

76. Given the following plant conditions:

- The unit was operating at 100% power
- A Reactor trip and a Safety Injection occurred due to low PRZ pressure

Current conditions are:

- All RCPs are off
- RVLIS Full Range is indicating 33% and stable
- PRZ level is off scale high
- PRZ pressure is 1360 psig and stable
- Containment pressure is 4.2 psig and rising
- All SG NR levels are 45% and stable
- Core Exit T/Cs are 755°F and stable
- RCS WR Hot Leg temperatures are 678°F and stable

Based on these plant conditions, which ONE of the following completes the statements below?

A   (1)   break has occurred.

To allow the injection of the RHR pumps, in accordance with EOP-FR-C.1, Response to Inadequate Core Cooling,   (2)   is required to depressurize the RCS.

- A. (1) PRZ steam space  
(2) opening of the Reactor Head Vent valves
- B. (1) PRZ steam space  
(2) the depressurization of all intact SGs at maximum rate
- C. (1) RCS hot leg  
(2) opening of the Reactor Head Vent valves
- D. (1) RCS hot leg  
(2) the depressurization of all intact SGs at maximum rate

77. Given the following plant conditions:

- 'A' RHR pump is under clearance
- A Large Break LOCA occurred
- The crew is implementing EOP-E-1, Loss of Reactor or Secondary Coolant, and are evaluating if the 'B' RHR train is capable of cold leg recirculation
- 1SI-341, Low Head SI train B to cold leg, red and green lights are not lit

Which ONE of the following completes the statements below?

The position of 1SI-341 can be determined by checking the status of the (1) .

After the completion of ES-1.3, Transfer To Cold Leg Recirculation, the SI Accumulators are required to be isolated when (2) .

A. (1) monitor light box (MLB-3B)

(2) RCS pressure is below 1000 psig

B. (1) monitor light box (MLB-3B)

(2) at least two RCS Hot Leg temperatures are less than 390°F

C. (1) status light box (SLB-2)

(2) RCS pressure is below 1000 psig

D. (1) status light box (SLB-2)

(2) at least two RCS Hot Leg temperatures are less than 390°F

78. Given the following plant conditions:

- The unit is cooling down and RHR pump 'A' was just placed in Shutdown Cooling Mode

Subsequently the following occurs:

- PRZ level lowers rapidly
- PRZ pressure lowers rapidly
- RHR pump 'A' trips on overcurrent
- RCS temperature is 352°F and rising

Which ONE of the following completes the statements below?

PRZ level indicators 460 and \_\_\_\_ (1) \_\_\_\_ are the Post Accident indicators that should be used to monitor PRZ level.

Based on the conditions above, if ONE PRZ level channel of the Post Accident indicators is NOT operable / available AND is unable to be restored the ACTION required by Technical Specification 3.3.3.6, Accident Monitoring Instrumentation, is to be in Hot Shutdown within \_\_\_\_ (2) \_\_\_\_ hours.

- A. (1) 461  
(2) 6 hours
- B. (1) 461  
(2) 12 hours
- C. (1) 462  
(2) 6 hours
- D. (1) 462  
(2) 12 hours

79. Given the following plant conditions:

- The unit is operating at 100% power
- EDG 1B-SB is under clearance

Subsequently, a loss of offsite power occurs

One minute later DP-1A-SA is lost

Which ONE of the following completes the statements below?

Breaker indications are available on the MCB for (1) .

The procedural action required based on the current plant conditions is to dispatch an operator to (2) .

- A. (1) B-SB equipment ONLY  
(2) locally close breaker 106
- B. (1) B-SB equipment ONLY  
(2) manually control EDG 1A-SA load / speed
- C. (1) BOTH A-SA and B-SB equipment  
(2) locally close breaker 106
- D. (1) BOTH A-SA and B-SB equipment  
(2) manually control EDG 1A-SA load / speed

80. Given the following plant conditions:

- The plant is operating at 100% power
- Instrument Air is aligned in SEQUENCE 2 with all Air Compressors available

Over the next minute the following indications are observed:

- ALB-002-8-5, Computer Alarm Air Systems
- ALB-002-8-1, Instrument Air Low Press
- Instrument Air pressure is 73 psig and slowly lowering

AOP-017, Loss Of Instrument Air, is being performed.

An AO reports the instrument line to the Condenser Steam Dump valves on the west side of the condenser has ruptured.

Which ONE of the following (1) describes the expected operation of the Instrument Air Compressors AND (2) identifies the Attachment that should be performed?

- A. (1) 1A and 1B running ONLY  
(2) Attachment 2, Positioning MCB Controllers
- B. (1) 1A and 1B running ONLY  
(2) Attachment 3, Reducing Instrument Air Header Loads
- C. (1) 1A, 1B, and 1C running  
(2) Attachment 2, Positioning MCB Controllers
- D. (1) 1A, 1B, and 1C running  
(2) Attachment 3, Reducing Instrument Air Header Loads

81. Given the following plant conditions:

- A Reactor Trip and Safety Injection has occurred
- EOP-E-0, Reactor Trip Or Safety Injection, is being implemented and SI has been reset

The current conditions are as follows:

- RCS Pressure is 1500 psig and stable
- PZR level is off scale low
- Subcooling is 3°F and improving
- Containment pressure 0.2 psig and rising
- RM-1RR-3597, RHR Pump 1B, is in HIGH alarm and trending up
- MLB-4A-SA-6-3 and MLB-4B-SB-6-3, RAB Equip C/D Sump Alert Lvl, status lights are lit
- SG levels are: A = 23%, B = 24%, C = 15%
- Total AFW flow has been reduced to 215 KPPH

Based on this information, which ONE of the following procedures will be implemented when exiting EOP-E-0?

- A. EOP-FR-H.1, Response to Loss of Secondary Heat Sink
- B. EOP-ECA-1.2, LOCA Outside Containment
- C. EOP-ES-1.1, SI Termination
- D. EOP-ES-1.2, Post LOCA Cooldown and Depressurization

82. Given the following plant conditions:

- The unit is operating at 100% power
- Control Bank D group step counters indicate 218 steps

Subsequently the following occurs:

- Control Bank D Rod P-8 drops to 145 steps.
- It will take 3 hours to re-align rod P-8 with the Control Bank D rods

Which ONE of the following statements describes (1) the MAXIMUM Thermal power level the unit is required to maintain in accordance with Tech Spec 3.1.3.1, Movable Control Assemblies - Group Height, One rod not within alignment limits, AND (2) the Basis for reducing Thermal Power?

