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January 28, 2019

Michelle Mullins
U.S. EPA, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

RE: Completion Summary of PCB Cleanup and disposal work at the Central Heat and Power Plant at Joint Base Elmendorf - Richardson, Alaska.

Dear Ms. Mullins,

Attached is the completion summary report regarding the cleanup and removal of PCB Remediation waste as required per Condition 2 of EPA's June 21, 2018 letter *Amendment to the Approval for self-implementing cleanup and disposal of PCB remediation waste at the Central Heat and Power Plant Demolition Site*. The completion summary report describes how the PCB cleanup due to the demolition of the JBER Central Heat and Power Plant site was conducted in accordance with the applicable regulatory requirements and approval letters.

DU notified EPA via a December 13, 2018 email that this project had reached substantial completion on November 4, 2018, and is submitting this report ahead of the 90 day deadline of February 4, 2019.

If you have any questions regarding this project, please contact Kathleen Hook at khook@doyonutilities.com or 907-455-1540.

Best Regards,

Shayne Coiley
Senior Vice President of Operations
Doyon Utilities, LLC

cc: S. Macduff, EPA
S. Halstead, EPA
L. Howard, ADEC
M. Prieksat, JBER 673 CES

Enclosure: JBER CHPP Summary Report on Cleanup and Removal of PCB Remediation Waste

CO-19-021

ENVIRONMENTAL
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January 24, 2019

Doyon Utilities, LLC
714 Fourth Ave, Suite 100
Fairbanks, AK 99701
Attn: Shayne Coiley

RE: JBER Central Heat and Power Plant (CHPP) Demolition Project, Anchorage, Alaska

Subj: Summary Report on Cleanup and Removal of PCB Remediation Waste

EMI is pleased to provide this summary report on behalf of CEI to Doyon Utilities of the cleanup of PCB remediation waste at the JBER CHPP. This report was prepared in response to Condition 2 of the EPA's June 21, 2018 letter *Amendment to the Approval for self-implementing cleanup and disposal of PCB remediation waste at the Central Heat and Power Plant Demolition site, Joint Base Elmendorf/Richardson, Anchorage, Alaska* (EPA 2018).

This report summarizes the characterization, verification and removal of PCB remediation waste during the demolition of the JBER CHPP (EPA ID AKR000204883). The CHPP is located on Arctic Valley Road on JBER, Alaska at 61.246570° N, -149.705850° W. The cleanup of these soils was conducted according to 40 CFR 761.61(a).

The location and concentration of PCB remediation waste at the project site was initially identified in the *Preliminary Assessment/Site Investigation* (PA/SI, Tutka 2012). It identified two locations with PCB remediation waste soil: the acid vent, on the south wall of the CHPP coal storage building (AOC06-001); and part of the transformer area on the east wall of the turbine room (AOC02-008). After receiving approval from EPA in November 2017, CEI removed 14 cubic yards of soil from these two locations. EMI collected samples to verify the cleanup was complete from the base and sidewalls of both excavations. These verification samples showed the cleanup was complete with no PCB remediation waste remaining at the Acid Vent area, but that PCB remediation waste remained in the transformer area. This removal was conducted under the *Work Plan for Interim Soil Spot Removal Actions, CHPP JBER, Alaska* (EMI 2017), as approved by EPA on November 8, 2017 (EPA 2017), and is documented in *Report on Interim Soil Spot Removal Actions, CHPP JBER, Alaska* (EMI 2018a)

In April of 2018, EMI completed the characterization of the two larger suspect areas of the project site: the former transformer area east of the CHPP and the sod on the perimeter of the CHPP. The characterization followed 40 CFR 761.61Subpart N *Cleanup Site Characterization Sampling for PCB Remediation Waste in Accordance with 761.61(a)(2),* as described in the *Revised Addendum 1 to Work Plan on Interim Soil Spot Removal Actions* (EMI 2018b). Grab samples were collected from boreholes drilled on a 3-meter gird throughout the suspect areas. An approved coring tool, the 1.75-inch diameter Macro Pore probe, was driven by a Geoprobe to the approved depth to collect the sample. The samples were analyzed by the approved laboratory using SW Method 8082A. The perimeter soil borings identified 2 locations where the release of PCB-containing paint chips had contaminated soil that was now a PCB remediation waste. The borings in the transformer area delineated the PCB remediation waste identified in the previous verification sample, but did not discover any new areas of PCB remediation waste. The details of this characterization work were documented in *Report on Addendum 01 (Additional Characterization) for Work Plan on Interim Soil Spot Removal Actions, CHPP JBER, Alaska* (EMI 2018c).

