-232 (pCi/g)
22,000	113	5.5	18	27	1	1.2

The anticipated total radioactive concentration (sum of all radionuclides and progeny) for this waste is 226 pCi/g, or about 8% of the 3,000 pCi/g disposal limit at USEI. Since WEC has not proposed to increase the Tc-99 disposal limits associated with Amendment 60, the peak public dose (which is almost entirely due to Tc-99) remains the same. WEC previously estimated that the peak public dose resulting from disposal of HDP waste sent to USEI would be 0.008 mSv per year (0.8 mrem per year), or about 5% of the 0.15 mSv per year (15 mrem per year) post-closure limit contained in the USEI RCRA permit. However, the actual estimate of projected future dose from disposal of HDP waste will be based on measurements of material actually received at the facility, and may be lower or higher than this projection. Therefore, disposal of HDP waste at the USEI site is a moderate to low impact on remaining LLRW disposal availability at USEI.

Even with the incremental increase in total activity, the waste from the HDP is still considered to be LLRW that is only a small fraction of the Class A limits. The 10 CFR Part 61 Class A limit for Tc-99 is 0.3 Ci/m^3 of waste. The Tc-99 disposal limit remains at 1.3 Ci, and the estimated total activity of the uranium radionuclides related to the proposed actions is 4.2 Ci of U-234, 0.2 Ci of U-235 and 0.7 Ci of U-238. The total estimated quantity of nuclides, based on the average expected concentrations, when added to the previously approved quantity of radionuclides, would be 1.3 Ci of Tc-99, 11 Ci of U-234, 0.5 Ci of U-235 and 1.8 Ci of U-238. The total estimated volume that is proposed for shipment for all HDP related 20.2002 requests is 68,000 m^3 of waste. Based on a total Tc-99 activity of 1.3 Ci, the average Curie content of a cubic meter of waste would be 0.006% of the Class A limit.

6.1.13 Alternative Disposal at Energy*Solutions* LLRW Facility

As described in Section 4.2, beyond the no-action alternative, NRC also considered the environmental impacts associated with management of HDP wastes at the Energy*Solutions* facility in Clive, Utah.

Land use impacts at both the USEI and Energy*Solutions* waste disposal facilities are similar. The land on which each facility operates will be dedicated to waste operations and post-closure maintenance for the foreseeable future and there are no impacts on land use in the immediate vicinity of either site.

Transportation-related environmental impacts associated with transport by rail would be similar for each site. The distance to the USEI site from Hematite, MO is about 320 kilometers (200 miles), or about 15%, further than the distance to the Energy*Solutions*' Clive site.

There is no significant difference in the impact to soils at the Energy*Solutions* site as compared to the USEI site. Operations at both sites involve disturbance of surface soils in order to dispose of LLRW.

At both the Energy*Solutions* and USEI sites, surface runoff is controlled such that there is no surface water runoff; consequently, there are no impacts on surface water. There is no groundwater contamination of potable or useable groundwater at either facility. Modeling at the Energy*Solutions* facility indicates that all NRC exposure requirements will be met during the 10,000 year period of post-closure performance. The NRC has verified the licensee's modeling of the effect of the disposal of the projected waste volume under various conservative scenarios. Consequently, the impacts of the disposal of the waste from the previously approved 10 CFR 20.2002 requests and the proposed actions are considered to be minimal.

Air quality impacts from waste management and disposal operations are expected to be similar at both sites. Impacts to site workers and potential offsite members of the public are well below required limits and the potential impact from the proposed actions would not be distinguishable from ongoing operations.

For the same reason, at both sites, the environmental impacts on noise and visual and scenic resources would not change from what the sites are currently experiencing. Consequently, there would be no discernible impacts. No historic or cultural resources have been identified at either site; consequently, there would be no impacts.

The NRC compared the socioeconomic impacts of the disposal of 22,000 m^3 (29,000 yd^3) of LLRW at the Energy*Solutions* facility with those impacts at the USEI facility. Based on information reported by Energy*Solutions*, gross revenues within its Logistics, Processing, and Disposal business segment, most of which involves disposal operations at the Clive site, were $293,025,000, $262,801,000, $246,810,000, $244,217,000, $265,739,000, and $247,084,000 in calendar years 2006 - 2011, respectively. Energy*Solutions* has attributed the decrease over this period to processing of lower waste volumes and lower revenues at its Clive, Utah and Bear Creek, Tennessee facilities and the roll-off of stimulus funding received in 2010 that did not continue in 2011, and to the completion of certain large government projects in early 2011. (Energy*Solutions*, 2009 and 2012).

