

SC--TJSO-JSA-TJNAF-2012-0011

FINAL

Occurrence Report After 2003 Redesign

Thomas Jefferson Nat'l Accelerator

(Name of Facility)

Laboratory - Research & Development

(Facility Function)

Thomas Jefferson National Accelerator Site

Jefferson Science Associates

(Site)

(Contractor)

Name: JOHNSON, CHRISTINA J.**Title:** REPORTING OFFICER**Telephone No.:** (757) 269-7611

(Facility Manager/Designee)

Name: JOHNSON, CHRISTINA J.**Title:** REPORTING OFFICER**Telephone No.:** (757) 269-7611

(Originator/Transmitter)

Name: Christina Johnson**Date:** 08/16/2012

(Authorized Classifier (AC))

1. Occurrence Report Number: SC--TJSO-JSA-TJNAF-2012-0011

TEDF-12-0816 While Performing Demolition Contractor Unexpectedly Hit Temporary Energized Line / No injuries

2. Report Type and Date: FINAL

	Date	Time
Notification:	08/21/2012	11:18 (ETZ)
Initial Update:	09/21/2012	15:58 (ETZ)
Latest Update:	09/21/2012	15:58 (ETZ)
Final:	09/21/2012	15:58 (ETZ)

3. Significance Category: 3**4. Division or Project:** TEDF- Technical Engineering Development Facility

5. Secretarial Office: SC - Science

6. System, Bldg., or Equipment: Test Lab Addition Project- Struck Electrical line

7. UCNI?: No

8. Plant Area: Test Lab- 1st floor

9. Date and Time Discovered: 08/16/2012 10:30 (ETZ)

10. Date and Time Categorized: 08/16/2012 15:00 (ETZ)

11. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
08/16/2012	15:00 (ETZ)	Steve Neilson	TJJO

13. Subject or Title of Occurrence:

TEDF-12-0816 While Performing Demolition Contractor Unexpectedly Hit Temporary Energized Line / No injuries

14. Reporting Criteria:

10(3) - A near miss to an otherwise ORPS reportable event, where something physically happened that was unexpected or unintended, or where no or only one barrier prevented an event from having a reportable consequence.

The significance category assigned to the near miss must be based on an evaluation of the potential risks and extent of personnel exposure to the hazard. (1 of 3 criteria - This is a SC 3 occurrence)

15. Description of Occurrence:

On August 16, 2012, a subcontract worker on the Technology Engineering and Development Facility (TEDF) Project was conducting selective removal of exposed flexible conduit in the Test Lab first floor office area. The conduit being removed was at ceiling level elevation. The subcontractor was wearing appropriate protective equipment for the removal of the exposed flexible conduit and was standing in a scissor lift using a saw to perform the work. As the flexible conduit was severed, the momentum of the saw caused the blade to continue forward striking a clearly marked energized temporary electric supply line. The 480 volt, 250 amp power line was approximately 12 inches from the flexible conduit. Upon seeing the spark from the damaged line the worker immediately notified his supervisor and all work was stopped. There was no shock or injury sustained by the operator and there was no damage to equipment.

16. Is Subcontractor Involved? Yes

Name: Canada

17. Operating Conditions of Facility at Time of Occurrence:

Inside working conditions

18. Activity Category:

01 - Construction

19. Immediate Actions Taken and Results:

1. Work was immediately stopped in the Test Lab (1st floor-office area) and Project Management was promptly notified.
 2. The power source was secured.
 3. The construction project General Contractor initiated a safety stand down to review the incident and assess safety posture for all activities.
 4. Hand-demolition work was stopped until procedures are established to ensure safe performance of this type of work.
 5. The General Contractor has been directed to submit a corrective action plan that must be approved by Jefferson Lab prior to restarting hand-demolition.
 5. Jefferson Lab fined the General Contractor as a measure to reinforce safe work performance for this high risk portion of the project.
-

20. ISM:

- 2) Analyze the Hazards
 - 4) Perform Work Within Controls
-

21. Cause Code(s):

A3B1C04 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Infrequently performed steps are performed incorrectly
-->couplet - A4B2C02 - Management Problem; Resource Management LTA; Insufficient supervisory resources to provide necessary supervision
A5B2C08 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Incomplete / situation not covered

22. Description of Cause:

The wrong tool was used to complete this work activity. A Sawzall can be an acceptable tool for cutting conduit or other rigid items but for loose electrical wiring, which was this case, a bolt cutter would have

been a more appropriate choice.

