

TEAM Industrial Services, Inc.

200 Hermann Drive
Alvin, TX 77511
Phone: 281/388-5673
Fax: 281/388-5693

August 14, 2006

Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Document Control Desk

Re: Written notification as required by 30.50 (c)(2) & 34.101(a)(1)

Dear Sir or Madam:

Team Industrial Services, Inc. in accordance with 10 CFR 30.50 (c)(2) & 34.101(a)(1), and subsequent to the event reported in notice 42722, provides this written notification.

1. The problem related to this event was the inability to return the device to the shielded position due to a crimped guide tube. The investigation revealed that the magnetic stand used to support the guide tube fell, landing on and crimping the guide tube which prevented the subsequent return of the source to the shielded position.
2. We are unable to determine the exact cause of the failure of the magnetic stand.
3. The device used in this event was Amersham 660B (S/N B3562) containing 62 curies of Ir-192 (S/N 28814B), model A424-9 operated with AEA model 592-25 remote controls.
4. This event occurred at the Milford Power Station, 55 Shelland Lane, Milford, CT on July 22, 2006 at approximately 13:45.
5. At the time of the event the radiography crew established a 2 mR/hr boundary, contacted the appropriate members of management who then contacted QSA Global and the NRC. QSA-Global responded to the event and returned the source to the shielded position.
6. Corrective actions taken specific to this event were to inspect the equipment which resulted in the removal of the guide tube from service. Additionally, the device was inspected for damage as well as the remote controls and drive cable. Finally, the magnetic stand was inspected as well. As a result the device, drive cables and magnetic stand were released to return to service and as mentioned previously, the guide tube was removed from service.

IE72

7. The Team Industrial Services, Inc. individuals involved in this event we qualified as radiographers – each centrally certified.

A copy of the materials attained during the performance of our investigation is attached for your review.

Should you have any additional questions, please contact me at (281)388-5673.

Sincerely,

A handwritten signature in black ink, appearing to read 'CGS' followed by a stylized flourish.

Christopher G. Smith
Corporate Radiation Safety Officer

CGS

Cc: File



QSA GLOBAL

QSA Global, Inc.

40 North Avenue

Burlington, MA 01803

Telephone: (781) 272-2000

Toll Free: (800) 815-1383

Facsimile: (781) 273-2216

Date: 22 July, 2006

Incident Report

Re: Emergency Source Retrieval at Milford Power Station, Milford CT

This report conforms to the requirements of 10 CFR 34.101

Description of Problem

A radiography team from Team Cooperheat MQS, 195 Woodlawn Road, Berlin, CT, was conducting radiographic operations at the Milford Power Station, 55 Shelland Lane, Milford, CT on 22 July, 2006 at approximately 13:45. The team was radiographing a weld on the side of a new fuel storage tank with the guide tube held in place by a magnetic stand. The weather was rainy and windy. During the radiographic exposure, the guide tube came loose from the side of the tank and fell back on itself resulting in an inward depression (dent). The operator tried to retract the source, but was only able to retract it approximately 4.5 crank turns and no more. The operator was able to move the source freely between the tip and the dent.

Cause of Incident

The operator stated that the guide tube came away from the side of the tank and became damaged.

Equipment

The exposure device involved was an Amersham 660B [S/N B3562] that contained a Model A424-9 62 Curie Ir-192 source [S/N 28814B].

Remote Controls: AEA Technology QSA, Inc Model 592-25

Source guide tube with stop (7 foot) AEA Technology QSA, Inc Model 48906 and a 7 foot guide tube extension Model 48907.

Actions Taken

Once the radiographers were aware of the problem, they implemented their emergency procedures. The device manufacturer, QSA Global Inc, formerly AEA Technology QSA, Inc., was contacted at approximately 1400 hours for assistance in retrieving the source. Verbal approval for reciprocity was

granted by John Kinneman of USNRC at 1615. An emergency retrieval team (ERT) was dispatched from the Burlington, MA office at 1640 and arrived on scene in Milford at 1900.

The ERT from QSA Global Inc. consisted of Bob Kelley (BK) and Charles Ellars (CE).

The radiography team had dragged the camera and guide tube assembly around the tank so that the guide tube settled in the bottom of the 4 ft deep ditch that surrounded the tank. This provided lateral shielding, but made accessing the guide tube more difficult due to the loose gravel on the sides of the ditch. BK verified the distance that the source could travel in the guide tube by cranking the source back and forth. The dent appeared to be approximately 45 inches from the tip. With the source fully extended into the guide tube tip, CE measured approximately 67 R/hr at ~ 18 - 24 inches from the tip with the teletector. BK calculated that for a 62 Ci source, the field at 1 ft was 322 R/hr with 36.8 R/hr at 3 ft and 12.9 R/hr at 5 ft. It was decided to put lead shot on the tip with the source withdrawn to the dent.

At 1915 BK manned the crank and withdrew the source to the dent. CE measured the dose rate to be ~ 20 R/hr at 1 ft. CE then placed two 25 lb bags of lead shot on the tip and continued to add two more lead shot bags.

At 1920, BK moved the source into the tip and CE measured the dose rate to be 4 R/hr at the highest reading inches away from the lead.

At 1925 CE added more lead until the available lead supply was used up. The dose rate was then 300 mr/hr inches away from the lead.

At 1930 CE measured the dose rates along the guide tube and measured 25 mr/hr at the dent.