**(Reference provided)**

A. (1) 85%

(2) Provides assurance of fuel rod integrity during continued operation.

B. (1) 85%

(2) Minimizes the effect of a Control Rod ejection accident.

C. (1) 75%

(2) Provides assurance of fuel rod integrity during continued operation.

D. (1) 75%

(2) Minimizes the effect of a Control Rod ejection accident.

83. Given the following plant conditions:

- A crane lift above the WGDTs is planned
- A sample of the 'A' GDT had been obtained to release the tank later today

Which ONE of the following completes the statements below?

In accordance with OST-2044, for a planned crane lift above the WGDTs the MAXIMUM time allowed to complete the crane lift AFTER GDT sampling and activity calculations are performed is within   (1)   hours.

In accordance with PLP-114, the concern with the amount of radioactivity in the Waste Gas System is based on not exceeding a MAXIMUM of   (2)   in the event of an uncontrolled release as a result of a crane mishap over the GDT.

**(NOTE: The procedure titles are listed below)**

OST-2044, Radwaste Daily Operations Surveillance Test Modes: At All Times  
PLP-114, Relocated Technical Specifications and Design Basis Requirements

- A. (1) 12  
(2) 2 Rem exposure to the public
- B. (1) 12  
(2) 0.5 Rem exposure to a radiation worker near the tank
- C. (1) 24  
(2) 2 Rem exposure to the public
- D. (1) 24  
(2) 0.5 Rem exposure to a radiation worker near the tank



84. Given the following plant conditions:

- The unit is in Mode 6 with core offload in progress
- A fuel assembly has just been unlatched in the Containment Upender
- The Fuel Handling SRO has reported that Refueling Cavity Level is rapidly lowering
- The crew has entered and is implementing AOP-031, Loss of Refueling Cavity Integrity
- The CRS has directed that the fuel assembly be returned to the Reactor Vessel

Prior to relatching the assembly, the following occurs:

- ALL CNMT Ventilation Isolation radiation monitors have just gone into alarm
- HP reports radiation levels on the Manipulator Crane of 154 mR/hr and rising

In accordance with AOP-031, what action must be taken in Containment?

- A. Place the fuel assembly in the Reactor Vessel and evacuate ONLY unnecessary personnel.
- B. Leave the fuel assembly in the upender and evacuate ONLY unnecessary personnel.
- C. Place the fuel assembly in the Reactor Vessel and evacuate ALL personnel.
- D. Leave the fuel assembly in the upender and evacuate ALL personnel.

85. Given the following plant conditions:

- The unit was operating at 100% power
- The plant experienced a LOCA several hours ago
- Only one Containment Spray Pump is running due to actions taken by the crew in accordance with EOP-ECA-1.1, Loss Of Emergency Coolant Recirculation

Subsequently, a transition has just been made to EOP-FR-Z.1, Response to High Containment Pressure

- Current Containment pressure is 14 psig and slowly lowering
- RWST level is 47% and slowly lowering
- 3 Containment Fan Coolers are available and running

Which ONE of the following actions should be taken for the current plant conditions?

- A. Start the second Containment Spray Pump if Containment pressure does not lower below 10 psig before exiting EOP-FR-Z.1.
- B. Start the second Containment Spray Pump per EOP-FR-Z.1 since pressure is above 10 psig.
- C. Continue operation with one Containment Spray pump per EOP-ECA-1.1 unless Containment pressure exceeds 45 psig, then start the second pump.
- D. Continue operation with one Containment Spray pump per EOP-ECA-1.1 unless Containment pressure begins rising, then start the second pump.

86. Given the following plant conditions:

- The unit is operating at 100% power
- Reactor Engineering is performing a flux map
- OWP-RP-01, Reactor Protection, is in place for Loop B, Tavg/ $\Delta$ -T Channel II, due to a failed bistable
- Repair of Loop B, Tavg/ $\Delta$ -T Channel II, will not be completed for another 17 hours

I&C discovers the bistables for Power Range channel N-41 are set higher than the allowable values of Technical Specifications and repairs will take 7 hours

Which ONE of the following identifies the LEAST restrictive requirement that must be completed for these conditions in accordance with OWP-RP-01 and Technical Specifications?

- A. Bypass Power Range N-41 until repairs are completed on Loop B Tavg/ $\Delta$ -T
- B. Prepare to shutdown in 1 hour and be in Hot Shutdown within 6 hours
- C. Trip the Power Range N-41 bistables after Loop B Tavg/ $\Delta$ -T is returned to service
- D. Place the unit in Hot Standby within 7 hours

87. Given the following plant conditions:

- The plant was operating at 40%
- 0600, A 15 gpm tube leak develops in the 'A' SG
- 0604, ALB 022-9-1, Start XFMR-B Lockout Trip Or Trouble, alarms
- 0607, ALB-014-8-5, Computer Alarm Steam Generators, alarms
  - Computer Point ID ZMS1254A, 1MS-58 SG A PORV, indicates NOT SHUT
  - Attempts to shut 1MS-58 from the MCB are not successful
- 0610, ALB-026-1-4, Annun Sys 1 Power Supply Failure, alarms

Subsequently the following occurs:

- 0625, An AO reports 1MS-59, MS Line A PORV Isol Vlv, is stuck open
- 0630, 'A' SG tube leakage degrades and a Reactor Trip and Safety Injection are initiated

Which ONE of the following identifies the FIRST required classification for the conditions above?

**(Reference provided)**

- A. FU1.1
- B. SU1.1
- C. SU5.1
- D. SU8.1

88. Given the following plant conditions:

- The unit was operating at 100% power
- Containment Spray Pump 'A' is under clearance
- 1A3-SA, cubicle 4A, Emerg MCC 1A34-SA Supply Brkr, is under clearance

Subsequently a Service Water leak develops downstream of 1SW-91, CNMT Fan Cooler AH-2 Inlet CIV, which requires Service Water to be isolated.

Which ONE of the following identifies (1) the impact of isolating Service Water to AH-2 AND (2) a required action in accordance with Technical Specification 3.6.2.3, Containment Cooling System?

