CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Tom Clements  
Savannah River Site Watch  
1112 Florence Street  
Columbia, SC 29201

Dear Mr. Clements:

SUBJECT: Freedom of Information Act (FOIA) Requests Savannah River Operations Office  
SRO-2016-01335-F

This letter constitutes our final response to your August 17, 2016 FOIA request for copies of the following:

1. Any reports, documents, memos or analyses related to an investigation into an incident in the L-Area spent fuel basi[n]s around mid-July 2016 in which a caddy holding research reactor spent fuel was dropped onto the spent fuel basin floor;

2. Any follow-up documents to the above-requested documents – in particular any documents related to correctional activities related to the incident and equipment involved in the incident; and

3. Any attachments to the above-requested documents

The documents identified on the enclosed Index List are responsive to your FOIA request. However, U.S. Department of Energy Savannah River Operations Office (DOE-SR) is withholding portions of Document 009 under Exemption 5 of the Freedom of Information Act (FOIA), 5 U.S.C. § 552(b)(5). Exemption 5 of the FOIA exempts from mandatory disclosure documents that are “inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency.” 5 U.S.C. § 552(b)(5); 10 C.F.R. § 1004.10(b)(5). This provision exempts “those documents, and only those documents, normally privileged in the civil discovery context.” See NLRB v. Sears, Roebuck and Co., 421 U.S. 132, 149 (1975) (Sears). The courts have identified three traditional privileges that fall under this definition of exclusion: the attorney-client privilege, the attorney work-product privilege, and the executive deliberative process or pre-decisional privilege. See Coastal States Gas Corp. v DOE, 617 F.2d 854, 862 (D.C. Cir. 1980) (Coastal States).

The deliberative process privilege protects information that reflects advisory opinions, recommendations, and deliberations comprising part of the process by which government decisions and policies are formulated. See Sears, 421 U.S. at 150. This privilege was developed primarily to promote frank and independent discussion among those responsible for making Government decisions. See EPA v. Mink, 410 U.S. 73, 87 (1973). The ultimate purpose of the exemption is to protect the quality of agency decisions. See Sears 421 U.S. at 151. To withhold information under the deliberative process privilege, the information in question must be both predecisional and deliberative. See Coastal States, 617 F.2d at 866.
Document 9 contains predecisional and deliberative information by the Senior Management Review Board on the evaluation of the equipment and about the path forward the Board will take on the Plan. Releasing said document would harm the integrity of DOE’s decision-making process and would cause a chilling effect to the predecisional and deliberative process which reflects the personal opinions, recommendations, and deliberations of the writer rather than the policy of the agency.

While there may be a public interest in the disclosure of the withheld information, DOE has determined that such public interest is outweighed by the potential chilling effect disclosure would have upon DOE-SR’s efforts with ongoing decision-making process. The disclosure of the withheld information would cause foreseeable harm of our employees to make frank, honest, and open recommendations concerning similar matters in the future. Disclosure could stifle the free exchange of ideas and opinions, which could affect the efficiency and quality of decision-making, which is essential to the sound functioning of DOE programs. Therefore, DOE-SR has determined that disclosure of the information withheld from Document 009 is not in the public interest.

This satisfies the standard set forth in the Attorney General’s March 19, 2009 memorandum that the agency is justified in not releasing material that the agency reasonably foresees would harm an interest protected by one of the statutory exemptions. This also satisfies DOE’s regulations at 10 C.F.R. § 1004.1 to make records available which it is authorized to withhold under 5 U.S.C. § 552 when it determines that such disclosure is in the public interest. Accordingly, we will not disclose this information. DOE-SR has determined that disclosure of the information withheld from document is not in the public interest.

Since DOE originated Documents 2 and 4, we are transferring those documents for review and direct response to you. If you have any questions about those documents, please contact Mr. Alexander Morris at the address provided below.

If you wish to challenge the adequacy of the search or the information withheld, a written appeal must be submitted within 90 calendar days after receipt of this letter denying the requested information. Written appeals must be submitted to the Director, Office of Hearings and Appeals, Department of Energy, 1000 Independence Avenue, SW, L’Enfant Plaza Building, Washington, DC 20585, pursuant to 10 C.F.R. § 1004.8, which sets forth the required elements of such appeals. Thereafter, judicial review will be available in the district in which the requester resides or has a principal place of business, or in the district in which the records are situated, or in the District of Columbia. You may also submit your appeal by e-mail to OHA.filings@hq.doe.gov, including the phrase “Freedom of Information Appeal” in the subject line.