Energy*Solutions* Inc. is a diversified, multinational corporation with revenues exceeding $1.8 billion for the year ending December 31, 2011. The company derives essentially 100% of its revenues from the provision of nuclear services and is divided into four business segments. The disposal facility located in Clive, Utah is part of the Logistics, Processing, and Disposal (LP&D) Division, which is one of the four business segments. Revenue from the Division is variable and has ranged from $244 million to $267 million over the past three years representing 13.6 to 15.2% of the company's gross income. Income within the Division is based on unit rate contracts and is based on volume or tonnage. Customers are required to sign a business-to-business contract whereby they will not disclose their unit rate costs; consequently, separate revenue figures for the Clive, Utah facility are not publicly available. However, a rough approximation can be made based on the average annual waste volume received for disposal (150,000 yd^3 over 2006 - 2011) and the proposed waste volume in the 20.2002 request (29,000 yd^3 over a two year period). Based on the assumptions used, the proposed waste volume would represent approximately 10% of the annual waste volume disposed of and roughly 10% of the division's most recent annual revenue of $247.1 million, or $24.7 million. On the corporate level the $24.7 million represents approximately 1.4% of the total revenue generated in 2011. Energy*Solution*s has stated that it has remaining capacity for Class A LLRW to dispose of all Class A waste from the 104 operating nuclear power plants in the United States, from both on-going operations and ultimate decommissioning of these plants, and still have approximately 50 million cubic feet of capacity remaining (Energy*Solutions*, March 2009). Disposal of 22,000 m^3 (29,000 yd^3) from the HDP would have minimal impact on Energy*Solutions*'s remaining disposal capacity.

The socioeconomic effects in the Salt Lake City region associated with this potential waste stream are expected to be low to moderate. With regard to worker and public health impacts from disposal operations, Energy*Solutions* is licensed by the State of Utah to receive Class A LLRW as defined in Utah Administrative Code R313-15-1008, and Class A Mixed LLRW. Energy*Solutions* may also receive LLRW containing SNM below certain concentration limits, as specified in its State of Utah license. Under the radioactive materials license for the Clive disposal facility, Energy*Solutions* maintains site-wide safety and environmental protection programs, including a radiological control program, worker training, and a policy for maintaining worker radiation doses as low as reasonably achievable. As a result, worker and public health impacts from receipt of HDP LLRW at the Clive facility would be low.

Based on the foregoing, the NRC staff determined that, as with the proposed action, there are no significant environmental impacts associated with this alternative.

6.2 Cumulative Impacts Assessment

Radiological cumulative impacts associated with the three WEC 20.2002 alternate disposal requests are discussed in Sections 6.1.11 and 6.1.12 of this document. Cumulative impacts of all USEI designated 20.2002 requests are discussed below.

6.2.1 Radiological Cumulative Impacts Assessment

Section 20.2002 is available for use by licensees for wastes that typically are a small fraction of the Class A limits contained in Part 61, and for which the extensive controls in 10 CFR Part 61

are not needed to ensure protection of public health and safety. Waste disposal under 10 CFR 20.2002 has been determined to provide an alternative, safe, risk-informed disposal method for LLRW. Although the waste proposed for disposal under the proposed actions could be disposed of in a licensed low-level radioactive waste facility, it can also be disposed of at the USEI facility at a much reduced disposal cost, while still providing for protection of public health and safety and the environment. In recent history, a number of NRC licensees have requested authorization for disposal of LLRW under 10 CFR 20.2002 at the USEI facility. As part of this process, the NRC must issue an exemption to USEI to allow for acceptance and disposal of the waste at the USEI facility.

The total activity of radionuclides from the disposal of the HDP site material is small when compared to that which has already been disposed and to anticipated future non-10 CFR 20.2002 disposals. Consequently, the cumulative radiological impacts associated with past, present, and reasonably foreseeable future similar actions will be a few millirem per year. The 10 CFR Part 20 dose limit is 100 millirem/year (mrem/yr). NRC typically approves 20.2002 requests that will result in a dose to a member of the public (including all exposure groups) that is no more than "a few millirem/year" (see SECY-07-0060, Attachment 1, and NUREG-1757). NRC selected this criterion because it is a fraction of the natural radiation dose (approximately one percent of the radiation exposure received by members of the public from background radiation), a fraction of the annual public dose limit, and an attainable objective in the majority of cases. The policy allowing only a few mrem from each approval for alternative disposal inherently limits the cumulative impact when added to other past, present, and reasonably foreseeable future approvals for waste destined for the USEI site. In addition to the dose guidelines, the site-specific environmental conditions and disposal practices at USEI limit the cumulative impact as discussed below. Cumulative impacts are addressed for the individual residing on the burial site land, for the intruder, and for the occupational or transportation worker.