**(Reference provided)**

- A. (1) Service Water is isolated to ONLY AH-2 1A-SA  
(2) restore the inoperable spray system to operable status within 72 hours or be in at least Hot Standby within the next 6 hours.
- B. (1) Service Water is isolated to ONLY AH-2 1A-SA  
(2) restore the inoperable train of fan coolers to operable status within 72 hours or be in at least Hot Standby within the next 6 hours.
- C. (1) Service Water is isolated to BOTH AH-2 1A-SA and 1B-SA  
(2) restore the inoperable spray system to operable status within 72 hours or be in at least Hot Standby within the next 6 hours.
- D. (1) Service Water is isolated to BOTH AH-2 1A-SA and 1B-SA  
(2) restore the inoperable train of fan coolers to operable status within 72 hours or be in at least Hot Standby within the next 6 hours.

89. Given the following plant conditions:

- The unit is operating at 85% power
- The following annunciator is received in the Control Room:
  - ALB-002-7-2, Serv Wtr Pumps Discharge Low Press
- Cooling Tower Basin Level is lowering rapidly
- Service Water header pressure is 50 psig and lowering

One minute later the following conditions exist:

- Service Water header pressure is 35 psig and rising
- The Cooling Tower Basin Level is stable
- The RAB AO reports that a large volume of water is gushing from the upstream flange of 1SW-274, Header B Return To Normal Header valve

Which ONE of the following completes the statements below?

The leak is located in the   (1)   system.

In accordance with Technical Specification 3.7.4, Emergency Service Water, the bases for the Limiting Condition of Operation is to ensure that sufficient cooling capacity is available for continued operation of safety related equipment during   (2)   conditions.

- A. (1) Normal Service Water  
(2) normal AND accident
- B. (1) Normal Service Water  
(2) ONLY accident
- C. (1) Emergency Service Water  
(2) normal AND accident
- D. (1) Emergency Service Water  
(2) ONLY accident

90. The following conditions are occurring with the unit in Mode 6 and refueling activities in progress:

- Source range audible counts are unexpectedly rising
- Annunciator ALB-013-2-1, Source Range High Flux Lvl at Shutdown, has gone into alarm due to both NI-31 and NI-32 responses

Which ONE of the following completes the statements below?

The Containment local evacuation alarm   (1)   actuated.

Subsequently:

- It was determined that both Source Range detectors were not responding correctly

Technical Specifications requires the RCS boron concentration to be determined within   (2)   hours.

A. (1) should be manually

(2) 4

B. (1) should be manually

(2) 12

C. (1) will be automatically

(2) 4

D. (1) will be automatically

(2) 12

91. Given the following plant conditions:

- A Reactor startup is in progress at  $10^{-8}$  amps in accordance with GP-004, Reactor Startup (Mode 3 To Mode 2)
- Power Range N-42 instrument power fuse was found in the blown condition

Which ONE of the following completes the statements below?

\_\_\_\_(1)\_\_\_\_ is required to be implemented to remove Power Range N-42 from service.

Continued power escalation into Mode 1 \_\_\_\_ (2) \_\_\_\_ allowed.

- A. (1) OWP-RP, Reactor Protection  
(2) is
- B. (1) OWP-RP, Reactor Protection  
(2) is NOT
- C. (1) OP-105, Excore Nuclear Instrumentation  
(2) is
- D. (1) OP-105, Excore Nuclear Instrumentation  
(2) is NOT



92. Given the following plant conditions:

- Spent Fuel Pool temperature is rising
- Spent Fuel Pool level is lowering

Which ONE of the following in accordance with AOP-041, Spent Fuel Pool Events, identifies (1) the FIRST action required to be taken to address the above conditions AND (2) the basis for the action?

- A. (1) Restore Spent Fuel Pool level using Attachment 4, SFP Makeup Water Source Availability.
- (2) To prevent loss of inventory that could result in elevated radiation levels in the Spent Fuel Pool area.
- B. (1) Restore Spent Fuel Pool level using Attachment 4, SFP Makeup Water Source Availability.
- (2) Adequate cooling to the Spent Fuel Pools will likely be provided through the feed and bleed process.
- C. (1) Reduce Spent Fuel Pool temperature using Attachment 5, Aligning SFP Cooling with Cross-Connected Pump and HX.
- (2) To prevent boiling of the Spent Fuel Pools that could result in boron plating on the fuel assemblies.
- D. (1) Reduce Spent Fuel Pool temperature using Attachment 5, Aligning SFP Cooling with Cross-Connected Pump and HX.
- (2) Adequate cooling to the Spent Fuel Pools will likely prevent boiling and the resultant lowering of water level.

93. A release of WGD'T 'E' is in progress.

Subsequently:

- REM-1WV-3546, WPB Stack 5 PIG Monitor has gone into HIGH ALARM
- 3WG-229, WG Decay Tanks E&F To Plant Vent Valve, failed to shut

Which ONE of the following completes the statement below?

In accordance with AOP-005, Radiation Monitoring System (1) is required to be implemented to stop the release in progress.

In accordance with ODCM 3.3.3.11, Radioactive Gaseous Effluent Monitoring Instrumentation, (2) is (are) required to resume the release.

**(Reference provided)**

- A. (1) OP-120.07, Section 7.1, Total Shutdown  
(2) the initiation of the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours
- B. (1) OP-120.07, Section 7.1, Total Shutdown  
(2) samples, release rate calcs, and an Independent Verification of the valve line-up
- C. (1) OP-120.07, Section 8.37, Actions for a REM Monitor Alarm During a Waste Gas Decay Tank Release  
(2) the initiation of the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours
- D. (1) OP-120.07, Section 8.37, Actions for a REM Monitor Alarm During a Waste Gas Decay Tank Release  
(2) samples, release rate calcs, and an Independent Verification of the valve line-up

94. Given the following plant information:

- The unit was operating at 79% power when a Turbine runback occurred
- The crew has stabilized the plant at 58% power
- Fifteen minutes after stabilization, annunciator ALB 026-2-1, Gross Failed Fuel Det Trouble, alarmed
- An RCS activity sample was taken with the following results:
  - Gross (beta-gamma) specific activity has been calculated to be  $165/\bar{E}$
  - Dose-equivalent I-131 specific activity (DEI) is  $130 \mu\text{Ci/gm}$

Which ONE of the following conditions would (1) satisfy Technical Specifications requirements, AND (2) what is the basis for the requirement?

- A. (1) Be in Mode 3 with  $T_{\text{avg}} < 500^\circ\text{F}$  within the following 6 hours.  
 (2) To minimize the potential release of activity in the event of a SG Tube Rupture.
- B. (1) Be in Mode 3 with  $T_{\text{avg}} < 500^\circ\text{F}$  within the following 6 hours.  
 (2) To reduce the production of fission products until DEI is restored to the Tech Spec required value of  $\leq 0.35 \mu\text{Ci/gm}$ .
- C. (1) Reduce power below 50% within 3 hours.  
 (2) To minimize the potential release of activity in the event of a SG Tube Rupture.
- D. (1) Reduce power below 50% within 3 hours.  
 (2) To reduce the production of fission products until DEI is restored to the Tech Spec required value of  $\leq 0.35 \mu\text{Ci/gm}$ .

