

Jefferson Lab Emergency Exercise Confined Space Entrant Rescue

Target Date: 8/31/06

Location: Water meter vault on north side of VARC, 628 Hofstadter Road

Exercise Participants

Participant	Level of Participation
Two subcontract employees (TBD) who would be assigned with a similar task	Full
Newport News Fire Department (NNFD)	Full
Newport News Emergency Medical (EMS)	Full
Newport News Fire HAZMAT Team	Full
Newport News Fire Technical Rescue Team	Full
Top Guard (Security Subcontractor)	Full
SOTR for Subcontractors	Full
Emergency Manager	Limited: Overall Evaluator
JLab Facility Manager	Full: JLab POC at scene
JLab Medical Services	Limited: Respond per Rapid Page message
Director's Command Staff	Limited TBD
DOE Site Office Manager	Simulated TBD
Safety Observer & Evaluator (P. Hunt)	Limited
Exercise Evaluator – Field & Safety Observer	Observation for duration of exercise
Exercise Evaluator- DCS	Observation for duration of exercise

Exercise Scope

Purpose

Jefferson Lab is conducting an exercise titled: 'Confined Space Rescue'. The exercise will be a modified no-notice exercise conducted at the water meter pit to west of Bldg. 28. The exercise has planned in conjunction with NNFD which also has training objectives it wishes to achieve.

The primary purpose of the exercise is to test or validate the effectiveness of the procedures to summon aid equipped and trained to rescue an incapacitated worker from a confined space.

Related objectives:



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1. Validate response by community emergency response organizations in accordance with the site's emergency plan and with JLab confined space entry procedures.
2. Evaluate effectiveness of incident notifications to Security: (a) if the 911 call is made from a JLab phone, or (b) if a 911 call comes from a non-JLab phone.
3. Involve new DCS members and newer Site Office staff in emergency event response and notifications.
4. Successful activation of DCS.
5. Validate effective communication and interface between NNFD incident command and JLab Management.
6. Exercise process for release of public information.
7. Simulate procedures that would be used for notification of victim's next of kin or designated emergency contact.
8. Support NNFD's exercise objectives (see Appendix).

Scenario Narrative (Anticipated sequence of events)

Work order has been issued for pipe inspection & repair as required in one of three water meters on site. This is a subcontracted task with general oversight by the SOTR. The work crew has taken JLab confined space entry training, and both workers are qualified as entry supervisors.

They erect a barricade system at the pit opening and test the air within the space for oxygen levels and the presence of combustibles. Air quality is satisfactory as is, but they establish forced-air ventilation per JLab's 100% ventilation rule. Ventilated Entry Procedures are deployed. (CSE Permit not required.)

Retrieval gear is present. The entrant will likely have to pass over and underneath piping within the pit. A lifeline would create a hazard and likely be useless for rescue.

Simulated: The entrant dons his body harness only. Only one worker enters; the other remains outside, though not specifically designated as an attendant. Work commences.

Actual: Mannequin is pre-positioned with the pit prior to initiation of the exercise.

Co-worker notices that entrant is prone and unresponsive to questions.

Co-worker makes call to 911. JLab CSE procedures specify NNFD as our designated responders for qualified and equipped rescue.

Newport News Fire Department responds to call. If caller identified this as a "pit" or similar space, the Technical Rescue Team will be the first dispatched unit. Absent any indication of a pit, etc., nearest available engine company will be dispatched. Upon arrival, they would then summon Technical Team.

Security and Facilities may have advance notice of emergency vehicles responding to the site. If that is the case, normal procedures will be used to alert emergency page recipients and to meet the responders as they enter the site. They will establish traffic control at the location.

Rescuers will follow their procedures for safe entry, and once inside, evaluate the condition of the victim (a mannequin.)

Once victim is stabilized, he will be extracted with technical gear per NNFD procedures.

EMTs will assess his condition, stabilize as much as possible, and transport to nearest medical facility (simulated).

JLab performs necessary notifications per procedures and DOE contract requirements.