You may contact DOE Savannah River Operations Office’s (SR’s) FOIA Public Liaison, Lucy Knowles, Chief Counsel, at (803) 952-7618 or by mail at PO Box A, Aiken, SC, 29802 for any further assistance or to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, email at ogis@nara.gov; telephone at (202) 741-5770; toll free at 1-877-684-6448; or facsimile at (202) 741-5769.
Mr. Tom Clements

Based on your justification for a fee waiver, DOE-SR is waiving all allowable fees associated with processing your request.

As Chief Counsel, DOE-SR, I am the authorizing and denying official for the documents responsive to your request. If you have any questions, please contact Ms. Pauline Conner at (803) 952-8134 or pauline.conner@trs.gov.

Sincerely,

Lucy M. Knowles
Authorizing Official

Enclosures
Index List and Requested Documents
<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Star No. 2016-CTS-007594; Topic: Inadvertent NRX Fuel Released from Fuel Tool</td>
<td>7/12/2016</td>
<td>2</td>
</tr>
<tr>
<td>002</td>
<td>Email; Hitesh Nigam, DOE-HQ to Maxcine Maxted, with attached:</td>
<td>7/13/2016</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>HQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>002(a)</td>
<td>Attachment: Nuclear Material Stabilization Daily Report</td>
<td>7/13/2016</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>HQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>Email; Glenn Morgan, SRNS to Carol Johnson, SRNS, et al.; Subject: NRX Inadvertent Release, with attached:</td>
<td>7/13/2016</td>
<td>2</td>
</tr>
<tr>
<td>003(a)</td>
<td>Attachment: NRX Basket Overhead View</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>004</td>
<td>Email Traffic; Hitesh Nigam, DOE-HQ to Maxcine Maxted, DOE-SR; Subject: Canadian Fuel</td>
<td>7/13/2016</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>HQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>006</td>
<td>EM-SR-SRNS-LAREA-2016-0003; Occurrence Report: Inadvertent NRX Fuel Released from Fuel Tool</td>
<td>7/13/2016</td>
<td>4</td>
</tr>
<tr>
<td>007</td>
<td>Email Traffic; Jeffrey Galan, NNSA to Maxcine Maxted, DOE-SR; Subject: Fact Finding Attendance</td>
<td>7/14/2016</td>
<td>3</td>
</tr>
<tr>
<td>008</td>
<td>Email; Jeffrey Galan, NNSA to Maxcine Maxted, DOE-SR; Subject: L-Basin NRX Element Issue</td>
<td>7/15/2016</td>
<td>1</td>
</tr>
<tr>
<td>009</td>
<td>Email Traffic; Janice Lawson, SRNS to Maxcine Maxted, DOE-SR; Subject: Plan Forward on the Tool</td>
<td>7/15/2016</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>*5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>010</td>
<td>Email Traffic; Jeffrey Galan, NNSA to Maxcine Maxted, DOE-SR; Subject: Update</td>
<td>7/18/2016</td>
<td>1</td>
</tr>
<tr>
<td>011</td>
<td>Presentation: NRX-5 Fuel Assembly Disengagement and Recovery Spent Fuel Project</td>
<td>7/19/2016</td>
<td>2</td>
</tr>
</tbody>
</table>
# Single Issue Report
## STAR No. 2016-CTS-007594

<table>
<thead>
<tr>
<th>INITIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016-CTS-007594</strong></td>
</tr>
<tr>
<td>Facility</td>
</tr>
<tr>
<td>MO/L</td>
</tr>
<tr>
<td>L1</td>
</tr>
<tr>
<td>Area</td>
</tr>
<tr>
<td>L</td>
</tr>
</tbody>
</table>

**Topic:**
Inadvertent NRX Fuel released from Fuel Tool

**Specific Requirement:**
LCO 3.1.4 (The Criticality Control Requirements of Table 3.1.4-1 shall be maintained)

**Issue Description:**
During the unloading and bundling of NRX-5 fuel from the NRX basket in the Unloading Station, an NRX fuel assembly was being removed from basket position #4. After the fuel assembly was raised approximately 24 inches for fuel identification per SOP-DHS-171-L, the assembly became disengaged from the NRX tool and fell back into its original basket position.

**Sig Cat** | **Program Doc No.** | **Spec QA Reqmt.**
--- | --- | ---
3 | EM-SR--SRNS--LAREA-2016-0003 | NA

**NCR:** No

---

## ISSUE EVALUATION

**Description of Causes (Apparent Causes/Root Causes):**
Initial Engineering evaluation determined that a potential exists for the tool to disengage when a cable twist or compression of the cable occurs. Operations did not notice any cable twists in this tool up to the point when the assembly became disengaged.

