UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

Danish Mir, President
SungEel MCC Americas, LLC
222 Bloomingdale Road, Suite 401
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JUL 16 2019

Re: SMCC Lithium-Ion Battery Recycling Facility Applicability Determination

Dear Mr. Mir:

This is in response to the April 1, 2019 e-mail communication to the U.S. Environmental Protection Agency (EPA) regarding an applicability determination for the SMCC Lithium-Ion Battery Recycling facility in Endicott, NY relative to 40 C.F.R. Part 60, Subpart CCCC, Standards of Performance for Commercial and Industrial Solid Waste Incineration Units.

Background

According to the e-mail communication and supporting documentation from Plumley Engineering P.C., the SMCC Endicott facility will employ various processes to recover metals from spent lithium-ion batteries from electric vehicles and power packs from phones and other electronic devices. The metals to be recovered are mainly lithium, nickel, and cobalt.

The spent lithium-ion battery cells, after being electrically discharged and depackaged, are dried in a rotary kiln dryer, operating in a temperature range of 550 to 600 °C, to eliminate residual electrical charges and prepare them for grinding for metal recovery. The cells flow from the upper dryer to the lower cooling tumbler then into a collection bin/conveyor. Emissions from the dryer are controlled by an afterburner, then flow to a spray cooler, a pre-duster/cooling spray tower, a fabric filter and a wet scrubber. The afterburner operates at 800 °C. the pre-duster/cooling spray tower provides backup temperature control ahead of the fabric filter and injects only water as needed for cooling. The wet scrubber provides final treatment by injecting a neutral pH water through 40 nozzles at 105 gpm. The scrubber water is recirculated, pH adjusted and make-up water added as needed. After drying, spent battery cells are ground in two grinding machines. This ground material contains the recovered metals and is the final product. Dust from the grinding machines is collected in a cyclone. The collected dust is also a product containing recovered metals and further processing and separation will be completed in Korea.

Regulatory Analysis

40 C. F. R. Part 60, Subpart CCCC defines a "[c]ommercial and industrial solid waste incineration (CISWI) unit" as:

> "any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. If the operating unit burns materials other than traditional fuels as defined in

§241.2 that have been discarded, and you do not keep and produce records as required by §60.2175(v), the operating unit is a CISWI. While not all CISWIs will include all of the following components, a CISWI includes, but is not limited to, the solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI does not include air pollution control equipment or the stack. The CISWI boundary starts at the solid waste hopper (if applicable) and extends through two areas: The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and the combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI includes all ash handling systems connected to the bottom ash handling system."

40 C.F.R. § 60.2020 addresses incinerators units that are exempt from Subpart CCCC. 40 C.F.R. 60.2020(g) is for "[m]aterials recovery units" which includes "[u]nits that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters."

From the process description you provided, we believe that the rotary dryer is operating at temperatures higher than ignition temperatures of some of the materials being treated in the dryer. This leads us to believe that the SMCC rotary kiln dryer meets the definition of a CISWI unit. Because the unit will be used for the purpose of recovering metals, it meets the 40 C.F.R. § 60.2020(g) exemption's requirement that materials recovery units combust waste primarily to recover metals.

Conclusion

Based on the information provided in your e-mail/letter dated April 1st, 2019, EPA believes that the rotary kiln dryer at the SMCC facility in Endicott, NY will operate as a material recovery unit under 40 C.F.R. § 60.2020(g), and thus is exempt from Subpart CCCC requirements. The determination is site-specific to the SMCC Lithium-Ion Battery Recycling facility in Endicott, NY. If the materials which the facility combusts changes or there are changes in the process, the facility needs to apply for a new applicability determination as it may become subject to different regulations under the Clean Air Act (CAA). This determination was coordinated with EPA's Office of Enforcement and Compliance Assurance and the Office of Air Quality Planning and Standards. If you have any questions concerning the determination provided in this letter, please contact Julian Velez, of my staff at (212) 637-3464 or by e-mail at velez.julian@epa.gov.

Sincerely,

Robert Buettner, Chief
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