In May of 2018, one location of PCB remediation waste contaminated soil from paint chips was removed as an emergency measure to allow further abatement of PCB paint and prevent further releases. The second location of PCB remediation waste from paint chips was removed in July of 2018. In both cases, soil was excavated to a depth of one foot as indicated by the perimeter soil borings. EMI collected core samples following the protocols in 40 CFR 761.61 Subpart O *Sampling to Verify Completion of Self-Implementing Cleanup and On-site Disposal of Bulk Remediation Waste and Porous Surfaces in Accordance with 761.61(a)(6)*, which confirmed that all PCB remediation waste had been removed in both locations.

The two concrete slabs that had previously supported the transformers were classified as bulk PCB remediation waste and removed on 11 September 2018. Verification samples were not required because the soils beneath them had previously been adequately characterized by soil borings. However, as requested in EPA's June 21, 2018 letter, EMI inspected the soil beneath them after removal and observed a lightly stained area near the northwest corner of the south pad; the stained soil was sampled on 11 September 2018 and PCB was only 0.177 ppm. (EMI 2019)

Soils identified as bulk PCB remediation waste at spot AOC02-008 near the transformer pad were removed in a horizontal area approximately 9.5 feet by 7.5 feet to a depth of 10 feet. Following 40 CFR 761 Subpart O, composite samples were collected from 2 depths in the soil sidewalls, the excavation base, and from the concrete foundation wall. All four composite samples contained less than 1 ppm PCB, verifying the cleanup was complete. (EMI 2019)

The 2018 soil and concrete slab removals were conducted according to the work plan *Revised Addendum-02 to Work Plan on Interim Soil Spot Removal Actions (ISSRA)* (EMI 2018d), with the details of the removals documented in the *Report on All Interim Soil Removal Actions for the CHPP Demolition JBER, Alaska* (EMI 2019).

In all cases, removed PCB remediation waste soil was placed in super sacks. The contaminated soils removed in November 2017 were delivered to JBER Environmental's contaminated soil storage cell on Circle Drive and transferred to the government for disposal. The remaining soils and concrete removed in 2018 were stored in bermed and lined cells constructed at the CHPP project site until they were transferred directly to Waste Management for transportation to their facilities in Arlington, Oregon: Chemical Waste Management, Inc. (EPA FRS# ORD089452353) or Columbia Ridge Landfill (EPA FRS# ORD987173457). Copies of the manifests showing the dates of removal from the project site are included in the *Report on All Interim Soil Removal Actions for the CHPP Demolition JBER, Alaska* (EMI 2019). A summary report verifying the disposal of the materials will be submitted after the final disposal documentation is received from Waste Management.

A *greener cleanup* project approach to the removal of the PCB remediation waste from the Demolition of the CHPP was followed by reviewing the Best Management Practices (BMPs) as listed in ASTM E2893 16[e1] *Standard Guide for Greener Cleanups*; the attached Table 1 documents BMPs that were implemented as part of this removal of the PCB remediation waste from the CHPP and meets the requirements of section 6.6.5 of the ASTM. BMPs requiring the use of staff, suppliers, disposal facilities to the extent possible, and laboratories local to the Anchorage area were the highest priority due to the high cost and environmental footprint of transportation to and from Alaska.

DU, CEI, and EMI complied with all the requirements for removal of the identified PCB remediation waste as outlined in the EPA's June 21, 2018 letter *Amendment to the Approval for self-implementing cleanup and disposal of PCB remediation waste at the Central Heat and Power Plant Demolition site, Joint Base Elmendorf/Richardson, Anchorage, Alaska*, and its attachments. The details of the removals are documented in the referenced reports.