**ORPS Report No.**
EM-SR--SRNS--LAREA-2016-0003

**ORPS Sig Cat** | **Categorization Date** | **Notification Date**
--- | --- | ---
4 | 7/12/2016 | 7/14/2016

**Criteria:**
* 10(2)-An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact of safe operations. [Note: Follow the Prompt Notification requirements identified in the Occurrence Reporting Model (Attachment 4).]

**Functional Area:**
* 22-06-06 - INVESTIGATIVE REPORT
  * 00-02-00 - Equipment
  * 20-09-06 - TOOLS

**Error Precursor/Flawed Defense/Latent Organizational Weakness:**
EW06: Unexpected equipment condition

**CAT Code:**
* ASB2CD8-Incomplete/situation not covered

**Related Records**

**IE Completion:**
Zahaba, Donald (B7683) 7/19/2016

---

## VALIDATIONS

**Issue Analyst**
Zahaba, Donald (B7683) 7/19/2016

**Resp. Mgr./Designee**
Pending

---

## ACTIONS

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Assignee/Due Dt/Close Dt</th>
</tr>
</thead>
</table>
| 1 | Engineering to troubleshoot existing tool and identify any required mods. | Assignee: Drinkwater, Nathaniel (C3967)  
Due Dt: 7/21/2016 Rev. 0  
Close Dt: 7/21/2016 |

**Closure Statement:**
Engineering was able to troubleshoot the NRX tool per work order 1517450 with assistance from Maintenance and Operations. Specific modifications are not recommended at this time. Guidance has been given for procedural controls, in order to continue to use the NRX handling tool.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Assignee/Due Dt/Close Dt</th>
</tr>
</thead>
</table>
| 2 | Convene L Area Technical Review Board to review/approve results of Engineering troubleshooting and recommendation. | Assignee: Adamson, Jimmy (H0318)  
Due Dt: 7/22/2016 Rev. 0  
Close Dt: 7/21/2016 |

**Closure Statement:**
A Technical Review Board was held on 7/21/2016 that discussed the results of the Engineering troubleshooting and recommendations for the NRX Fuel Drop. The
Review Board was satisfactory with minor comments about adding a block to the fault tree for binding of the NRX Caddy in the basket causing a drop.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Assignee/Due Dt/Close Dt</th>
</tr>
</thead>
</table>
| 3   | IPC procedure to provide additional fuel tool checks and/or to address twisting of the cable. | Assignee: Osteen, Ronald (O7365)  
Due Dt: 7/27/2016 Rev. 0  
Close Dt: 7/26/2016 |

**Closure Statement:**
The procedure was revised to cover this issue. Procedure is attached.

<table>
<thead>
<tr>
<th>APPROVALS / REVIEWS</th>
<th>DISTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATTACHMENTS</th>
<th>Reference Document</th>
<th>Refers To</th>
<th>Action #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SOP-DHS-171-L</td>
<td>CLOSURE</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EM-SR--SRNS-LAREA-2016-0003</td>
<td>INITIATION</td>
<td>---</td>
</tr>
</tbody>
</table>
The attached slides with my comments and labels will help understand this:

The tool is lowered into the basin and stays in the basin suspended from a chain fall. The team (3 operators, Radcon and FLM), with Hendricks and DOE FR observing, successfully removed three assemblies from the basket. Went to lunch; returned; DOE FR still in Basin Observing (Not Hendricks) and engaged the fourth assembly. To engage the assembly the tool is aligned and twisted to allow the Tabs to retract and after inserted it is twisted back and the Tabs extract into the slots and the handle locked. The tool with the assembly is then raised ~ 2 inches and verification of Tab engaged in slot is performed with FLM also verifying and both Operator and FLM sign off. All parties, including DOE, clearly stated that they saw that the Tabs were engaged properly. The tool and assembly then is lifted to ~ 2 ft and is rotated to verify markings.....the assembly was slowly being raised and somewhere way before 2 ft became disengaged and returned right back in place (estimated by everyone about 8 inches). All actions at that time to Stop were appropriately taken. Note that no one at Issue Review questioned any ConOps or responses. (Jeff Galon NNSA Program Manager, JJ Hynes DOE, Zach McCabe DNFSB, Russ Anderson, Tom Boykin, etc... were all present).

The suspected issue is that the Heli coil cable was twisted (like a phone cord gets.... My Analogy...) and caused the Tabs to retract even with the handle locked. SRNL and L Area Engineering are trouble shooting more to determine.