95. Given the following plant conditions:

- The unit is operating at 100% power
- Annunciator ALB-009-4-3, Pressurizer Low Level Ltn Secured and Htrs Off, has alarmed due to a transmitter failure

Which ONE of the following completes the statements below regarding the system failure and Technical Specification requirements?

1CS-231, FK-122.1, Charging Flow demand has increased due to the failure of PRZ level transmitter (1) .

AND

The Technical Specifications required action is to place the channel in the tripped condition within (2) hours.

A. (1) 459

(2) 4

B. (1) 460

(2) 4

C. (1) 459

(2) 6

D. (1) 460

(2) 6

96. Given the following plant conditions:

- The unit is operating at 100% power
- Today at 0800 an instrumentation failure has resulted in the crew entering AOP-001, Malfunction of Rod Control and Indication System and placing the rod control system to manual

In accordance with WCM-001, On-Line Maintenance Risk Management, which ONE of the following personnel are RESPONSIBLE for assessing the impact on scheduled work and plant risk?

- A. STA
- B. WCC-SRO
- C. Work Week Manager
- D. Shift Manager

97. Which ONE of the following satisfies the Technical Specification bases requirement for off-site power distribution with the plant in Mode 1?
- A. The requirement can be satisfied by any two separate off-site transmission lines that can power the SUTs.
  - B. The requirement can ONLY be satisfied by two off-site transmission lines that feed the SUTs directly (Cary, Regency Park and Cape Fear North).
  - C. The requirement can ONLY be satisfied by the off-site transmission lines that do not feed the respective North or South switchyard bus through a jumper.
  - D. The requirement is satisfied as long as the switchyard alignment is such that power is available from the off-site transmission network to both SUTs regardless of the number of transmission lines available.

98. Given the following plant conditions:

- An employee was injured and contaminated
- The employee was transported to Western WakeMed for treatment before he was de-contaminated
- Duke Energy is planning a news release for this event

Which ONE of the following completes the statements below?

In accordance with AP-617, Reportability Determination And Notification, the EARLIEST required NRC notification of this event is within (1) hours.

In accordance with AOP-013, Fuel Handling Accident, (2) is the primary radiological concern for fuel off-loaded more than 6 months ago because it will NOT be detected by personal dosimetry or area radiation monitors.

**(Reference provided)**

- A. (1) 4  
(2) Krypton-85
- B. (1) 4  
(2) Iodine-131
- C. (1) 8  
(2) Krypton-85
- D. (1) 8  
(2) Iodine-131

2014 NRC SRO Written Exam

99. Which ONE of the following personnel are RESPONSIBLE for preparing and approving a Batch Gaseous Effluent Permit in accordance with OP-120.07, Waste Gas Processing?

	<u>Prepares Permit</u>	<u>Approves Permit</u>
A.	Chemistry	Control Room Supervisor
B.	Chemistry	Shift Manager
C.	Radiation Protection	Control Room Supervisor
D.	Radiation Protection	Shift Manager



100. Given the following plant conditions:

- An event has occurred that has resulted in the activation of the Emergency Response Organization (ERO)
- The Technical Support Center (TSC) has completed turnover from the MCR
- A Maintenance Mechanic is standing by to enter the RAB to isolate a release in progress. This will result in a dose of 11,400 mrem TEDE for the individual

Which ONE of the following describes the dose limit basis for the type of entry AND the position that must approve the expected dose the Mechanic will receive in accordance with PEP-330, Radiological Consequences?

**(NOTE: The titles for the positions are listed below)**

SEC-TSC     Site Emergency Coordinator - Technical Support Center  
RCD           Radiological Control Director

<u>Limit Basis</u>	<u>Position</u>
A. Protection of large populations ONLY	SEC-TSC
B. Protection of large populations ONLY	RCD
C. Protect valuable property AND large populations	SEC-TSC
D. Protect valuable property AND large populations	RCD

**You have completed the test!**

**ANSWER KEY REPORT**  
for 2014 NRC SRO Written Exam Test Form: 0

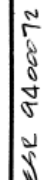
		Answers
#	ID	0
1	2014 NRC RO 1	B
2	2014 NRC RO 2	C
3	2014 NRC RO 3	A
4	2014 NRC RO 4	D
5	2014 NRC RO 5	A
6	2014 NRC RO 6	A
7	2014 NRC RO 7	C
8	2014 NRC RO 8	D
9	2014 NRC RO 9	A
10	2014 NRC RO 10	C
11	2014 NRC RO 11	D
12	2014 NRC RO 12	A
13	2014 NRC RO 13	D
14	2014 NRC RO 14	D
15	2014 NRC RO 15	D
16	2014 NRC RO 16	A
17	2014 NRC RO 17	B
18	2014 NRC RO 18	A
19	2014 NRC RO 19	A
20	2014 NRC RO 20	A
21	2014 NRC RO 21	B
22	2014 NRC RO 22	D
23	2014 NRC RO 23	D
24	2014 NRC RO 24	D
25	2014 NRC RO 25	B
26	2014 NRC RO 26	A
27	2014 NRC RO 27	C
28	2014 NRC RO 28	D
29	2014 NRC RO 29	C
30	2014 NRC RO 30	B
31	2014 NRC RO 31	C
32	2014 NRC RO 32	C
33	2014 NRC RO 33	B
34	2014 NRC RO 34	A
35	2014 NRC RO 35	C
36	2014 NRC RO 36	D
37	2014 NRC RO 37	D
38	2014 NRC RO 38	B
39	2014 NRC RO 39	B
40	2014 NRC RO 40	D
41	2014 NRC RO 41	B
42	2014 NRC RO 42	A
43	2014 NRC RO 43	D
44	2014 NRC RO 44	B
45	2014 NRC RO 45	C
46	2014 NRC RO 46	A
47	2014 NRC RO 47	C

