

# APPENDIX 4

## EXERCISE SCENARIO AND TIMELINE

This scenario is for Comanche Peak Steam Electric Station Unit 1. The scenario consists of a fire in the Turbine Lube Oil Tank Room. Then a Loss of Coolant Accident in the Reactor Containment, followed by failed fuel. Pressure increases in Containment, followed by a leaking Equipment Hatch seal. The main event is a large break LOCA with a failure of the containment resulting in a release of radioactive material to the environment.

The exercise is scheduled to begin at 7:30 a.m., Wednesday, August 29, 2007.

### METEOROLOGICAL CONDITIONS

Temperature is 85 degrees with wind out of 250\*, at 10 mph. Temperature will increase to about 95 degrees by the end of the exercise..

### EVENT SUMMARY

- A fire is reported in the Turbine Lube Oil Tank Room. The fire warrants the declaration of a NOTIFICATION OF UNUSUAL EVENT (EPP-201 Chart 9).
- A 65-gpm reactor coolant system (RCS) leak occurs inside containment. An ALERT should be declared due to RCS leakage > 50 gpm based on EPP-201 Chart 2. Actions commensurate with an ALERT should begin. Operations crew may isolate letdown or may begin a reactor shutdown. If letdown is isolated, LCV-459 closes and LCV-460 partially closes leaving a 20-gpm leak.
- A large break loss of coolant accident occurs. A SITE AREA EMERGENCY is warranted due to the LOCA leak and indications of failed fuel based on EPP-201, Chart 2. Expect the ERO to take actions warranted by procedure for a SITE AREA EMERGENCY. **Site evacuation will not be demonstrated.**
- A person in the vicinity of the equipment hatch “observes” and reports steam coming from the equipment hatch. A GENERAL EMERGENCY is warranted per EPP-201, Chart 2. Expect the ERO to take actions warranted by procedure for a GE and to make the initial protective action recommendation based on plant conditions to be ‘evacuate zone 2A and down wind sectors to 5 miles and shelter downwind sector between 5 and 10 miles.’
- Terminate the exercise around 1230.

## 7.0 Onsite Exercise Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
0700	PRE-EX	Exercise Lead Controller	"all" facilities		Send pre-exercise message to list 1 and list 3	None	
0725	1	CR Lead Controller	Shift Manager	Simulator	Brief the crew		All events refer to Unit 1.
0730				Simulator	Initial conditions established for the operating crew.		Ensure crew has had a chance to review the control boards.
0735	2			Simulator	A fire exists in the Turbine Lube Oil Tank Room as indicated by alarms and observing plant parameters.	Implement appropriate procedures. Fire Brigade should respond.	
0750					Fire Continues	This event warrants declaration of a Notification of Unusual Event.	EPP-201, Chart 9, block H - t, block E- f = NOUE
0752	3	Simulator Lead Controller	Shift Manager	Simulator	<b><u>CONTINGENCY MESSAGE:</u></b> Conditions warrant declaration of a NOUE		Inform the Exercise Lead Controller if this message is passed.

### 7.0 Onsite Exercise Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
0810				Simulator	RCS leak (65 gpm) begins in the letdown line.	This event warrants declaration of an ALERT. Implement appropriate procedures. <b><u>Do Not allow the operations crew to trip the reactor.</u></b>	Ref EPP-201, Chart 2: A - t, B - t, C - f, F - f = ALERT. The first indication should be CAG-197. Operator actions reduce this leak to 20 gpm. See ERDC instructions ILCV-460.
0835	4	Simulator Lead Controller	Shift Manager / Emergency Coordinator	Simulator	<b><u>CONTINGENCY MESSAGE:</u></b> Plant Conditions warrant declaration of an ALERT.		Inform the Exercise Lead Controller if this message is passed.
0910	5	Simulator Lead Controller	TSC Manager	Simulator	<b><u>CONTINGENCY MESSAGE:</u></b> The TSC Manager should relocate to the TSC.	Action intended to keep the scenario on the timeline.	Ensure TSC is staffed and ready to activate.

**7.0 Onsite Exercise Guide**

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
0955				Simulator	Large break LOCA occurs. There are three stuck rods that cause fuel damage. The Train A containment spray heat exchanger outlet valve fails to open. The CT spray pump 1-02 trips. Fuel damage occurs, RCS activity goes to 12000 uCi/cc.	Conditions warrant a SITE AREA EMERGENCY. Implement the Emergency Plan commensurate with a Site Area Emergency. Evacuation should NOT be performed. Control Room personnel to sound alarm and read message 6.	Ref EPP-201, Chart 2, block A – t, block B – t, block C – t, block D – t, block E - f = SITE AREA EMERGENCY.  Pass site evacuation message after the TSC/EOF Manager has prepared one using the Manager PAD. See ERDC instructions for 1HV-4776, and containment spray pump 1-02.
1000				Simulator	Containment spray pump 1-04 trips	PEO should be dispatched to investigate.	See ERDC instructions for containment spray pump 1-04.
1010	6	Facility Lead Controller	Emergency Coordinator	TSC or EOF	<b><u>CONTINGENCY MESSAGE</u></b> Plant Conditions warrant declaration of a Site Area Emergency.	Implement the Emergency Plan commensurate with a Site Area Emergency. Evacuation should NOT be performed. Control Room personnel to sound alarm and read message 6.	Inform the Exercise Lead Controller if this message is passed.  Pass site evacuation message after the TSC/EOF Manager has prepared one from the Manager PAD.

**7.0 Onsite Exercise Guide**

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
1035	7	Onsite or ERDC Team	Communicator	Vicinity of the Unit 1 equipment hatch	Report steam coming from the equipment hatch. Release in progress. 35 R/hr in Containment with a 600 gpm leak.	This event warrants declaration of a GENERAL EMERGENCY.	Ref EPP-201, chart 2; A - t, B - t, C - t, D - t, E - t = GENERAL EMERGENCY Initial Protective action recommendation based on plant conditions should be 'evacuate 2 mile radius (2A) and down wind sectors to 5 miles (2A, 2B, 2D, 1A, 2E, 4A) shelter downwind sectors to 10 miles (2F, 1C, 2G, 2H)
1050	8	Facility Lead Controller	TSC Manager	TSC	<b>CONTINGENCY MESSAGE:</b> The conditions warrant declaration of a GENERAL EMERGENCY.	Implement the Emergency Plan commensurate with a GENERAL EMERGENCY.	Inform the Exercise Lead Controller if this message is passed.
TBD				Simulator	Instrument air compressor X-01 fails (or 1-01)		See ERDC instructions for the compressor X-01/1-01.
TBD				Simulator	Service water pump 1-02 fails.		See ERDC instructions for SSW pump 1-02

**7.0 Onsite Exercise Guide**

<b>TIME</b>	<b>MESSAGE NUMBER</b>	<b>FROM</b>	<b>TO</b>	<b>LOCATION</b>	<b>SUMMARY</b>	<b>RESPONSE</b>	<b>NOTES</b>
~1300	9	Exercise Lead Controller	All	All	The exercise is terminated at the direction of the lead controller.	All personnel should secure exercise activities and prepare for facility de-briefs.	Pass only with permission of the exercise lead controller. All onsite & offsite objectives have been evaluated.