In the meantime we have all three generations of this tool tagged out and not in service. It is three generations based on CNL issues with fuel assembly length and SRNL had to keep updating based on what we were sent. Now CNL ships us only what is allowed and the correct length. This tool was the 1st generation. We have
good controls in place to ensure all i's are dotted and t's crossed prior to resuming; therefore we will be exiting LCO soon

Please let me or Janice know if you have any questions or need more information; we will update all on the findings as they become available.

Glenn J. Morgan
SRNS
VP Nuclear Materials Operations
803-208-8474 (W)
803-761-3601 (C)
NRX Basket overhead view
NRX Fuel handling Tool

Heli coil Cable suspected to potentially got twisted
Tool handle that is locked after Tabs are in slot.
Issue Review Report

Date: 07/13/2016

Title: NRX Fuel Inadvertent Release.

Description of issue: During the unloading and bundling of NRX-5 fuel from the NRX basket in the Unloading Station, an NRX fuel assembly was being removed from basket position #4. After the fuel assembly was raised approximately 8 to 10 inches for fuel identification per SOP-DHS-171-L, the assembly became disengaged from the NRX tool and fell back into its original basket position.

Timeline NRX Inadvertent Fuel Release

- 7/11/16, 1400 hrs Task preview performed by crew
- 7/12/16, 0800 hrs Pre Job Brief conducted for NRX Fuel processing per SOP-DHS-171-L.
- 7/12/16, 0900 hrs Crew enter Basin and Initiated Prerequisites of DHS 171.
- 7/12/16, 0930 NRX Fuel Handling tool Inspection completed per SOP-DHS-152-L.
- 7/12/16, 1130 hrs. Three Assemblies successfully unloaded from NRX basket, bundled and stored.
- 7/12/16, 1420 hrs 4th fuel Assembly engaged at basket Position #4 and raised approximately 24 inches for fuel identification.
- 7/12/16, 1420 hrs Fuel assembly released from NRX Tool and back into NRX Basket position #4.
- 7/12/16, 1423 BFLM Stopped NRX Fuel Handling and notified the SOM.
- 7/12/16 1425 Contacted Nuclear Criticality Engineering and DFM.
- 7/12/16, 1440 Entered LCO 3.1.4 and completed all immediate Required actions.
- Event ORPS reported as Management Interest 10(2) sig Cat 4.

Immediate actions taken: Fuel handling was stopped and a Timeout was called. The BFLM notified the SOM. LCO 3.1.4 (The Criticality Control Requirements of Table 3.1.4-1 shall be maintained) was entered to allow SFP Engineering and Nuclear and Criticality Safety Engineering to determine status of compliance with the Nuclear Safety Data Sheet (NSDS). SFP Engineering is inspecting the NRX tool in use to help determine the cause of the disengagement. An Issue Review is being scheduled for 7/13/16.

Notifications were made to the Operations Manager, Facility Manager, CSE, Engineering and DOE.
Impact to Operations: Although this event will delay completion of unloading and bundling of NRX-5 fuel, it should not impact scheduled NRU/NRX operations, pending resolution of this issue. It will not impact the shipment offsite of the empty NRX-5 cask scheduled for 7/14/16. Additionally, it should not impact the scheduled shipment of the NRX-5 basket offsite that is scheduled for 8/15/16. If NRX-5 basket unloading is not completed by 7/29/16, it will impact the scheduled placement of the next NRU/NRX basket in the Unloading Station for unloading and bundling.

Reportability: 10(2) Category 4 STAR issue 2016-CTS-7594

Actions:

Engineering to troubleshoot existing tool and identify any required mods.

Convene L Area Technical Review Board to review/approve results of Engineering troubleshooting and recommendation.

IPC the procedure to provide additional fuel tool checks and/or address twisting of the tool cable.

