



## **GUIDANCE DOCUMENT – RCRA STATUS OF AIR POLLUTION CONTROL WASTES AT INTEGRATED PRECIOUS METALS PRODUCTION FACILITIES**

The purpose of this Guidance Document is to clarify, and provide certainty to operators concerning, the status under the RCRA Bevill Amendment of solid wastes from air pollution control activities associated with beneficiation operations at precious metals production facilities within the State of Nevada.

### **1. Background**

Since 1985, the Nevada Division of Environmental Protection (“Division”) has been authorized to administer and enforce the RCRA hazardous waste program in Nevada, including at integrated precious metals mining, beneficiation, and mineral processing facilities. One key component of the RCRA hazardous waste program for mining operations – at both the federal and State levels – is the Bevill Amendment, 42 U.S.C. §§ 6921(b)(3)(A)(ii) and 6982(f) and (p), which has been codified by the Environmental Protection Agency in the federal regulations at 40 C.F.R. 261.4(b)(7), and incorporated into the State hazardous waste program pursuant to NAC 444.8632. The Bevill Amendment exempts from regulation under the hazardous waste program all solid wastes that are uniquely associated with extraction or beneficiation of ores or minerals. At precious metals production operations, beneficiation can include such activities as ore drying/preheating; roasting, autoclaving, and chlorination in preparation for leaching; electrowinning; leaching; and carbon regeneration. In addition, wastes from gold adsorption on activated carbon in carbon-in-column, carbon-in-pulp, and carbon-in-leach systems, elution for purposes of gold stripping from activated carbon, and carbon regeneration for recirculation to the adsorption circuit are considered uniquely associated with the beneficiation of ores or minerals.

Precious metals producers install and operate extensive air pollution control equipment in connection with certain beneficiation activities to control emissions of pollutants to ambient air, including sulfur dioxide and mercury. In order to obtain significant and rapid reductions in mercury emissions from precious metals production facilities, Nevada implemented the Voluntary Mercury Reduction Program in 2000. The program initially focused on reduction of mercury emissions from roasters, which existed at that time at only 3 locations in Nevada. In 2006, the Mercury Air Emissions Control Program replaced the voluntary program. The new rules, codified at NAC 445B.3611 *et seq.*, are mandatory, and apply to thermal mercury emitting equipment at all precious metals mines in the State.

Air pollution controls at precious metals production facilities may at times generate liquid or solid effluents, residuals or other secondary streams that if discarded would be solid wastes, and that may exhibit the RCRA TCLP characteristic for mercury or some other metal that originally derived from the ore, or possibly other hazardous characteristics. These streams often contain valuable materials that may be reused or reclaimed onsite or offsite. If they are legitimately recycled, these streams would not be solid wastes and therefore would not be subject to RCRA hazardous waste rules. If the streams are discarded, or not legitimately recycled, they are solid wastes, and, if characteristically hazardous, would be subject to hazardous waste regulation unless otherwise exempt, such as under the Beville Amendment.

The solid wastes generated by air pollution control equipment associated with beneficiation activities have been historically and consistently considered by the State to be exempt from hazardous waste regulation under the Beville Amendment, on the ground that they are uniquely associated with a beneficiation operation. Precious metals producers have traditionally recycled air pollution control streams to production to make use of their water values and, at times, to recover the metals contained in these streams. These activities, though exempt from RCRA regulation, have been extensively regulated

by the State pursuant to its Water Pollution Control Act and permits issued thereunder to precious metals producers, to ensure protection of human health and the environment.

Recently, following inspections by the Environmental Protection Agency of several precious metals production facilities in the State, the State and EPA have engaged in extensive discussions and exchanged data dealing with the RCRA status of solid wastes generated by air pollution controls associated with beneficiation operations. While generally in agreement with the State, EPA concluded that, in certain limited circumstances, a solid waste from air pollution controls associated with beneficiation might not be Bevill-exempt, as described in more detail in the next section.

## **2. RCRA Status of Air Pollution Control Wastes**

As a result of the State/EPA discussions referenced above, on February 26, 2015, Jeff Scott, the Director of the Land Division of EPA Region IX, sent a letter to NDEP Administrator Colleen Cripps setting the framework that will be utilized going forward by both the State and EPA to determine whether solid wastes from air pollution controls associated with beneficiation operations at precious metals production operations are Bevill-exempt. Based upon that letter, as well as the State's extensive and unique knowledge of precious metals production operations due to long-time and extensive regulation of these facilities, and absent amendment to the RCRA hazardous waste regulations that dictates otherwise, all solid wastes generated by existing air pollution controls associated with the following beneficiation activities at precious metals operations will continue to be exempt from RCRA hazardous waste regulation under the Bevill Amendment, unless the operator makes significant changes to existing pollution controls to employ Boliden-Norzink<sup>1</sup> technology or some similar technology that results in a significant chemical change to the exhaust gases being treated in order to isolate and produce elemental mercury as part of the air pollution control process: electrowinning, autoclaving, carbon regeneration,

---

<sup>1</sup> The Boliden Norzink process, developed in 1972, is a patented air pollution control process for removing mercury from process and exhaust gases.

pregnant/barren solution tanks associated with beneficiation operations, leaching, and ore drying (or preheating). Thus, all air pollution control solid wastes currently being generated at existing precious metals production facilities in connection with any of these beneficiation operations will continue to be Bevill-exempt. Of course, the operator will be required, in managing any such streams, to comply with any applicable requirements of the State's Water Pollution Control Act.

With respect to roasting activities at existing precious metals production facilities, as currently configured, any air pollution control solid wastes that are generated upstream of the Boliden-Norzink process will continue to be exempt from RCRA hazardous waste regulation under the Bevill Amendment. By contrast, any air pollution control solid wastes generated from the Boliden-Norzink process, or from air pollution control activities associated with roasting downstream of the Boliden-Norzink process, will no longer be considered Bevill-exempt. As such, any solid wastes from roaster air pollution control operations at or downstream of the Boliden-Norzink process, if characteristically hazardous must henceforth managed as RCRA hazardous wastes, unless exempt under some other provision of the RCRA regulatory program.

Should any precious metals producers plan to significantly modify existing air pollution controls associated with ore drying, roasting, electrowinning, autoclaving, carbon regeneration, or pregnant/barren solution tanks associated with the above operations, the Division recommends that the operator first contact the Division to obtain its view as to whether any solid wastes generated by the modified air pollution control device will remain Bevill-exempt.

3. **Contact**

For addition information, contact NDEP, Bureau Chief, Bureau of Waste Management, 901 South Stewart Street, Carson City

