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12/19/02

CONAM

To: USNRC
Division of Industrial & Medical Nuclear Safety
Washington, DC 20555-0001

From: William R. Johnston William R. Johnston
Radiation Safety Manager; for Sharon Hill, PA Facility
Conam Inspection

Re: 30 day written notice of radiographic exposure device equipment failure

At approximately 9:20 am on 11/21/02 a radiography crew experienced a premature trip of the auto locking mechanism on a AEA Tech Ops 660 Radiography Exposure Device S/N A 3989 with a (78.8ci) Ir-192 source model #A424-9 S/N 07151B, while working at the Sunoco Refinery in Philadelphia, PA.

Upon the completion of the 11th exposure cycle, Radiographer A approached the device. Radiographer A noted high readings as he surveyed the front of the exposure device. He immediately retreated to the control drive mechanism and attempted to re-retract the source. Upon approaching the device the second time he also noted high readings. He then notified Radiographer B of the situation.

Radiographer B placed several lead cassettes in front of the exposure device to reduce the Radiation field. Radiographer B then rotated the selector ring to the "connect" position. As the control drive mechanism detached from the exposure device, it was noted that the source assembly connection was not visible. Radiographer B then re assembled the control drive mechanism to the exposure device.

The locking mechanism was then placed in the "operate" position. The source was driven out of the device and successfully retracted by Radiographer B. The exposure device was immediately taken out of service and returned to the Sharon

Hill facility. Readings from pocket dosimeters show that Radiographer A received 10MR, and Radiographer B received 0MR and assistant Radiographer C received 15MR. None of these doses were due to the premature lockout of the source. Rather, they were due to normal Radiographic operations. Radiographer B notified the Radiation Safety Manager for the Sharon Hill lab of the failure of the equipment. The Radiation Safety Manager notified the Corporate Radiation Safety Officer. The device has been shipped to the manufacturer for evaluation.

At 9:05 am on 11/22/02, Donna Janda was notified of the occurrence in compliance with the reporting requirements of 10 CFR 30.50 (b)(2)(ii) and 10 CFR 34.101 (a)(2&3). At approximately 9:15 am on 11/22/02, a telephone conversation between Donna Janda, John Kinneman, and Scott A. Kvasnicka was held to discuss the occurrence. This report is being submitted in compliance with the reporting requirements of 10 CFR 34.101 (a) and 10 CFR 30.50 (c)(2).

The following corrective/preventive actions were taken:

The locking mechanism of the camera in question has since been maintenance by AEA. A meeting with all Radiographic personnel was held. Special emphasis was placed on attention to the locking mechanism and what occurred during this incident. All of our 660 cameras, which have not had maintenance on their locking mechanism within a year's time, will have this done prior to the end of February 2003. Three of our nine 660 cameras fall into this category. Replacement parts for the locking mechanisms were provided by our corporate office and are currently at the Sharon Hill facility.

Attachment A

Radiographer A – [redacted]

ASNT Certified Radiographer for the use of radioactive materials.

[redacted] expiration date September 2004.

6 years experience in Industrial Radiography.

Radiographer B – [redacted]

ASNT Certified Radiographer for the use of Radioactive Materials.

[redacted] expiration date September 2007.

6.5 years experience in Industrial Radiography.

Assistant Radiographer C – [redacted]

1.5 years experience in Industrial Radiography.