List of Attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Function</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janice Lawson</td>
<td>EMO</td>
<td>L Area FM</td>
<td>7-5959</td>
</tr>
<tr>
<td>Butch Marshall</td>
<td>SEF Eng</td>
<td>Eng Mgr</td>
<td>7-5981</td>
</tr>
<tr>
<td>Zachary McCabe</td>
<td>DNFSB</td>
<td>Site Rep</td>
<td>5-0173</td>
</tr>
<tr>
<td>Ray Boyd</td>
<td>NCSE</td>
<td>L Area SBQA</td>
<td>7-5725</td>
</tr>
<tr>
<td>Ted Griffin</td>
<td>NMAE</td>
<td>ENGR Mgr</td>
<td>7-8539</td>
</tr>
<tr>
<td>David Rose</td>
<td>NCSE</td>
<td>Area Manger</td>
<td>7-6105</td>
</tr>
<tr>
<td>Dave Welliver</td>
<td>NMME</td>
<td>2E1 Eng Mgr</td>
<td>7-3004</td>
</tr>
<tr>
<td>Heather Grove</td>
<td>NCSE</td>
<td>Program Manager</td>
<td>7-6301</td>
</tr>
<tr>
<td>Kevin Counts</td>
<td>SRNL</td>
<td>R&amp;D Engineering</td>
<td>9-0791</td>
</tr>
<tr>
<td>J. Byrnes</td>
<td>DOE</td>
<td>200 AM</td>
<td>8-0417</td>
</tr>
<tr>
<td>Christian Broadwater</td>
<td>DOE</td>
<td>PR</td>
<td>7-3870</td>
</tr>
<tr>
<td>James Berk</td>
<td>SRNS</td>
<td>QMCA/TS</td>
<td>7-5912</td>
</tr>
<tr>
<td>Ralph Rosi</td>
<td>SRNS</td>
<td>L CONT</td>
<td>7-6156</td>
</tr>
<tr>
<td>Chad Moyer</td>
<td>SLNS</td>
<td>OPS</td>
<td>7-6080</td>
</tr>
<tr>
<td>Keith Beard</td>
<td>SLNS GA</td>
<td>CQE</td>
<td>7-6122</td>
</tr>
<tr>
<td>Name</td>
<td>Organization</td>
<td>Function</td>
<td>Telephone Number</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Russ Anderson</td>
<td>SRNS</td>
<td>ConOps Manager</td>
<td>2-9634</td>
</tr>
<tr>
<td>Mark Person</td>
<td>SRNS/Train</td>
<td>L-Training</td>
<td>7-6214</td>
</tr>
<tr>
<td>T.O. Boykin</td>
<td>SRNS/IEB</td>
<td>Director</td>
<td>62-5931</td>
</tr>
<tr>
<td>Todd K. Sides</td>
<td>SRNS/OPS</td>
<td>BLM</td>
<td>7-6085</td>
</tr>
<tr>
<td>Otis M. Key</td>
<td>SRNS/OPS</td>
<td>BLM</td>
<td>7-5966</td>
</tr>
<tr>
<td>Jeff Nekely</td>
<td>SRNS/OPS</td>
<td>Operator</td>
<td>7-6189</td>
</tr>
<tr>
<td>Nathaniel Arrick</td>
<td>SRNS/SIPENG</td>
<td>Engineer</td>
<td>7-5750</td>
</tr>
<tr>
<td>Ronnie Black</td>
<td>SRNS/RPD</td>
<td>RPD/FM</td>
<td>7-6033</td>
</tr>
<tr>
<td>Eddie Rains</td>
<td>SRNS/OPS</td>
<td>Operations Coord.</td>
<td>7-6172</td>
</tr>
<tr>
<td>Jeff Galan</td>
<td>ANB</td>
<td>Program Manager</td>
<td>2-7639</td>
</tr>
<tr>
<td>Sammy Adelman</td>
<td>SRNS</td>
<td>ENF</td>
<td>7-6172</td>
</tr>
<tr>
<td>Curtis Hendrick</td>
<td>SRNS</td>
<td>DFM</td>
<td>7-6025</td>
</tr>
<tr>
<td>Glenn Morgan</td>
<td>EM/OPS</td>
<td>VP</td>
<td>8-8974</td>
</tr>
</tbody>
</table>
Occurrence Report
After 2003 Redesign

L - Area

(Name of Facility)

Irradiated Fissile Material Storage

(Facility Function)

Savannah River Site

(Site)

Savannah River Nuclear Solutions

(Contractor)

Name: Lawson, Janice
Title: Facility Manager

Telephone No.: (803) 557-5959

(Facility Manager/Designee)

Name: ZAHABA, DONALD M
Title: OCCURRENCE INVESTIGATOR

Telephone No.: (803) 557-6200

(Originator/Transmitter)

Name: Donald M. Zahaba
Date: 07/13/2016

(Authorized Classifier (AC))

Inadvertent NRX Fuel released from Fuel Tool

2. Report Type and Date: NOTIFICATION/FINAL

<table>
<thead>
<tr>
<th></th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification:</td>
<td>07/14/2016</td>
<td>16:15 ETZ</td>
</tr>
<tr>
<td>Initial Update:</td>
<td>07/14/2016</td>
<td>16:15 ETZ</td>
</tr>
<tr>
<td>Latest Update:</td>
<td>07/14/2016</td>
<td>16:15 ETZ</td>
</tr>
<tr>
<td>Final:</td>
<td>07/14/2016</td>
<td>16:15 ETZ</td>
</tr>
</tbody>
</table>