For the individual residing on the burial site post-closure, cumulative impacts from past disposal actions could primarily occur through the relatively mobile radionuclides reaching the groundwater and exposing an individual via the groundwater pathway. This is unlikely for the following reasons: (i) the groundwater in the first two aquifers underlying USEI is of too low of a yield and too poor in quality to be considered viable drinking water sources, and (ii) highly mobile radionuclides are not commonly present in waste requested for alternative disposal. The Upper Aquifer yields less than 0.5 gpm at the southern extent of the site where USEI's active disposal cells are located and the Lower Aquifer yields less than 0.01 gpm (ML101450240). Although there is a potential source of water in the deep basalt aquifer, approximately 2,285 feet of clay and shale separate the Lower Aquifer from the Banbury Basalt layer (ML100320540, Attachment 7). Due to its extreme depth, even highly mobile radionuclides are not expected to reach the deep basalt aquifer in the reasonably foreseeable future given the site characteristics. It should be noted that NRC staff conservatively considered the groundwater pathway as a viable exposure pathway despite the fact that the yield is low during its review of the Westinghouse Hematite request for alternate disposal because the waste contains technetium (Tc), and, due to its short relative transport time to groundwater, Tc-99 is the primary contributor to dose via the groundwater pathway. Technetium (Tc), or other radionuclides that have similar transport characteristics, are not commonly present in waste typically requested for alternative disposal. However, even if future alternative requests do contain radionuclides that have a relatively short transport time to groundwater, there would need to be a viable groundwater

pathway as well as a large number of such requests for the cumulative impacts to approach the public dose limit.

For the intruder, the impacts of past disposal actions would be combined with those of present and future actions only if the waste were collocated. This is credible if waste from a present or future approval is disposed above waste from past approvals in a manner that would allow the intruder digging a well approximately 30 cm in diameter and 93 meters deep to intersect the multiple sources. While it is possible to have a small number of sources collocated in such a fashion, it is not credible to assume that a large number of sources would be collocated in this way when accounting for the disposal practices of the site (waste is layered in 1 ft lifts) and the dimensions of the hypothetical well.

For the occupational worker or transportation worker, impacts may accumulate if waste from multiple 20.2002 requests is shipped within the same year. However, due to the low dose criteria for 20.2002 requests, a large number of sources would need to be shipped within the same year to result in a significant cumulative impact. Additionally, if a large volume of waste from 20.2002 requests was shipped in the same year, USEI would need to hire additional workers to handle the waste, which limits the potential cumulative dose for any given worker.

6.2.2 Non-Radiological Cumulative Impacts Assessment

A cumulative impacts assessment was performed on the non-radiological aspects associated with these proposed actions. It was determined that minimal impacts could result from the following four areas: transportation at USEI, socioeconomics, public and occupational health, and waste management. These are discussed below.

A slight increase in local traffic due to the trucks required to move wastes from the rail spur to the USEI site could result in minimal cumulative impacts on transportation at the USEI site.

A slight socioeconomic cumulative impact could occur at USEI as a result of multiple NRC 20.2002 request and exemption approvals in addition to those from the HDP. An increase in waste disposal activities may financially benefit the local economy as well as provide additional jobs.

Along with the potential for additional workers at USEI, there is the potential for a slight cumulative impact to public and occupational health in the form of additional work related injuries.

A slight cumulative impact could result from waste management activities due to a small increase in secondary waste that may be generated from the usage and cleanup of trucks and rail cars used to transport LLRW to USEI.

The following non-radiological aspects of the proposed actions were evaluated and were determined to exhibit no observable cumulative impacts: land use, transportation at the HDP, geology and soils, water resources, ecological resources, air quality, noise, visual and scenic resources, and historic and cultural resources.

7. Mitigation Measures

Mitigation measures associated with the shipment and disposal of the waste from the HDP site to USEI will not change from those previously identified by WEC in its first 20.2002 request (i.e., use of an onsite rail spur to facilitate rail transportation of the LLRW and minimize impacts on local roads; grading and re-seeding of soils affected by waste exhumation and building demolition; use of stormwater runoff controls to minimize the movement of contaminants; and the use of additional engineering controls to reduce fugitive emissions of contaminants to the air) and approved by the NRC in License Amendments 58 and 60. In addition, the waste will be totally enclosed in DOT approved packaging, which will prevent drying of the waste and the generation of airborne material during transport. Mitigation practices at USEI will remain unchanged as a result of the acceptance of this waste.