If you have any questions regarding this project, please do not hesitate to contact the undersigned at (907) 272-9336.

Respectfully,
Environmental Management, Inc.

Larry Helgeson, P.E.
Vice President, Consulting
Project Lead Environmental Professional

Attachments:
References
Table 1: Greener Cleanup BMPs

REFERENCES (previously submitted documents)

EMI, 2017. *Work Plan for Interim Soil Spot Removal Actions, CHPP JBER, Alaska*, October.

EMI, 2018a. *Report on Interim Soil Spot Removal Actions, CHPP JBER, Alaska*, February 15.

EMI, 2018b. *Revised Addendum 1 to Work Plan on Interim Soil Spot Removal Actions*, March 27.

EMI, 2018c. *Report on Addendum 01 (Additional Characterization) for Work Plan on Interim Soil Spot Removal Actions, CHPP JBER, Alaska*, May 22.

EMI, 2018d. *Revised Addendum-02 to Work Plan on Interim Soil Spot Removal Actions (ISSRA)*, June 25.

EMI, 2019. *Report on All Interim Soil Removal Actions for the Central Heat and Power Plant Demolition Joint Base Elmendorf/Richardson, AK*. January 11.

EPA, 2017. *Approval for cleanup and· disposal of PCB Remediation waste at the Central Heat and Power Plant Demolition site, Joint Base Elmendorf/Richardson, Anchorage, Alaska*. November 8.

EPA, 2018. *Amendment to the Approval for self-implementing cleanup and disposal of PCB remediation waste at the Central Heat and Power Plant Demolition site, Joint Base Elmendorf/Richardson, Anchorage, Alaska*. June 21.

Tutka, 2012. *Preliminary Assessment / Site Inspection Report Task 2 CHPP JBER-R, Alaska*. December.

Table 1 Greener Cleanup BMP selection process

Category	Best Management Practice	Energy	Air	Water	Materials and Waste	Land and Ecosystems	Step 2: Priority	Step 3: Implemented	Reason for Implementation	Required by law or regulation
Residual Solid and Liquid Waste	Reuse or recycle recovered product (such as resale of captured petroleum products, precipitated metals) and materials (for example, cardboard, plastics, asphalt, concrete)				X		High	No	It was not cost-effective to try to split the concrete pads and characterize the pieces separately.	No
Residual Solid and Liquid Waste	Segregate drilling or excavation waste based on location and composition to reduce the volume of drilling waste disposed off-site; collect needed analytical data to make on-site reuse decisions	X	X		X		High	Yes	EMI used the results of characterization investigations to segregate waste soil based on nature and level of contamination.	Yes
Project Planning and Team Management	Choose equipment and product vendors with production and distribution centers near the site to minimize fuel consumption associated with delivery	X	X				High	Yes	Transportation costs to Alaska are high, as are the associated emissions footprint.	No
Project Planning and Team Management	Select local waste disposal and recycling facilities to minimize transportation impacts	X	X				High	Yes	Local disposal, either on-site or at Anchorage regional landfill were used, except for certain contaminated soils where no local facility was an option.	No
Project Planning and Team Management	Use local staff (including subcontractors) when possible to minimize transportation impacts	X	X				High	Yes	Both CEI and EMI have their corporate headquarters in Anchorage. Only local staff were used.	No
Project Planning and Team Management	Designate collection points for compostable materials and routine recycling of single-use items such as metal, plastic, and glass containers; paper and cardboard; and other items that may be recycled locally	X			X		Medium	Yes	EMI and CEI routinely collect and recycle office wastes.	No
Sampling and Analysis	Use drilling methods which minimize the generation and disposal of cuttings (for example, sonic technology)	X	X		X	X	Medium	Yes	Compared to hollow-stem auger methods, direct push methods used in this project generate less waste soil cuttings.	No
Site Preparation and Land Restoration	Reuse on-site or local clean materials (for example, shredded tires, crushed concrete) rather than importing borrow for fill	X	X		X		Medium	Yes	Some contaminated soil that was not PCB waste was reused as fill in the excavation.	No
Project Planning and Team Management	Use a local laboratory to minimize transportation impacts	X	X				Medium	Yes	SGS laboratory is in Anchorage	No

