



# University of Virginia Nuclear Reactor Facility

## University of Virginia Nuclear Reactor Facility 1995 Emergency Preparedness Exercise Scenario for November 8, 1995

Exercise Evaluators only  
Not for general distribution

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### Scope and Objectives

The 1995 Emergency Exercise for the University of Virginia Nuclear Reactor Facility is scheduled for 8 November, starting at approximately 0900 and running 1 to 2 hours.

The scenario encompasses the facility response to an unexpected earthquake and a subsequent minor pool leak contaminating a person with a broken leg. The immediate situation is to be an unannounced earthquake. There is to be no outside agency involvement, with the exception of receiving the initial Unusual Event Notification.

The injured person will have a broken leg and be in a position to be contaminated by leaking pool water. The injury will occur during the earthquake and prior to building evacuation. A building search and injury treatment while evacuation and personnel accountability procedures are in progress is expected. The scenario will encompass treatment up through placement of the contaminated-injured person onto the backboard and movement into the evacuation area to await the rescue squad.

The exercise will terminate after determining the location of the pool leak, start of reactor pool make-up and corrective actions, and upon completion of the movement of the contaminated-injured person into the evacuation area.

The response team may request precautionary assistance from the Fire Department, this aid, and any other) will be simulated.

All initial and closeout communications will be made (ie. no simulations). Follow-up requests for assistance, notifications etc. will be simulated.

### Contamination Specifications:

Victim is contaminated about the back, feet and legs from a pool (primary water) leak. Isotope Na-24 from pool water. No radiation levels above background, very minor contamination.

The Objectives of this exercise are:

1. To test the emergency assessment, job familiarity, and decision making of facility personnel.
2. To test the UVA Nuclear Reactor Facility communications system, and information transmitting ability of personnel.
3. To test the contamination control abilities of the staff.
4. To test the adequacy of timing and content of the implementing procedures and methods, and emergency equipment.

Scenario	Expected Actions	
	ESC	Local
<p>T = 0 minutes (start actual exercise)</p> <p>Wednesday morning, an earthquake of about 5 occurs in the region. The Facility is having a normal workday.</p> <p>Minor shaking occurs, books/loose objects fall etc. An equipment stand falls, pinning a student and breaking his leg. Vibrations causes the seal failure in South Access Facility, pool starts leaking about 15 gpm.</p>	None	None
<p>T + 1 minute</p> <p>Pool leak continues. Student pinned under paint locker.</p>	<p>Building Evacuation Alarm energized.</p> <p>Enter emergency plan (Unusual Event) when determination of earthquake is made: (EPIP's 6,7,1,2,10,11,14,19)</p> <p>Prepare for building re-entry</p>	<p>Accountability procedure started at assembly area.</p> <p>Inform Director of 1 missing person.</p>
<p>T + 5 minutes</p> <p>Pool leak continues. Pool water starting to run out from under access facility shield blocks and onto student. Student pinned under paint locker.</p>	<p>Assign personnel to inspect building/reactor.</p>	<p>Building search/inspection starts. Search for missing student and building/ reactor integrity.</p>
<p>T + 10 minutes</p> <p>Pool leak continues. Pool water running out from under access facility shield blocks. Contaminated student pinned under paint locker.</p>	<p>Establish ESC in Primary location (Facility front office).</p> <p>Confirm entry into Emergency Plan (Unusual Event - EPIP's 1,2,9,13).</p> <p>Initiate event notifications.</p>	<p>Upon finding contaminated injured man:</p> <ol style="list-style-type: none"> <li>1. call for help - PA - have ESC call 911.</li> <li>2. begin treating victim, determine condition, and whether contaminated.</li> </ol>

Scenario	Expected Actions	
	ESC	Local
T + 10 (continued)	<p>Determine victims condition.</p> <p>Inform 911 of contaminated-injured person, request rescue squad.</p> <p>Contact Building &amp; Grounds for structural building inspection.</p> <p>Determine condition of Radiological boundaries. (Request radiological surveys and water sample analysis.)</p>	<p>When ESC established, inform of -</p> <ol style="list-style-type: none"> <li>1. contamination control measures</li> <li>2. progress of first aid measures</li> </ol> <p>Stabilize victim .</p> <p>Decontaminate as possible.</p> <p>Investigate source of water.</p> <p>Start pool water make-up - inform ESC of possible pool leak.</p>
T + 30 minutes Pool leak continues. Pool water running out from under access facility shield blocks.	<p>Determine pool leak rate.</p> <p>Determine leak path.</p> <p>Obtain up-dated victim status.</p> <p>Obtain survey results</p> <p>Up-date agency notifications</p>	<p>Move victim to assembly area - maintaining contamination control.</p> <p>Ensure make-up to pool is maintaining level.</p> <p>Continue building inspection.</p>
T + 45 Pool leak continues. Pool water running out from under access facility shield blocks.	<p>Direct attempt a containment of pool leak.</p>	<p>Attempt containment of pool leak.</p> <p>Transfer victim to rescue squad (simulated)</p>
T + 60 Exercise Terminated when:  1. Victim removed. 2. Pool leak located - appropriate make-up started. 3. Event notifications completed. 4. Contamination containment actions started.	<p>Recovery paperwork.</p> <p>Complete close-out notifications (EPIP 7).</p>	<p>Recovery paperwork.</p>