Facility Manager announces conclusion of exercise.

Notes:

At any point in the sequence, the Facility Manager may recommend convening the DCS, or establish sustained communications with key members of DCS.

Exercise shall be halted if actual emergency occurs (such as dispatch call for NNFD units participating in exercise).

Contextual Information

The water meter vaults (3 total on site) are permit-required confined spaces (PRCS), and they are posted as such.

However, they qualify for ventilated entry procedures if no hazard is present or is introduced. (For example, manipulating water line valves which could conceivably cause a sudden and substantial inrush of water under pressure.)

JLab requires **ALL** confined spaces to be ventilated prior to and during entry. Portable blowers and flexible duct are used to ensure air is safe, or entry is not allowed.



Because this is a below-grade a barricade is required. JLab an integrated barricade-hoist



Below-grade entries also require retrieval gear: body harness, and hoist. Even if not used, they be at the job site.

In the case of the meter vaults, depending upon the nature of the be performed, there is a chance lifeline could become wrapped



entry, uses system.

lifeline, must

and work to that a around

or snagged on a pipe or valve. Under OSHA rules, if the lifeline constitutes a greater hazard than it would mitigate, it is not used.

The “entrant” for the exercise will be wearing a harness, but the lifeline will not be connected.

JLab emergency procedures (and confined space entry training) emphasize calling 911, then the accelerator guard house. If a JLab phone is used, the 911 call location displays on the guard station monitor, and their SOP is to verify the nature of the emergency – by call-back or physically going to the location. Security also attempts to meet emergency vehicles as they enter the site and escort them to the location.



Important to know: Ext. 4444, the number used to notify Post 2 of an emergency, is an **internal number only** and cannot be reached from off-site. Post 2 may be contacted from off site or by cell at 269-5822.

From ESH&Q Home Page, "ESH&Q Contacts"

<http://www.jlab.org/ehs/contacts.html>



Security Guard Contacts

Emergencies

In case of an emergency (Fire, Police, Ambulance, Rescue) DIAL 911 and internally dial x4444. Provide your location and address, and follow initial response actions shown on the safety card attached to all JLab phones.

Security Guard Service: 269-5822

Security Force

The JLab Security Force provides 24-hour security services to JLab, and is backed up by the Newport News Police Department (NNPD) if professional law enforcement services are requested or required.