Table 1 Greener Cleanup BMP selection process (continued)

Category	Best Management Practice	Energy	Air	Water	Materials and Waste	Land and Ecosystems	Step 2: Priority	Step 3: Implemented	Reason for Implementation	Required by law or regulation
Materials	Use materials with recycled content (for example, concrete and/or asphalt from recycled crushed concrete and/or asphalt; plastic made from recycled plastic; geotextile fabrics/tarps made with recycled contents)				X		Medium	Yes	Recycled asphalt was used for the temporary cap.	No
Sampling and Analysis	Use dedicated materials (that is, re-use of sampling equipment and non-use of disposable materials/equipment) when performing multiple rounds of sampling				X		Medium	No	Disposable equipment was used whenever possible to minimize the generation of liquid decontamination waste.	No
Sampling and Analysis	Use direct sensing non-invasive technology such as a MIP, X-ray fluorescence, LIF sensor, CPT, ROST, FFD, and/or seismic refraction/reflection	X	X		X	X	Medium	No	No such technology exists for detecting PCB contaminated soil.	No
Sampling and Analysis	Use field test kits for screening analysis of soil and groundwater contaminants such as petroleum, polychlorinated biphenyls, pesticides, explosives, and inorganics to minimize the need for off-site laboratory analysis and associated sample packing and shipping	X	X		X		Medium	No	No such technology exists for detecting PCB contaminated soil.	No
Sampling and Analysis	Use on-site mobile lab or other field analysis (for example, portable gas chromatography/mass spectrometry for fuel-related compounds and VOCs) to minimize the need for off-site laboratory analysis and associated sample packing and shipping	X	X		X		Medium	No	Project too small scale to support the use of a mobile laboratory.	No
Site Preparation and Land Restoration	Use biodegradable covers to protect and preserve healthy plants from land disturbing activities			X		X	Medium	No	No natural vegetated areas were impacted.	No
Surface and Storm Water	Capture rainwater for tasks such as wash water, irrigation, dust control, constructed wetlands, or other uses			X		X	Medium	No	Project too small scale, with water use and rain events too imtermittent to make rainwater capture feasable.	No
Vehicles and Equipment	Implement an idle reduction plan	X	X			X	Medium	No	Most equipment, when not actively being used for the cleanup, was either off or being used for other parts of the demolition project.	No
Vehicles and Equipment	Use retrofitted engines that use ultra-low, low sulfur diesel, or alternative fuels; or filter/treatment devices to achieve BACT or MACT		X				Medium	No	Project was too small scale to support retrofitting equipment engines.	No

Table 1 Greener Cleanup BMP selection process (continued)

Category	Best Management Practice	Energy	Air	Water	Materials and Waste	Land and Ecosystems	Step 2: Priority	Step 3: Implemented	Reason for Implementation	Required by law or regulation
Materials	Select products that are environmentally preferable (when compared to other products serving the same purpose) with respect to raw materials consumption, manufacturing processes and locations, packaging, distribution, recycled content and recycling capability, maintenance needs, and disposal procedures. Explore the GSA Sustainable Facilities tool at https:// sftool.gov/ for a list of greener options				X		Medium	No	Limited choice of local cleanup product vendors.	No
Power and Fuel	Use biodiesel produced from waste or cellulose-based products to power equipment	X			X		Medium	No	No sufficient supply chain for biodiesel is available in Alaska, and this project was too small scale to initiate one.	No
Project Planning and Team Management	Contract a laboratory that uses green practices and/or chemicals	X	X	X	X	X	Low	Yes	SGS has a strong corporate sustainability program.	No
Site Preparation and Land Restoration	Minimize clearing of trees and other vegetation throughout investigation and cleanup	X	X	X	X	X	Low	Yes	Project avoided several mature spruce trees that were outside the excavation footprint	No
Site Preparation and Land Restoration	Restrict traffic to confined corridors to minimize soil compaction and land disturbance during site activities			X		X	Low	Yes	Traffic was restricted to a ring around the building footprint.	No
Materials	Steam-clean or use phosphate-free detergents or biodegradable cleaning products instead of organic solvents or acids to decontaminate sampling and other equipment			X	X	X	Low	Yes	Alconox, a biodegradable detergent, was used for sampling equipment decontamination.	No
Site Preparation and Land Restoration	Minimize dewatering prior to excavation by relying on cold conditions or using ground-freezing technologies, if environmentally beneficial	X	X	X	X		Low	No	Cleanup took place in the summer, most of the excavations were above the water table, and using ground-freezing technology would not have provided any additional benefit.	No