At 1935 CE placed a steel plate under the dented guide tube and proceeded to pound out the dent with a hammer. He joined BK at the crank and monitored the guide tube with the teletector while BK tried to withdraw the source. This attempt failed.

At 1940, the dent was pounded out the tube and this time the source retracted fully until the locking mechanism engaged in the device. CE performed a closeout survey and found that the highest measurement on any surface was 20 mr/hr. One of the radiographers confirmed that this was their pre-incident measurement of the device.

CE received 65 mrem to the head as measured by his pocket ion chamber and 27 mrem to his waist as measured by his RadEye electronic pocket dosimeter. This dose is slightly higher than typical retrievals due to the awkward terrain. BK received 7 mrem to his head and 11 mrem to his body as measured by his pocket ion chambers.

The excellent assistance of Team Cooperheat MQS personnel is gratefully acknowledged.



Charles Ellars

RSO,

QSA Global, Inc.

TEAM Industrial Services
196 Woodlawn Rd.
Berlin, CT

RE: Source Incident / Retrieval

To: Chris Smith
Team Industrial Services
200 Herman Dr.
Alvin, TX 77511

Dear Chris Smith,

Account of events involving an unretrievable source:

Date of Incident: 7/23/06

Facility Involved: TEAM Industrial Services
196 Woodlawn Rd.
Berlin, CT 06037
NRC License #42-32219-01 Amendment 23

Crew: Rich Clark, Facility Radiation Safety Officer and Radiographer
ASNT Card# 110847
Ron Bagley, Radiographer, ASNT Card# 102337

Jobsite: Milford Power
55 Shelland Ln
Milford, CT 06046

Client: Pittsburg Tank and Tower
W/O #346-F0763
Contact: John Faulkner, 270 748-1362

Equipment: Ir 192, S/N 28814B, model 424-9; 2.3 TbQ (62 curries)
Exposure Device – 660B, S/N B3562
25' drive cable and two 7' guide tubes (one extension, and one tip)
Collimator
Magnetic Base Tank Stand

Incident:

At 1300 on 7-22-06, at the end of a 1.5 minute exposure, I attempted to retract the source and was unable to. I approached the setup and discovered the tank stand had fallen. I backed away and discussed the problem with Ron Bagley. We decided to straighten the assembly and attempt to retract the source again. This action resulted in no apparent change to my ability to secure the source. We decided to move the assembly into a ditch adjacent to the tank to take advantage of the ditch's shielding. We were able to move the assembly by carrying the camera and dragging the guide tubes. Ron carried the crank and I carried the device. The restricted area boundary was re-established and secured at 1335.

Incident Log:

7-22-06

- 1300 Stand Fell
- 1305 1st dosimeter check; RC-30mr, RB-30mr
- 1315 Moved source to the ditch
- 1320 Called Dave Trott (Operations Manager) left message.
- 1335 New restricted area established, dosimeter check RC-35mr, RB-30mr.
- 1340 Dave Called. Updated him. He will make himself available to assist as needed
- 1341 Called Chris Smith (CRSO) discussed situation and decided to contract QSA to perform the retrieval. Chris will call Bob Kelly (QSA manufacturer representative) and have Bob call me.
- 1345 Informed John Faulkner, PTT, of situation.
- 1400 Talked to Rob Luko (Branch Manager).
- 1410 Talked to Plant/Gregg, 203 876-2970
- 1415 Bob Kelly called. He will mobilize and keep me informed of his ETA
- 1450 Called Chris and updated
- 1455 Called Dave and left message.
- 1505 Called Rob and updated.
- 1507 Dave called, will pick up replacement survey meter and bring to jobsite.
- 1600 Bob Kelly called from his office; he is filing for NRC reciprocity, loading gear, and will leave for Milford, CT as soon as possible.
- 1645 Dave called and is enroute from shop with additional meters.
- 1715 Call from Danny Gallaway, CT-DEP, Division of Radiation Protection. Discussed situation and he determined the situation was under control and his presence was not required. He requested a phone call when the situation was resolved, and a copy of the investigation report.
- 1855 Bob Kelly of QSA Global arrives and begins investigation and retrieval.
- 1940 Source successfully returned and locked into device, device secured in truck.
- 1950 Called Chris and updated.
- 2010 Plant notified
- 2011 Client notified
- 2015 Danny Gallaway notified.

Post Incident Actions

7-22-06

Discussed with Bob Kelly the functionality of the equipment. He indicated the only piece of equipment that should be removed from service was the guide tube and the crank assembly could be put back in service after it is inspected and no defects are detected.

Discussed these findings with Chris and he agrees. We will also perform a leak test at the first opportunity.

Returned to shop and placed source into storage at 2130

7-24-06

A post accident drug test was performed on Rich Clark and Ron Bagley.

Reviewed incident with Kevin Staiger, Regional RSO.

Performed leak test on the device.

7-25-06

Crank assembly is inspected and put back in service.

The root cause of the incident was the failure of the magnetic based tank stand. The stand fell either because of the motion caused by exposing the source or because of the wind. The position of the tank stand at the time it fell was similar to several other positions used during the day. The tank stand itself, is one that was been successfully used numerous times with no reported difficulties.

A review of the day's activities indicates I should have taken into account the movement and/or wind when placing the stand. Possibly tethering the stand to a ladder or similar structure would have prevented damage to the guide tube when the stand fell.

Sincerely,

Rich Clark
Radiation Safety Officer
TEAM Industrial Services

Milford Power Station
Milford, CT