**ANSWER KEY REPORT**  
for 2014 NRC SRO Written Exam Test Form: 0

		Answers
#	ID	0
48	2014 NRC RO 48	D
49	2014 NRC RO 49	B
50	2014 NRC RO 50	A
51	2014 NRC RO 51	B
52	2014 NRC RO 52	B
53	2014 NRC RO 53	A
54	2014 NRC RO 54	D
55	2014 NRC RO 55	C
56	2014 NRC RO 56	C
57	2014 NRC RO 57	D
58	2014 NRC RO 58	B
59	2014 NRC RO 59	D
60	2014 NRC RO 60	D
61	2014 NRC RO 61	C
62	2014 NRC RO 62	B
63	2014 NRC RO 63	A
64	2014 NRC RO 64	B
65	2014 NRC RO 65	C
66	2014 NRC RO 66	A
67	2014 NRC RO 67	C
68	2014 NRC RO 68	D
69	2014 NRC RO 69	B
70	2014 NRC RO 70	C
71	2014 NRC RO 71	D
72	2014 NRC RO 72	C
73	2014 NRC RO 73	B
74	2014 NRC RO 74	D
75	2014 NRC RO 75	C
76	2014 NRC SRO 1	B
77	2014 NRC SRO 2	B
78	2014 NRC SRO 3	A
79	2014 NRC SRO 4	B
80	2014 NRC SRO 5	D
81	2014 NRC SRO 6	B
82	2014 NRC SRO 7	C
83	2014 NRC SRO 8	B
84	2014 NRC SRO 9	D
85	2014 NRC SRO 10	C
86	2014 NRC SRO 11	D
87	2014 NRC SRO 12	A
88	2014 NRC SRO 13	C
89	2014 NRC SRO 14	C
90	2014 NRC SRO 15	C
91	2014 NRC SRO 16	A
92	2014 NRC SRO 17	B
93	2014 NRC SRO 18	D
94	2014 NRC SRO 19	A

**ANSWER KEY REPORT**  
for 2014 NRC SRO Written Exam Test Form: 0

		Answers
#	ID	0
95	2014 NRC SRO 20	C
96	2014 NRC SRO 21	C
97	2014 NRC SRO 22	A
98	2014 NRC SRO 23	A
99	2014 NRC SRO 24	A
100	2014 NRC SRO 25	A



Effective as of 8-31-84, full responsibility for the maintenance of this document and for subsequent modifications made or required to be made to this document is assumed by Carolina Power & Light Company ("CP&L"). Ebasco Services Incorporated has no responsibility for maintenance and modifications after said date. All Field Change Requests, Design Change Notices, Nonconformance Reports and other change documents, which have been considered for the current or prior revisions of this document, are identified in the Document Close-out Log Issue (current at the above date). Future revisions of this document will be issued by CP&L.

NOTE :  
I. CONTACT CLOSES ON  
INCREASING PRESSURE



I  
INFORMATION  
USE

HARRIS NUCLEAR PLANT

PLANT OPERATING MANUAL

VOLUME 1

PART 1

PROCEDURE TYPE: ADMINISTRATIVE PROCEDURE (AP)

NUMBER: **AP-617**

TITLE: **REPORTABILITY  
DETERMINATION AND  
NOTIFICATION**

Table of Contents

<u>Section</u>	<u>Page</u>
1.0 PURPOSE .....	3
2.0 REFERENCES .....	4
3.0 DEFINITIONS/ABBREVIATIONS .....	5
4.0 RESPONSIBILITIES.....	6
5.0 PROCEDURE	
5.1 Immediate Reportability .....	7
5.2 Other Reports .....	11
6.0 DIAGRAMS/ATTACHMENTS	
Attachment 1 - Immediate Notification Requirements.....	12
Attachment 2 - Technical Specification and ODCM Special Reports.....	22
Attachment 3 - Routine Reports .....	26
Attachment 4 - Event Reports (Other than LERs).....	29
Attachment 5 - One Hour Notifications - Sample Wording.....	38
Attachment 6 – SAMPLE Reactor Plant Event Notification Worksheet .....	40
Attachment 7 - Reactor Plant Event Notification Worksheet.....	41
Attachment 8 – Reportability Evaluation (REW) Worksheet .....	43
Revision Summary .....	49

## 1.0 PURPOSE

R

1. This procedure provides guidance in determining NRC Reportability in the following areas:
  - a. Events requiring verbal notification to the NRC via Emergency Telecommunication System (ETS) within one, four, eight, or twenty-four hours.
  - b. Events requiring a written follow-up report to the NRC as a Licensee Event Report (LER) or as a Special Report.
  - c. Scheduled Routine Reports required by Title 10 of the Code of Federal Regulations (CFR) or by the Operating License Technical Specifications; PLP-114, Relocated Technical Specifications and Design Basis Requirements; and the Offsite Dose Calculation Manual (ODCM).
  - d. Event Reports (other than LERs) that are prepared on an as needed basis.
  - e. Reportability evaluation for non-routine reports will be based on Condition Reports per Reference 2.3.
2. The reports listed in this procedure are regulatory requirements. The specific reference for each report is identified with each report on the applicable attachment.
3. Several specific reporting requirements are also addressed by other procedures:
  - a. Immediate notifications of safeguards (security) related events related to the Physical Security of Special Nuclear Material as required by §73.71 (Reporting of Safeguards Events) will be classified per Reference 2.7.
  - b. Reporting of events which result in the declaration of an emergency classification shall be in accordance with Emergency Plan and implementing procedures.
  - c. Reporting of events regarding fish kills, hazardous substance releases, and oil spills shall be in accordance with Reference 2.17 for notification to appropriate Corporate, Local, State and Federal (non-NRC) agencies.
  - d. Reporting of events regarding environmental violations shall be in accordance with this procedure and References 2.30 and 2.31 for notification to appropriate Corporate, Local, State and Federal (non-NRC) agencies.
  - e. Reporting of events to insurers regarding certain fires or other losses shall be in accordance with Reference 2.32.
  - f. Reporting of events regarding non-routine radioactive releases shall be in accordance with Reference 2.37 for notification to appropriate Corporate, Local, State and Federal (non-NRC) agencies.



## 1.0 PURPOSE (continued)

4. This procedure provides instructions for the immediate notification to the NRC using the Emergency Telecommunication System (ETS) phone for non-emergency events that require such reporting according to §50.72, Technical Specifications and other § requirements.