Security Dispatch

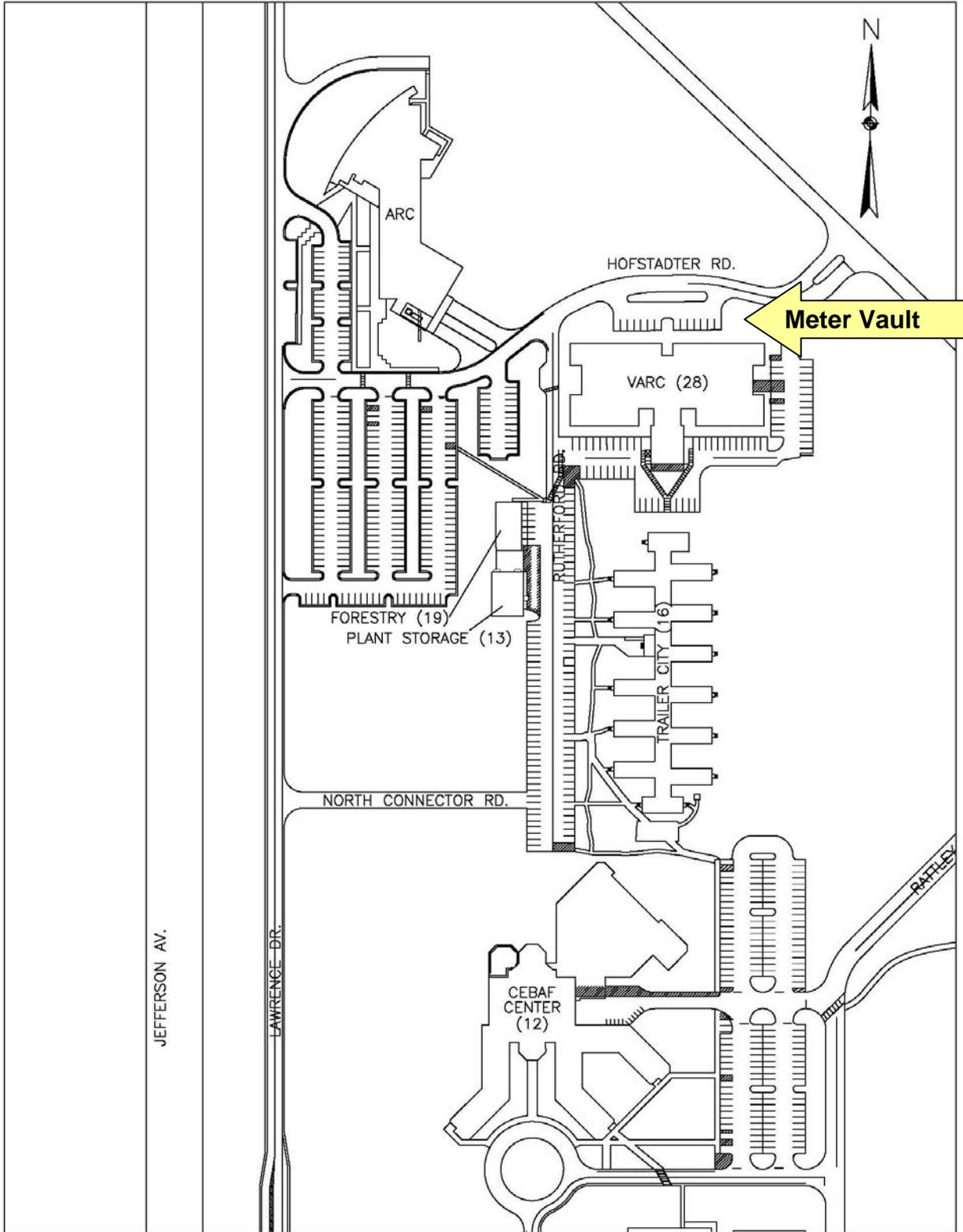
The Accelerator Gate House handles round-the clock security and radio dispatch of roving guards. Call Security x5822 for non-emergency assistance with:

- Theft
- Damaged Property
- Vehicle Accident
- Parking - blocked vehicles
- After hour personal escort
- Lock-outs

JLab Security Management

For non-emergency security concerns during business hours, call the JLab Security Office at x7169, page 584-7169; or x7548, page 584-7548.

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updated February 5, 2003



Jefferson Lab Emergency Exercise

Confined Space Entrant Rescue

Drill Coordinator/Evaluator: **John Kelly**

On-Scene Evaluator & Safety Observer: **Patty Hunt**

DCS Evaluator: **TBD** (*S. Suhring first choice candidate*)