3. Significance Category: 4


7/18/2016
4. Division or Project: EM Operations/L Area

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: Fuel Storage/105-L/Fuel handling tool

7. UCNI?: No

8. Plant Area: L Area

9. Date and Time Discovered: 07/12/2016 14:23 (ETZ)

10. Date and Time Categorized: 07/12/2016 17:00 (ETZ)

11. DOE HQ OC Notification:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Person Notified</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

12. Other Notifications:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Person Notified</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/12/2016</td>
<td>14:30 (ETZ)</td>
<td>Janice Lawson</td>
<td>FM</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>14:23 (ETZ)</td>
<td>Don Joyner</td>
<td>Ops Mgr</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>18:05 (ETZ)</td>
<td>Zack McCabe</td>
<td>DNSFB</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>14:30 (ETZ)</td>
<td>Butch Marschall</td>
<td>Eng Mgr</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>14:30 (ETZ)</td>
<td>Geoff Hendrick</td>
<td>Dep. FM</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>14:30 (ETZ)</td>
<td>Rahn Ross</td>
<td>NUC Crit</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>15:00 (ETZ)</td>
<td>Robbie Black</td>
<td>RPD Mgr</td>
</tr>
<tr>
<td>07/12/2016</td>
<td>17:33 (ETZ)</td>
<td>Ombrey Broadwater</td>
<td>DOE FR</td>
</tr>
</tbody>
</table>

13. Subject or Title of Occurrence:

Inadvertent NRX Fuel released from Fuel Tool

14. Reporting Criteria:

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.

The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact on safe operations. (1 of 4 criteria - This is a SC 4 occurrence)

15. Description of Occurrence:


7/18/2016
During the unloading and bundling of NRX-5 fuel from the NRX basket in the Unloading Station, an NRX fuel assembly was being removed from basket position #4. After the fuel assembly was raised approximately 24 inches for fuel identification per SOP-DHS-171-L, the assembly became disengaged from the NRX tool and fell back into its original basket position.

16. Is Subcontractor Involved? No

17. Operating Conditions of Facility at Time of Occurrence:
Operations Mode. Fuel unloading at Unloading Station

18. Activity Category:
03 - Normal Operations (other than Activities specifically listed in this Category)

19. Immediate Actions Taken and Results:
Fuel handling was stopped and a Timeout was called. The BFLM notified the SOM. LCO 3.1.4 (The Criticality Control Requirements of Table 3.1.4-1 shall be maintained) was entered to allow SFP Engineering and Nuclear and Criticality Safety Engineering to determine status of compliance with the Nuclear Safety Data Sheet (NSDS). SFP Engineering is inspecting the NRX tool in use to help determine the cause of the disengagement.

20. ISM:
6) N/A (Not applicable to ISM Core Functions as determined by management review.)

21. Cause Code(s):

22. Description of Cause:

23. Evaluation (by Facility Manager/Designee):

24. Is Further Evaluation Required?: No

25. Corrective Actions
Local Tracking System Name: STAR - Site Tracking, Analysis and Reporting

26. Lessons Learned:
27. Similar Occurrence Report Numbers:

28. User-defined Field #1:

29. User-defined Field #2:

30. HQ Keyword(s):

05D--Mechanical/Structural - Mechanical Equipment Failure/Damage
12E--EH Categories - Equipment Degradation/Failure
14L--Quality Assurance - No QA Deficiency

31. HQ Summary:

On July 12, 2016, during the unloading and bundling of National Research Experimental (NRX)-5 fuel from the NRX basket in the unloading station, an NRX fuel assembly was being removed from basket position 4. After the fuel assembly was raised 24 inches for fuel identification per procedure, the assembly became disengaged from the NRX tool and fell back into its original basket position. Fuel handling was stopped and a timeout was called. Limiting Conditions for Operations 3.1.4 was entered to allow Spent Fuel Project (SFP) Engineering and Nuclear and Criticality Safety Engineering to determine status of compliance with the nuclear safety data sheet. SFP Engineering is inspecting the NRX tool in use to help determine the cause of the disengagement.

32. DOE Facility Representative Input:

33. DOE Program Manager Input:
Understood and agreed.

Thanks.

Jeff Galan
Program Manager
U.S. Nuclear Material Removal Program
National Nuclear Security Administration
P.O. Box A
Aiken, SC 29802-0900
(803) 952-7639 ofc
(240) 388-5438 cell

Maxcine Maxted

Jeff- I totally agree we have to work as a team a... 07/14/2016 11:34:26 AM

From: Maxcine Maxted/DOE/Srs
To: Jeffrey Galan/NNSA/DOE/Srs@Srs
Date: 07/14/2016 11:34 AM
Subject: Re: Fact Finding attendance

Jeff-

I totally agree we have to work as a team and we need trust in order to do that.

