



71-9157

71-9185

June 20, 2016

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001  
Att: Mr. Steven Ruffin  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety and Safeguards

**SUBJECT: 10 CFR 71.95 REPORT for Type B USA/9157/B(U)-96, IR100 Industrial Radiography Camera**

**THIS REPORT IDENTIFIES: Shipment in which conditions of the approval were not observed.**

**REPORT:**

During a planned NRC inspection (Docket 710062/2016-201) at Industrial Nuclear Company's (INC) San Leandro, California facility, January 27-29, 2016, one Severity Level 4 Violation was issued. This violation noted that contrary to Note 9 on design drawing IR100-1B, GTAW filler material ER308L Si was inadvertently used instead of the specified ER308L filler material to weld lock boxes on 98 IR100s. The subject IR100 Serial Numbers were identified as 7404 to 7501. Of this lot of 98 IR100s, 31 remained in stock; therefore, 67 were shipped in violation of the Type B USA/9157/B(U)-96.

**Mitigating factor:** IR100s are a Type B shipping container; however, for convenience only, they are always shipped inside an OP100 overpack, which is also a Type B shipping container (USA/9185/B(U)-96). Industrial Nuclear Company feels that this shipping configuration mitigates the potential failure mode associated with this incident.

Note that there have never been reports of IR100 failures during shipping or exposure of individuals to radioactive materials.

**CORRECTIVE ACTIONS TAKEN BY INC:**

**Corrective actions taken by the licensee:**

- INC issued NCR 053 to provide an engineering evaluation of the hardware issue and CAR 16-004 to provide programmatic corrective actions.

NM5524

- INC immediately placed the IR100s in stock on hold and issued a Stop Work Order halting the manufacture of IR100s. The ER308L Si weld material was also placed on hold.
- NCR 053 was forwarded to Areva Federal Services, WA (INC's design and package testing consultant) to perform an engineering evaluation of impact on design qualification testing of the IR100.
- The engineering evaluation performed by Areva and reviewed by INC engineering found no negative impact on the package's design qualification testing. A review of the mechanical properties of the ER308L Si weld material found it to be essentially identical to the specified ER308L weld material.
- Investigative, remedial and preventive actions were identified in CAR 16-004. All corrective measures were completed and CAR 16-004 was closed.
- INC's AWS Certified Welding Inspector consultant reviewed INC's Procedure Qualification Records and issued a new Welding Procedure Specification, WPS-LSC-001, which allows use of the ER308L Si weld wire.
- The completed NCR, CAR and engineering evaluation were submitted to the NRC in response to NRC Inspection Docket Number 710062/2016-201.
- INC is in the process of revising drawing IR100-1B to clearly identify the weld material that is qualified for use on the package. Once complete, INC will submit a request for an amendment to the Type B Package USA/9157/B(U)-96.
- Filing of this 71.95 report as a result of NRC staff review of INC's response.

If you have any questions, please do not hesitate to contact Mike Rose, QA Manager, at 510.352.6766.

Sincerely,



Mike Rose,  
Quality Assurance Manager