



Materials Inspection Record

1. Licensee Name: Empire Iron Mining Partnership		2. Docket Number(s): 030-04814 / 999-90003		3. License Number(s) 21-03076-01 / GL per 31.5(a)	
4. Report Number(s): 2021-001			5. Date(s) of Inspection: May 14, 2021 with in-office review through September 17		
6. Inspector(s): Ryan Craffey		7. Program Code(s): 03810	8. Priority: 3	9. Inspection Guidance Used: IP 18724	
10. Licensee Contact Name(s): Larry Gray - RSO		11. Licensee E-mail Address: lawrence.gray@clevelandcliffs.com		12. Licensee Telephone Number(s): 906-475-3521	
13. Inspection Type: <input checked="" type="checkbox"/> Routine <input checked="" type="checkbox"/> Announced <input type="checkbox"/> Non-Routine <input type="checkbox"/> Unannounced		14. Locations Inspected: <input checked="" type="checkbox"/> Main Office <input type="checkbox"/> Field Office <input type="checkbox"/> Temporary Job Site <input checked="" type="checkbox"/> Remote		15. Next Inspection Date (MM/DD/YYYY): 05/14/2023 <input type="checkbox"/> Normal <input type="checkbox"/> Extended <input checked="" type="checkbox"/> Reduced <input type="checkbox"/> No change	

16. Scope and Observations:

This was an announced routine inspection of an idled iron mine authorized to possess fixed nuclear gauges in storage at its facility in Palmer, Michigan. The mine halted operations in September 2016 and remains idled indefinitely. All nuclear process gauges were removed from service and placed in secure storage at that time. A small number have since been transferred to other mines within the organization; most recently in September 2017. The licensee continued to store all remaining gauges and some generally-licensed material (tritium exit signs) in a secure warehouse on the premises dedicated exclusively to the storage of radioactive material. The licensee also continued to employ its RSO and a number of AUs, as these individuals also worked at adjacent Tilden Mine. In accordance with current agency policy during the Covid-19 PHE, this inspection was announced and conducted remotely. Limited cell service at the facility precluded live video teleconferencing at the authorized storage location. Instead, the inspector reviewed a series of prerecorded videos via the agency's file-sharing platform.

The inspector reviewed over a dozen videos recorded by the RSO, which demonstrated that the storage facility was adequately posted and secured at the time of recording. The videos included exposure surveys of the facility's exterior using appropriate instrumentation; no readings in excess of public limits were noted. The videos also confirmed that a selection of licensed devices chosen by the inspector were still present and accounted for in the warehouse. All devices in the videos were properly labeled and in good condition, and all shutters were still locked in their closed positions. Additional surveys in the vicinity of the selected gauges were consistent with applicable safety evaluations in the Sealed Source and Device Registry.

The inspector also reviewed the licensee's gauge transfer log, which included area surveys whenever a gauge was moved, as well as the licensee's latest physical inventory and an additional roster of radioactive material (including generally-licensed devices) in secure storage. The inspector confirmed that the total quantity of material in the warehouse remained below category 2 thresholds.

During a review of these records, the inspector identified two Severity Level IV violations relating to missing generally-licensed material. The inspector noted that two generally-licensed IsoLite SLX-60 exit signs (serial numbers Z8271 and Z8275) containing tritium were listed on the material roster but were not on the licensee's latest physical inventory. The inspector reviewed GLTS and confirmed that the signs were initially distributed to the licensee in March 2009, and that their status was still listed as "accounted for and in possession of licensee." The inspector also noted that another sign (serial number Z8268) was listed in GLTS as in Empire's possession but was not on the roster or on the physical inventory.

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On July 7, 2021, the RSO reported the signs missing (EN 55335, NMED 210281). Contrary to 10 CFR 20.2201(a) (1)(ii), this report was not made within 30 days of discovery that the signs were missing; based on a note in the comment history of the physical inventory work order, the licensee had been aware that the signs were missing since at least May 2017.

The root cause of the violation was an oversight. The signs were already known to be missing at the time the current RSO took responsibility for the program, and so he assumed that they had already been reported as missing. As corrective action, the RSO reviewed the reporting requirements with the inspector.

On July 30, 2021, the licensee submitted a written report to the event and on August 19, 2021, provided an update per 20.2202(d) reporting that it had located one of the missing signs (Z2871). The reports contained all required information. The other two signs in question remained unaccounted for, and therefore in absence of evidence to the contrary were transferred from the licensee's control in a manner contrary to 10 CFR 31.5(c)(8).

The root cause of this violation (and the event itself) was inadequate control of generally-licensed material. As corrective action, the licensee performed an extensive records review and facility search, located one of the missing signs, and added it to the physical inventory work order. The licensee also committed to continue searching for the other two missing signs.

The inspector held an exit meeting with the licensee by telephone on September 24, 2021. The due date for the next routine inspection was reduced to coincide with the anticipated expiration date of the renewed standby license (i.e. two years from issuance).