I understand you don't think you interfered with the fact finding but I do hope you realize the extreme stress that the employees are under during one of those meetings and the fact someone is in the room from NNSA that they don’t really know adds to that stress. These meetings can mean their jobs, so please keep that in mind in the future.

As for impacting CNL shipments, I don't think it will impact shipments due to a few items: 1) there is still over a week’s worth of time before it would have an impact 2) L-Basin has at least 2 different tools to use for unloading the basket 3) worst case the next shipment could be unloaded into the STS - now this would impact any other receipts or shipments in L-Basin but that is an option the facility and EM could utilize.

As for not informing you in a timely manner, I found out late on Monday, when I was told the facility hadn’t entered the LCO at the time but was going to switch to another tool and continue unloading. I didn’t know about the fact finding until it was occurring. However, even if I did know about it I wouldn’t have attended because that is an operational issue and our Facility Reps handle those issues. In L-Area we have a very effective Integrated Project Team (IPT) made up of Engineering, Operations, Programs, and Criticality. We do a good job of keeping each other informed.

I would definitely like to move forward with trust and teamwork but trust must be earned and I think we both have to work to gain each other’s trust at this point, which I’m willing to do. As for the timely sharing of information, I don’t think there are indications that I haven’t shared information freely with you.

Thanks,

Maxcine Maxted
Well I'm sorry you didn't appreciate my attendance, but I believe I had every right to be there. Yes, L-basin is most definitely an EM facility, but the contract that Canada has to ship that spent fuel is with NNSA. The funds EM receives as a result of those shipments comes through an NNSA contract. I am the COR for that contract and the Program Manager for those returns.

I understand NOW that this was a fact finding meeting for the facility, but regardless, I didn't interfere with that process, I simply sat there and listened.

From what you know right now, you personally don't believe there will be an impact on the Canadian shipments, however, I don't agree with you. If history is any sign of what is to come, then there is a good chance it might delay the next shipment. Every Canadian shipment that is delayed by a day, a week or a month, has a ripple effect down the line and I'm the one that has to deal with trying to get all the Canadian material to SRS prior to end of the FRR Program or figure out an alternative.

As for hearing about this from you, why didn't you tell me yesterday? Why did I have to find this out on my own? I actually learned about it because Virginia Kay saw it in the Daily Activity Log. I then felt obligated to figure out what occurred so I could timely inform my superiors.

I fully understand that the operation of L-basin is an EM function and under your purview and I would never intentionally interfere.

We must work as a team in order to complete these shipments and that requires trust and the timely sharing of information.

Let's move forward with that in mind.

Jeff Galan
Program Manager
U.S. Nuclear Material Removal Program
National Nuclear Security Administration
P.O. Box A
Aiken, SC 29802-0900
(803) 952-7639 ofc
(240) 388-5438 cell

Maxcine Maxted
Jeff- I really don't appreciate you attending the fa...
I really don't appreciate you attending the fact finding for L-Area today. It is not an NNSA facility, it's not even NNSA owned fuel once it enters the site gate. So I don't understand why you thought you needed to be there and what value you added to the meeting.

Those meetings are for the facility to figure out what happened and what needs to be done to get back to normal. They are typically largely attended and that doesn't help to get to the bottom of the issues with more people joining in the meeting.

From what we know at this point, there is no impact to the CNL shipments and if there were going to be an impact, you can expect to hear that information from me (EM) not your inside ears.

In the future, please discuss with me before you attend a meeting regarding the EM owned L-Area/L-Basin.

Thanks,

Maxcine Maxted

(803) 208-0506 pager 20767
Hey Maxine,

I'm going to be gone next week on travel/training so I shouldn't be causing you any headaches.

However, before I leave I just wanted to drop you a note and see if you've heard anything different from your folks regarding the status of their investigation? (I doubt it).

If anything is updated next week, could you please update me as well? My HQ is always very interested in the NRU/NRX and TRM shipment schedules and any perceived hiccups. The TRM delays are what's really got them in a lather, unfortunately that means the NRU/NRX program is getting a little additional attention. Once the TRM gets going, I'm hopeful NRU/NRX will fall a bit off their radar (fingers crossed).

Thanks and have a good weekend.