## 2.0 REFERENCES

1. SEC-NGGC-2120, Use Storage and Protection of Safeguards and Other Limited Access Information
2. AP-611, Regulatory Correspondence (superseded by REG-NGGC-0016)
3. CAP-NGGC-0200, Condition Identification and Screening Process
4. REG-NGGC-0013, Evaluating and Reporting of Defects and Noncompliance in Accordance With 10 CFR 21
5. PEP-310, Notifications and Communications
6. AP-620, Licensee Event Report Development and Approval (superseded by REG-NGGC-0016)
7. SEC-NGGC-2147, Reporting of Safeguards and Fitness for Duty Events
8. SHNPP Operating License and Technical Specifications
9. NUREG 1022, Licensee Event Report System
10. NRC Inspection Procedure 61706, Core Thermal Power Evaluation
11. SP-014, Additional Surveillance/Compensatory Security Measures
12. ADM-NGGC-0201, Nuclear Task Management
13. RDC-NGGC-0001, NGG Standard Records Management Program
14. Offsite Dose Calculation Manual (ODCM)
15. PLP-114, Relocated Technical Specifications and Design Basis Requirements
16. FSAR, TMI Appendix Item II.K.3.3, Report on Safety and Relief Valve Failures and Challenges
17. PLP-500, Fish Kill Reporting, Hazardous Substances Release Notification, and Oil Spill Notification
18. NUREG 1460, Guide to NRC Reporting and Recordkeeping Requirements
19. Regulatory Guide 1.16, Reporting of Operating Information - Appendix A Technical Specifications

## 2.0 REFERENCES (continued)

20. Regulatory Guide 10.1, Compilation of Reporting Requirements for Persons Subject to NRC Regulations
21. IE Information Notice No. 83-34, Event Notification Information Worksheet
22. IE Information Notice No. 85-62, Backup Telephone Numbers to the NRC Operations Center
23. IE Information Notice No. 85-78, Event Notification
24. Letter HELD-H-278, Zimmerman to Beatty et al., March 31, 1987
25. SAF-SUBS-00033, Employee Incident Investigations
26. PLP-201, Emergency Plan
27. EPM-400, Public Notification and Alerting System
28. ESR 95-00745, Deletion of "Fail indicator circuits for CT Beacons"
29. U.S. Department of Transportation, Federal Aviation Administration Advisory Circular AC 70/7460-1K
30. EMP-001, NPDES Permit Monitoring
31. National Pollutant Discharge Elimination System (NPDES) Permit Number NC0039586, North Carolina Department of Environment and Natural Resources, Division of Water Quality
32. PLP-105, Insurance Programs at Harris Nuclear Plant
33. NEI Position Statement: Guidance to Licensees on Complying with the Licensed Power Limit (NRC ADAMS Accession No. ML081750537)
34. NRC Memorandum titled "Discussion of 'Licensed Power Level'", Jordan, E.L., Division of Reactor Operations Inspection, Aug. 22, 1980
35. PLP-300, Process Control Program
36. AD-SY-ALL-0401, Fitness For Duty Program
37. CHE-NGGC-0057, Groundwater Protection Program
38. PLP-717, Equipment Important To Emergency Preparedness and ERO Response
39. REG-NGGC-0016, Regulatory Correspondence & LER Development
40. CR 580945, Oct. 3, 2012 Notice of Violation for EOF
41. FPP-013, Fire Protection-Minimum Requirements, Mitigating Actions and Surveillance Requirements
42. NEI 07-07, Ground Water Protection Initiative Voluntary Communications

## 3.0 DEFINITIONS/ABBREVIATIONS

1. Code of Federal Regulations - CFR
2. Equipment Inoperable Record - EIR
3. Emergency Response Facility Information System – ERFIS

### 3.0 DEFINITIONS/ABBREVIATIONS (continued)

4. Emergency Telecommunication System - ETS
5. Engineered Safety Feature - ESF
6. Licensee Event Report (LER) - A written report conforming to the format and content requirements of §50.73 and NUREG 1022.
7. National Oceanic and Aeronautic Administration - NOAA
8. Nuclear Regulatory Commission - NRC
9. Offsite Dose Calculation Manual - ODCM
10. Operating License - OL
11. Reactor Protection System - RPS
12. Safety Parameter Display System – SPDS
13. Solid State Protection System – SSPS
14. Emergency Notification System – ENS
15. Health Physics Network - HPN

### 4.0 RESPONSIBILITIES

1. The Shift Manager (SM):
  - a. Determining immediate NRC reportability, and
  - b. Making appropriate notifications.
2. The Supervisor - Licensing/Regulatory Programs:
  - a. Confirming the correctness of immediate reportability determinations.
  - b. Determining need for reports to other outside agencies.
  - c. Generating related reports as required.
3. The Superintendent - Security (or On-duty Security Supervisor):
  - a. Evaluating security related events in accordance with Reference 2.7
  - b. Informing the SM when a security related event must be reported to the NRC.

## 5.0 PROCEDURE

### 5.1 Immediate Reportability

1. The Shift Manager (SM) determines that an event requires immediate notification (per Attachment 1), or the Superintendent - Security (or On-duty Security Supervisor) informs the SM that an event requires notification to the NRC.
2. The SM prepares or assigns an individual to prepare the Reactor Plant Event Notification Worksheet (Attachment 7). Event Notification Worksheets for Safeguard/Security events are normally prepared by the Security Organization.
3. The Event Description narrative should be as short and concise as possible while conveying a clear description of the event. Attachment 5 may be used for developing one-hour notifications. Attachment 6 is a completed sample Worksheet.
4. The initial part of the Event Description should state:
  - a. The initial conditions of the plant or affected systems prior to event occurrence.
  - b. The actual event and direct cause, if known.
  - c. The current conditions of the plant or affected systems

Example - Plant was in Mode 1 at 50% reactor power and increasing load. At 1000, the reactor was manually tripped following a loss of both main feedwater pumps caused by feedwater regulating valve oscillations. The plant is stable in Mode 3 at normal temperature and pressure.

5. The balance of the Event Description should contain known specific details of precursor events which led to the reportable event, including the time of each event. Report only known facts; do not speculate.

Example - Feedwater regulating valve oscillations occurred when placing valves into automatic control. The A and B feedwater regulating valves had been successfully placed in automatic at 0950 and were controlling normally. When the C valve was placed in automatic at 0958, large oscillations were noted in the "C" valve followed by oscillations in the "A" and "B" valves. During the oscillation, the condensate booster pump tripped on low flow resulting in tripping of the feed pump. The reactor was manually tripped prior to receipt of a steam generator low water level signal.

## 5.1 Immediate Reportability (continued)

6. The Event Description should include a statement of the proper functioning or failure to function of safety systems and the safety significance of an event, if such a determination is possible. If possible, also include two or three compensatory actions taken to assure safety. The Shift Technical Advisor may assist the SM in making such a determination.