Table 1 Greener Cleanup BMP selection process (continued)

Category	Best Management Practice	Energy	Air	Water	Materials and Waste	Land and Ecosystems	Step 2: Priority	Step 3: Implemented	Reason for Implementation	Required by law or regulation
Vehicles and Equipment	When using large equipment, employ auxiliary power units to power cab heating and air conditioning when a machine/vehicle is not operating (such as SmartWay generator or plug in outlet) to reduce idling	X	X				Low	No	Not feasible to retrofit equipment for a project this small-scale.	No
Vehicles and Equipment	Use biodegradable hydraulic fluids on hydraulic equipment such as drill rigs				X		Low	No	Not feasible to source hydraulic fluid specifically for this project.	No
Vehicles and Equipment	Use electric, hybrid, ethanol, or compressed natural gas vehicles instead of conventional vehicles	X	X				Low	No	Project is too small scale to support converting EMI and CEI vehicle fleets.	No
Project Planning and Team Management	Establish green requirements (for example, greener cleanup BMPs) as evaluation criteria in the selection of contractors and include language in RFPs, RFQs, subcontracts, contracts, etc. For example, procure remediation reagents from vendors with sustainable policies	X	X	X	X	X	Low	No	Few subcontractors used for project; limited selection available locally.	No
Residual Solid and Liquid Waste	Employ closed-loop graywater washing system for decontamination of trucks			X			Low	No	Wet decontamination was not used for cleanup equipment. Instead, equipment was dry decontaminated and wiped with hexane.	No
Vehicles and Equipment	Use SmartWay transportation retrofits (for example skirts, air tabs) on tractor-\trailers whenever possible	X	X				Low	No	Project too small scale to support the retrofit; project and disposal locations meant that air resistance was not a major driver of tractor-trailer fuel consumption.	No
Site Preparation and Land Restoration	Use excavated areas to serve as retention basins in final storm water control plans	X	X	X	X	X	Low	No	Excavated areas were backfilled to minimize exposure of other contaminated soils.	No

Table 1 Greener Cleanup BMP selection process (continued)

Category	Best Management Practice	Energy	Air	Water	Materials and Waste	Land and Ecosystems	Step 2: Priority	Step 3: Implemented	Reason for Implementation	Required by law or regulation
Site Preparation and Land Restoration	Use pervious surface material such as porous pavement or gravel and separated pervious surfaces, rather than impermeable materials, when installing hardscape (for example, roadway, parking area) to maximize infiltration			X		X	Low	No	No permanent hardscape installed. The temporary asphalt cap was installed to prevent infiltration and mobilization of contaminants. Final surface was gravel.	No
Power and Fuel	Purchase renewable energy via local utility and Green Energy Programs or RECs/Green Tags to power cleanup activities	X	X				Low	No	No such program available from local utilities. Local utility power is natural gas, hydroelectric, and wind.	No
Power and Fuel	Use on-site generated renewable energy such as solar photovoltaic, wind turbines, landfill gas, geothermal, and biomass combustion to fully or partially provide power otherwise generated through on-site fuel consumption or use of grid electricity	X	X				Low	No	Project too small scale to support new local generation.	No
Project Planning and Team Management	Choose suppliers that will take back scraps or unused materials				X		Low	No	Excess supplies will be used on other CEI or EMI projects.	No