



DIRECTOR, OFFICE OF FEDERAL AND STATE MATERIALS AND ENVIRONMENTAL
MANAGEMENT PROGRAMS,
ATTN: GLTS,
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

March 13, 2014

This communication is to inform NRC of a recent shutter mechanism failure at one of our customer's job sites.

Customer: Ox Paperboard Company Old Route 340-Halltown Road, Halltown, WV

Date of discovery of failure: 3-13-14

Radioactive Source: One Sr90, 20mCi source mounted in a Metso Automation model BGIII sensor. The sensor is mounted on a scanning platform that traverses a paper web as it is being manufactured. Open is the normal position for the source shutter in this device. This device is installed on the wet end of a paper machine. The environment is hot, humid and very dusty.

Description of problem:

During a scheduled semi-annual source shutter inspection, it was discovered that the source shutter was stuck in the open position as indicated by an external LED indicator on the gauge source head. At the time of discovery the scanning platform was in the parked position away from the machine process.

The source head was removed from the scanning platform by Harry Bryant (RSO), and taken to a more suitable work area for further investigation. Upon opening the side of the sensor away from the radiation path, it was confirmed that the shutter was in fact stuck open.

The shutter operating solenoid was removed and the shutter was manually closed. Lubricant was applied to the shutter shaft and the shutter then manually moved freely. The shutter operating solenoid was then reinstalled.

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The shutter was now binding, most likely because of a slight misalignment of the solenoid mounting bracket. The solenoid mounting bracket was replaced and after several minor adjustments, the shutter now operated freely manually and electrically.

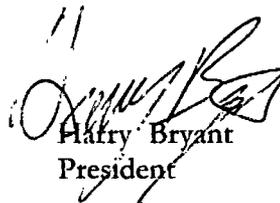
The source head was reinstalled on the scanning platform and returned to normal operation.

Because of the location of this sensor, it is my opinion there were no hazards to personnel or material during this issue.

As suggested by NRC Information Notice 2011-09, a recommendation will be made to the customer that they, at least monthly, turn the shutter mechanism off and on several times to prevent future corrosion build up on the shutter mechanism and report any future issues with this device.

This equipment was serviced by Harry Bryant (RSO) under authorization of specific license 07-35091-01, Docket 030-38670.

Sincerely,

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Harry Bryant
President

cc: Martin Weller – Ox Paperboard Company
Kathleen Modes – US NRC Region I