8. Monitoring

Monitoring activities at the USEI site currently include particulate air sampling, radon emissions monitoring, groundwater sampling, soil sampling, and environmental dosimetry monitoring, along with continued worker medical surveillance and maintenance of onsite contingency plans. These monitoring activities will remain unchanged as a result of the acceptance of this waste.

9. Agencies and Persons Consulted

For the EA associated with License Amendment 58, the NRC prepared a draft EA and sent it to the U.S. Fish and Wildlife Service by letter dated January 4, 2011 (ML103610359). Previously, the U.S. Fish and Wildlife Service stated, in its response letter (ML100070569) dated December 22, 2009, there are “no federally listed, proposed or candidate species or critical habitat on or near the [HDP] site.” The NRC also contacted the Missouri Department of Conservation for information concerning Missouri Species of Conservation Concern (ML100760452). The NRC received a response dated March 25, 2010 (ML101040849). The Department of Conservation’s response stated, “Heritage records identify no wildlife preserves, no designated wilderness areas or critical habitats, no State or Federal endangered-list species records within two mile of the plant, or downstream until the confluence with the Mississippi River.” The NRC also provided a draft EA to MDNR and the Idaho Department of Environmental Quality (IDEQ) by letters dated December 29, 2010 (ML103570231 and ML103570126, respectively). In a letter dated January 27, 2011, MDNR (ML11390624) stated that they had no comment with respect to the draft EA. No comments were received from IDEQ.

For the purpose of this EA, the NRC contacted the Missouri Department of Conservation via a June 27, 2013, letter to determine if there were any updates to the previous information concerning Missouri Species of Conservation Concern (ML13175A101). A “Natural Heritage Review Report” was received from the Missouri Department of Conservation on July 11, 2013 (ML13217A138). This report provided information and recommendations similar to those provided in the previous March 25, 2010, response, and also concluded that no State or Federal listed endangered species are near the HDP site. The Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service were also contacted via email and telephone to determine whether or not listed species might be affected by this disposal request (ML13211A102). Responses from both of these agencies were used in the ecological resources evaluation discussed in Section 5.5 of this document. The NRC provided a draft of this EA to the MDNR

and the IDEQ by letters dated August 26, 2013 (ML13211A136 and ML13211A369, respectively). MDNR provided a response, with no comments on the EA, via a letter dated September 19, 2013 (ML13270A093). No comments were received from IDEQ.

10. Conclusion

The NRC has concluded that the proposed actions to grant a license amendment to the WEC HDP and an exemption to USEI from the requirements for a license under 10 CFR 30.3 and 70.3 with respect to the HDP's disposal of an additional 22,000 m^3 (29,000 yd^3) of soil and soil-like wastes containing low concentrations of source, byproduct and SNM, is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, as it will allow WEC to complete decommissioning of the HDP for unrestricted release upon license termination.

On the basis of this EA, the NRC has concluded that there are no significant environmental impacts and the issuance of a license amendment does not warrant the preparation of an Environmental Impact Statement. Accordingly, it has been determined that a Finding of No Significant Impact is appropriate.

11. Preparer

John P. Clements, NRC Health Physicist/Environmental Engineer, prepared this EA. Assistance was provided from Leah Parks, NRC Systems Performance Analyst, and Karen Pinkston, NRC Systems Performance Analyst.

12. Acronyms

ADAMS	Agencywide Documents Access and Management Systems
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensations and Liability Act
CFR	Code of Federal Regulations
DOT	Department of Transportation
DP	Decommissioning Plan
EA	Environmental Assessment
EPA	Environmental Protection Agency
FR	Federal Register
FUSRAP	Formally Utilized Sites Remedial Action Program
HDP	Hematite Decommissioning Project
IDEQ	Idaho Department of Environmental Quality
IP	Industrial Package
LA	Low Activity
LLRW	Low Level Radioactive Waste
MDNR	Missouri Department of Natural Resources
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan

NORM	Naturally Occurring Radioactive Material
NRC	Nuclear Regulatory Commission
OSHA	Occupational Health and Safety Administration
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
RESRAD	Residual Radioactivity
SER	Safety Evaluation Report
SHO	State Historical Preservation Office
SNM	Special Nuclear Material
SRBPNCA	Snake River Birds of Prey National Conservation Area
TDS	Total Dissolved Solids
TEDE	Total Effective Dose Equivalent
TSCA	Toxic Substances and Control Act
USEI	US Ecology Idaho
WAC	Waste Acceptance Criteria
WEC	Westinghouse Electric Company, LLC

12. List of References

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