Exercise Evaluation Sheet

Drill Objective	Expected Response	Actual Response	Comment	Objective Met (Y/N)
<p>1. Evaluate effectiveness of emergency notification to JLab Security</p>	<p>If cell phone is used for 911, follow-up call is made to 269-5822.</p> <p>In this case, or if JLab phone is used, roving guard is dispatched, and Facilities is informed.</p>	<p>Cell phone was used. Follow-up call to Security made with no delay.</p>	<p>Worker had 269-5822 programmed into his cell phone. Often needs to call Security to notify in advance of certain tasks.</p>	Y
<p>2. Validate response by community emergency response organizations in accordance with the site's emergency plan and with JLab confined space entry procedures.</p>	<p>Arrive on site within specified time. If engine company is first on scene, Tech Rescue Team is then summoned promptly.</p> <p>Medical assessment of victim as soon as safe conditions are confirmed or SCBA is deployed.</p> <p>Successful extraction and transport (simulated)</p>	<p><10 minutes for engine company & tactical unit.</p> <p>NNFD used their instrument to test air quality prior to entry.</p> <p>Vital signs and trauma assessment.</p> <p>Extraction via backboard and FD's own retrieval system.</p>		Y
<p>3. Successful activation of DCS</p>	<p>Facility Manager makes recommendation to Director for convening DCS. DCS is kept informed and prepared to direct Lab actions to manage the incident and to delegate follow-up with ancillary details.</p>	<p>Some delays in getting word to all DCS members.</p> <p>(Command Center: ARC 221-223)</p>	<p>Instituted new rapid page group for DCS.</p>	Y
<p>4. Validate effective communication and interface between NNFD incident command and JLab Management</p>	<p>Incident command is quickly assumed by NNFD with information from JLab as requested.</p> <p>JLab's single point of contact is identified to NNFD promptly.</p> <p>Radio & phone communications are timely, succinct, and informative.</p> <p>Conditions at scene are relayed in sufficient detail for DCS decision-making.</p>	<p>Per plan.</p> <p>Kausch & Ferguson both at scene.</p> <p>Short delay in getting radio to DCS.</p>		Y

<p>5. Acquaint new DCS members and Site Office staff with emergency event response and notifications</p>	<p>New participants are involved in event analysis, decisions on operations, and follow-up actions.</p>	<p>Per plan.</p>		<p>Y</p>
<p>6. Simulate procedures that would be used for notification of victim's next of kin or designated emergency contact.</p>	<p>Written statements are prepared by responsible personnel within the time they would be needed in actual event.</p>			<p>Not evaluated</p>
<p>7. Support NNFD's exercise objectives.</p>	<p>Positive feedback from NNFD unit commands.</p>	<p>Highly favorable.</p>	<p>City film crew taped exercise for training & public awareness purposes.</p>	<p>Y</p>

NNFD-JEFFERSON LAB EXERCISE TRAINING OBJECTIVES:

1. Technician shall have satisfied the requirements for training in accordance with 29 CFR 1910.146(g) and other similar state OSHA regulations. As a result of successfully completing of this joint training exercise rescue technicians will be able to demonstrate competency the following areas:
 - Able to identify types of confined spaces, including permit-required confined spaces and non-permit spaces, and to define each term.
 - Identify the hazards commonly found in confined spaces, including atmospheric hazards and physical hazards.
 - Identify the roles and responsibilities of the Incident Commander, Rescue Branch Manager, Safety Officer, Entry Teams and Back-up Teams, Air Group, Ventilation Group, Medical Group, Communications Officer, and Attendant as defined by OSHA 29 CFR 1910-146 and by NFPA 1670 Technical Rescue Technician for various personnel during confined space rescue operations.
 - Understand the use and need for a confined space permit. Collect permit from contractor on the scene and complete Newport News Fire Department Confined Space Rescue Permit according to directive.
 - Understand basic emergency activities during a confined space emergency, including the hierarchy of rescue, interface with unified command, PIO, and Jefferson Lab personnel functioning as liaisons.

2. Technician will perform entry and exits from confined spaces ensuring back-up personnel are in position. A realistic rescue scenario allows personnel to gain proficiency and an audit of skills and knowledge will allow technician to demonstrate sound judgment and abilities in atmosphere testing, rigging and rescue while performing in a realistic training environment.

3. Technician will acquire in-depth knowledge of fall protection fundamentals including the following:
 - Fall Protection Hardware Compatibility
 - Anchorages Systems and tripod
 - Horizontal Lifelines, tag lines & Vertical Lifelines
 - Self-Retracting Lifelines
 - Fall Protection & Set-up of Temporary (fall arrest systems) systems
 - Rescue techniques

4. Technician will perform entry and rescue of injured mannequin with simulated medical condition from confined spaces in accordance to Newport News Fire Departments Special Operation Directive for Confined Space Rescues (3.302). Medical personnel will be evaluated on medical protocol in accordance to PEMS guidelines. A realistic rescue scenario will allow personnel to gain proficiency while working with a Unified Command structure including liaisons from Jefferson Lab.