Contributing causes include:

Lack of proper supervision. Supervisors were assigned dual roles - both supervising and working. This did not allow the supervisor time to correctly direct and oversee the work activities and get involved in giving them proper direction with regards to tool selection, safety concerns, work methods, etc.

Running a temporary 480v line in an area scheduled for demolition. The temporary line should have been run in a different area. If this was not possible, the line should have been relocated from that area before any hand activities were performed or additional protection provided to block contact with the line.

Activity Hazard Analysis (AHA) did not address all of the possible foreseeable hazards. All AHA's need to be reviewed in depth by the appropriate subject matter experts (SME). SME need to review the document while keeping in mind that demolition is one of the most dangerous activities done in the construction industry.

The assigned task was in a difficult area to access. This was overhead work in a pipe rack area which caused the contractor to reach up, and over, existing equipment in order to perform his task. The contractor also had to perform this work while in a lift.

23. Evaluation (by Facility Manager/Designee):

The Facility Manager believes that the Corrective actions will address the weaknesses and causes for this particular event.

24. Is Further Evaluation Required?: No

25. Corrective Actions

Local Tracking System Name: CATS (Corrective Action Tracking System)

- | | |
|----|--|
| 1. | Hold all hands stand down meeting to discuss this incident and raise awareness with the contractor. |
| | Target Completion Date: 09/01/2012 Tracking ID: NE-2012-20-01 |
| 2. | Repair damaged 480volt cable to support construction activities and re-route 480v cable to ensure that it is not in the demolition area. The contractor also plans to use a protective conduit for this repair in an effort to protect the electrical line from being damaged in the future. |
| | Target Completion Date: 09/30/2012 Tracking ID: NE-2012-20-02 |
| 3. | Supervisors duties have been revised. Supervisors are no longer permitted to work and supervise. This reorganization will allow them the opportunity to walk the work area, ask questions, and ensure their worker's are performing their duties in the safest manner possible. |
| | Target Completion Date: 09/01/2012 Tracking ID: NE-2012-20-03 |

4. Revise the Activity Hazard Analysis (AHA) which did not address all of the possible foreseeable hazards when performing demolition.

Target Completion Date: 09/01/2012

Tracking ID: NE-2012-20-04

26. Lessons Learned:

1. Ensure that the correct tool is used for the task being performed.
2. Relocate any temporary electrical line out of the area where demolition is being done or provide additional safety barriers to protect the line.
3. Ensure sufficient supervision is available and that they have sufficient time to be allowed to do their job.
4. A much more thorough review is required for contractor AHA's being submitted for work that is considered extremely hazardous .

27. Similar Occurrence Report Numbers:

None

28. User-defined Field #1:

29. User-defined Field #2:

30. HQ Keyword(s):

01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other)
01R--Inadequate Conduct of Operations - Management issues
07D--Electrical Systems - Electrical Wiring
08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)
11G--Other - Subcontractor
12K--EH Categories - Near Miss (Could have been a serious injury or fatality)
13D--Management Concerns - Accident Investigation - Other
14D--Quality Assurance - Documents and Records Deficiency
14E--Quality Assurance - Work Process Deficiency
14G--Quality Assurance - Procurement Deficiency

31. HQ Summary:

On August 16, 2012, while removing exposed flexible conduit in the Test Laboratory, a subcontract worker on the Technology Engineering and Development Facility (TEDF) Project struck an energized

temporary electric supply line. The conduit being removed was at ceiling level elevation. The subcontractor was wearing appropriate protective equipment for the removal of the exposed flexible conduit and was standing in a scissor lift using a saw to perform the work. As the flexible conduit was severed, the momentum of the saw caused the blade to continue forward striking a clearly marked energized temporary electric supply line. The 480-volt, 250-amp power line was approximately 12 inches from the flexible conduit. Work was immediately stopped, the power source was secured, and appropriate notifications were made. There was no shock or injury sustained by the operator and there was no damage to equipment.

32. DOE Facility Representative Input:

33. DOE Program Manager Input:

34. Approvals:

Approved by: JOHNSON, CHRISTINA J., Facility Manager/Designee

Date: 09/21/2012

Telephone No.: (757) 269-7611