Jeff Galan  
Program Manager  
U.S. Nuclear Material Removal Program  
National Nuclear Security Administration  
P.O. Box A  
Aiken, SC 29802-0900  
(803) 952-7639 ofc  
(240) 388-5438 cell
Exemption 5

Janice


Maxcine Maxted | Just need an update on what the plan is that let... | 07/15/2016 07:42:01 AM

From: Maxcine Maxted/DOE/Srs
To: Geoffrey Hendrick/SRNS/Srs@SRS, Janice Lawson/SRNS/Srs@Srs, Pat Livengood/SRNS/Srs@Srs
Date: 07/15/2016 07:42 AM
Subject: plan forward on the tool

Just need an update on what the plan is that let us exit the LCO. Lots of outside interest in this.

Thanks,

Maxcine Maxted

(803) 208-0506 pager 20767
Thanks for the update Maxine.
Jeff Galan
Program Manager
U.S. Nuclear Material Removal
National Nuclear Security Administration
P.O. Box A
Aiken, S.C. 29803
(803) 952-7639 Ofc
(240) 388-5438 Gov Cell

On Jul 18, 2016, at 3:44 PM, Maxcine Maxted <Maxcine.Maxted@srs.gov> wrote:

    Jeff-

    SRNS will inspect the cable for the tool tomorrow. They don't expect to find a smoking gun. Because of that they will have a technical review board on Thursday that will provide a recommendation for moving forward.

    I'll let you know what happens. We still don't think it will impact CNL loading. We will let them know about it on the normal call tomorrow.

    Thanks,

    Maxcine Maxted

(803) 208-0506 pager 20767
NRX-5 Fuel Assembly Disengagement and Recovery
Spent Fuel Project
Author POC: Don Joyner
Manager: Rob Dillman

Problem Description / Background

During the unloading and bundling of NRX-5 fuel from the NRX basket in the Unloading Station on 7/12/16, an NRX fuel assembly was being removed from basket position #4. As the fuel assembly was being partially raised for fuel identification per SOP-DHS-171-L, the assembly became disengaged from the NRX tool after being lifted approximately 8 inches, causing it to return back into its original basket position. Prior to disengagement, the tool had been verified with a camera to be fully engaged with the assembly with the tool handle fully closed and locked in the engaged position.

Potential Cause

Initial Engineering evaluation determined that a potential exists for the tool to disengage when a cable twist or compression of the cable occurs. Operations did not notice any cable twists in this tool up to the point when the assembly became disengaged.

Actions Taken / Impact

- Fuel handling stopped, Timeout called, and SOP-DHS-171-L suspended.
- LCO 3.1.4 (The Criticality Control Requirements of Table 3.1.4-1 shall be maintained) was entered to allow SFP Engineering and Nuclear and Criticality Safety Engineering to determine status of compliance with the Nuclear Safety Data Sheet (NSDS).
- Engineering and N&CSE determined that the fuel remained within the handling and storage requirements specified in the NSDS and was in compliance with criticality requirements. LCO 3.1.4 was exited on 7/14/16.
- SFP Engineering initial inspection of NRX tool did not reveal a direct cause for the disengagement.
- All NRU and NRX fuel handling tools removed from service and tagged “do not operate” due to all tools using a similar flexible cable system for tool actuation.
- Issue Review completed on 7/13/16.
- ORPS Category 10(2) Management Concern submitted.
- Impact: Delay in completion of unloading and bundling of NRX-5 fuel. This delay will not impact currently scheduled NRU/NRX activities unless the NRX-5 basket is not unloaded by 7/29/16, at that time when it will then impact the scheduled placement of the next NRU/NRX basket in the Unloading Station for unloading and bundling.

Path Forward

- Engineering to troubleshoot existing tool and identify any required mods. If needed (see Engineering Fault Tree on back of A3), (7/21/16)
- Convene L Area Technical Review Board to review/approve results of Engineering troubleshooting and recommendation. (7/22/16)
- Modify fuel tool (if required, projected minimum 6 week duration)

Dates based on NO modification of fuel tool to resume work.
- IPC procedure to provide additional fuel tool checks and/or to address twisting of the cable. (7/27/16).
- Resume suspended procedure SOP-DHS-171-L. (7/28/16)
- Unload assemblies in basket positions 5 through 18. (7/31/16)
- Unload basket position 4 using NRX tool that engages the flow tube and caddy in the unlikely event the caddy in this position is damaged. (8/1/16)
- Obtain video of fuel assembly as it is removed from basket position 4. This will include video of caddy bottom. (8/1/16)
- Perform camera inspection of NRX empty basket position 4 to ensure no damage to basket bottom due to assembly disengagement. (8/1/16)