Example - All safety systems functioned as expected (or list equipment which failed to function as expected). "AFW automatically actuated to provide continued decay heat removal. Compensatory actions to assure safety include..."

7. The SM:
  - a. Reviews the Event Notification Worksheet.
  - b. Makes changes if necessary.
  - c. Approves it for release.
8. If time permits, the SM shall contact the General Manager - Harris Plant and the NRC Resident Inspector, and Licensing/Regulatory Programs and provide them the information contained in the notification.
9. The SM notifies the NRC by giving the approved Event Notification Worksheet to an available individual to telecopy the Worksheet to the NRC via the fax number (301-816-5151, may be confirmed via EPL-001).

NOTE: The NRC electronically records notifications.

10. When the approved Event Notification Worksheet has been sent, contact the NRC Operations Center Duty Officer by performing either of the following:
  - a. Pick up the receiver on the Emergency Telecommunication System Telephone and dial the NRC Operations Center Duty Officer via one of the numbers located on the phone label, in EPL-001, or on the Event Notification Worksheet.

OR

- b. If desired, use a normal telephone line to call the NRC Operations Center Duty Officer via one of the numbers located on the phone label, in EPL-001, or on the Event Notification Worksheet.

## 5.1 Immediate Reportability (continued)

11. When the Duty Officer responds:
  - a. Caller says, "THIS IS THE HARRIS NUCLEAR PLANT. THIS IS A NOTIFICATION OF (appropriate event classification from worksheet). HAVE YOU RECEIVED A TELECOPY OF THIS NOTIFICATION?"
  - b. If response is "No", have an available individual perform Step 5.1.9 again while continuing with this step.
  - c. The caller gives the information on the Event Notification Worksheet and repeats information when requested.
  - d. The notification should be read in its entirety.
  - e. The caller should respond to any requests for additional information that can be answered accurately, or if the caller is not able to accurately respond to the Duty Officer's requests, the caller shall write down the request and inform the Duty Officer that this information will be delivered in a follow up notification.
  - f. The caller should record questions asked, responses provided and if follow up is necessary on a separate sheet of paper and attach it to the Event Notification Worksheet.
12. If the Duty Officer has not received a telecopy after the notification has been completed, the caller shall request the Duty Officer to read back the notification and, if necessary, correct any errors.
13. The caller records the Event Notification Number, name of the individual contacted and time of contact on the Event Notification Worksheet.
14. The caller informs the Duty Officer that the caller is signing off. The Duty Officer may request to stay on and leave the line open. If this occurs, the caller should comply. A replacement caller may be necessary to stay on the phone.
15. If additional information is provided to the Duty Officer beyond the initial Event Notification Worksheet, notify the General Manager - Harris Plant, the NRC Resident Inspector, and Licensing/Regulatory Programs of the additional information provided.

## 5.1 Immediate Reportability (continued)

### 16. Follow up Notifications.

In addition to making the required initial notifications, during the course of the event IMMEDIATELY report:

- a. Any further degradation in the level of safety of the plant or other worsening plant conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made.
  - b. The results of ensuing evaluations or assessments of plant conditions.
  - c. The effectiveness of response or protective measures taken.
  - d. Information related to plant behavior that is not understood.
17. Notify Site Communications, or if there is no response, Corporate Communications Media Line of this Reactor Plant Event Notification Worksheet. If after hours leave a message for the on call person. (See EPL-001 for contact numbers).
18. Event Notification Worksheets which have been designated "Safeguards Information" in accordance with the provision of References 2.1 and 2.7 shall be returned to Security after the notification has been made with no further dissemination.
19. The Event Notification Worksheet should be sent to Licensing/Regulatory Programs; this does not apply to "Security" Notifications.
20. Licensing/Regulatory Programs will also evaluate if follow up notification is required for clarification, retraction or other. The below criteria should be considered:
- a. Clarity for public docket (not extremely technical)
  - b. Minimize inflammatory jargon – be precise and factual
  - c. Provides perspective and mitigating conditions
21. Licensing/Regulatory Programs will initiate ARs to track generation of follow up reports.
22. Licensing/Regulatory Programs will forward a copy of the Event Notification Worksheet to the ICES Coordinator within five working days for entry into the ICES database.

## 5.2 Other Reports

Licensing/Regulatory Programs shall perform the following:

1. Reportability determinations for Steps 2 through 6 below shall be completed expeditiously. Reports should be confirmed as tracked by an AR.
2. Evaluate the condition for reportability as a Special Report under Technical Specification Section 6.9.2 per Attachment 2.
3. Evaluate the condition for reportability as an LER using Reference 2.9. Development of the LER is per Reference 2.6. As indicated in §50.73(a)(1), invalid actuations, other than Reactor Protection System actuations when the reactor is critical, may be reported by telephone notification to the NRC Operations Center within 60 days after discovery of the event instead of a written LER.

### CAUTION

Evaluation for §21 Reportability may not be substituted for reporting pursuant to §50.73. Actual reporting per §21 may be performed using an LER per §50.73 and Ref. 2.6.

4. Evaluate the condition for potential reportability under §21 per Reference 2.4.
5. Evaluate the condition for reportability via a Routine Report per Attachment 3.
6. Evaluate the condition for reportability via an Event Report (other than LER) per Attachment 4.

## 6.0 DIAGRAMS/ATTACHMENTS

Attachment 1 - Immediate Notification Requirements

Attachment 2 - Technical Specification and ODCM Special Reports

Attachment 3 - Routine Reports

Attachment 4 - Event Reports (Other than LERs)

Attachment 5 - One Hour Notifications - Sample Wording

Attachment 6 – SAMPLE Reactor Plant Event Notification Worksheet

Attachment 7 - Reactor Plant Event Notification Worksheet

Attachment 8 - Reportability Evaluation (REW) Worksheet



**IMMEDIATE NOTIFICATION REQUIREMENTS**

The following tables are divided into sections based upon the functional areas for reporting the respective events as follows:

I. Operational Events (50.72 and 50.73 reports)

Event or Condition	ENS notification Within 1 hour	ENS notification within 4 hours	ENS notification within 8 hours	ENS notification Within 24 hours	60-day LER
Declaration of any Emergency Classes specified in the Emergency Plan	50.72(a)(1)(i)				
Deviation from Tech Specs Authorized under §50.54(x)	Deviation from TS authorized by 50.54(x) [50.72(b)(1)]				50.73(a)(2)(i)(C)
Plant shutdown (S/D) required by Tech Specs		Initiation of S/D required by Tech Specs [50.72(b)(2)(i)]			Completion of a S/D required by Tech Specs [50.73(a)(2)(i)(A)]
Operation or Condition Prohibited by Tech Specs (Note 10)					50.73(a)(2)(i)(B)
Degraded or Unanalyzed Condition			50.72(b)(3)(ii)		50.73(a)(2)(ii)
External Threat or Hampering					50.73(a)(2)(iii)
System Actuations		Valid ECCS discharges into Reactor Coolant system [50.72(b)(2)(iv)(A)]  RPS Actuations when Reactor is critical [50.72(b)(2)(iv)(B)]	Valid actuation of NRC listed systems (50.72(b)(3)(iv)(A)) - RPS including reactor scram and trip - Containment Isolation signals affecting CIVs in more than one system or multiple MSIVs - ECCS - AFW - Containment heat and depressurization systems - Emergency AC electrical systems		50.73(a)(2)(iv)(A)
Event or Condition that could have prevented fulfillment of a safety function			50.72(b)(3)(v)  50.72(b)(3)(vi)		50.73(a)(2)(v)  50.73(a)(2)(vi)
Common Cause Inoperability of independent trains or channels					50.73(a)(2)(vii)
Radioactive Releases (Notes 3 & 8)					Airborne radioactive release [50.73(a)(2)(viii)(A)]  Liquid Effluent release [50.73(a)(2)(viii)(B)]

(continued on next page)

IMMEDIATE NOTIFICATION REQUIREMENTS

Event or Condition	ENS notification Within 1 hour	ENS notification within 4 hours	ENS notification within 8 hours	ENS notification Within 24 hours	60-day LER
Loss of Emergency Preparedness Capabilities (Note 7)			50.72(b)(3)(xiii)		
Single Cause that could have prevented fulfillment of the Safety Functions of trains or channels in different systems					50.73(a)(2)(ix)(A) 50.73(a)(2)(ix)(B)
News Release or Notifications of other Government Agency (Notes 9, 12, & 13)		50.72(b)(2)(xi)			
Transport of a Contaminated Person Offsite			50.72(b)(3)(xii)		
Internal Threat or Hampering					50.73(a)(2)(x)
Safety Limit Violation	TS 6.7.1				
Violation of Operating License Condition (Note 10)				OL Section 2.G	10 CFR 50.73
Fatality or Hospitalization (Note 13)		50.72(b)(2)(xi)			

IMMEDIATE NOTIFICATION REQUIREMENTSII. RADIOLOGICAL EVENTS

Event or Condition	Notification Within 1 hour	Notification Within 4 hour	Notification Within 24 hours	Follow-up Report
Radioactive Shipments (Note 1)	Note 1a §20.1906(d)(1) §71.87(i) Note 1b §20.1906(d)(2) §71.47 Note 1c §73.71(b)(2) §73 Appendix G §73.71(a)(5)			
Loss or Theft of Licensed Material/Radiological Sabotage (Note 2)	Note 2a §20.2201(a)(1)(i) §20.2201(d) Note 2b §74.11 §150.16(b) §73.71(a) Note 2c §73.71(a) Note 2d §30.55(c) Note 2e §40.64(c) §150.17(c)			Note 2a 30 Day Note 2b 60 Day or 15 Day Note 2c None Note 2d 15 Day Note 2e 15 Day
Exposure to Individuals or Releases (Note 3)	Note 3a §20.2202(a)(1) Note 3b §20.2202(a)(2) §50.72(b)(2)(iv)			Note 3a LER Note 3b LER
Accidental Criticality (Note 4)	Note 4 §70.52(a)			
Radiological Exposure/Release (Note 8)			Note 8 §20.2202(b)	Note 8 30 Day
Unusual or Important Environmental Events (Note 9)		OL App. B, 4.1 PLP-500 50.72 (see Note 12)	Note 9d PLP-500 Note 9f PLP-500 Otherwise ESS determines	Note 9d 30 Day

III. SECURITY EVENTS/FITNESS FOR DUTY

Event or Condition	Notification Within 1 hour	Notification Within 24 hours	Follow-up Report
Security Events per SEC-NGGC-2147. (Notes 5 and 11)	Note 5 §75.7 §75.6 §75.7 Note 11a §26.719 Note 11b §26.719 Note 11c App. A to Part 26 B.2.8(e)(5)		Note 5 None Note 11a None Note 11b None Note 11c Non-docketed correspondence
FFD - NRC Employee (Note 6)	Note 6 §26.27(d)		
International Atomic Energy Agency (IAEA) Representative (Note 5)	Note 5 §75.7 §75.6 §75.7		
FFD Program Events (Note 11)		Note 11a §26.719 Note 11b §26.719 Note 11c App. A to Part 26 B.2.8(e)(5)	Note 11a None Note 11b None Note 11c Non-docketed correspondence

IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
1. <u>RADIOACTIVE SHIPMENTS</u>		
a) Removable contamination from a received package containing radioactive material in excess of the limits specified in §71.87(i). The involved RP Supervisor shall immediately notify the final delivery carrier.	§20.1906(d)(1) §71.87(i)	
b) Radiation levels from a received package of radioactive material in excess of the limits specified in §71.47. The involved RP Supervisor shall immediately notify the final delivery carrier.	§20.1906(d)(2) §71.47	
c) Security related events with respect to the transport of special nuclear material are handled via SEC-NGGC-2147. Security threats or theft of licensed material shall be reported to site Security personnel.	§73.71(b)(2) §73 Appendix G §73.71(a)(5)	
2. <u>LOSS OR THEFT OF LICENSED MATERIAL/ RADIOLOGICAL SABOTAGE</u>		
<b>Note:</b> Theft and Sabotage are Security Events handled by SEC-NGGC-2147.		
Any loss or theft or attempted theft of:		
a) Licensed material in an aggregate quantity equal to or greater than 1,000 times the quantity specified in Appendix C to §20.1000-§20.2401 under such circumstances that it appears that an exposure could result to persons in unrestricted areas,	§20.2201(a)(1)(i) §20.2201(d)	30-Day Written Report required per §20.2201(b)
b) Any Special Nuclear Material or spent fuel,	(theft – See SEC-NGGC-2147) §74.11 §150.16(b) §73.71(a)	60-Day Written Report required per §73.71(a) or (b) – See SEC-NGGC-2147  15-Day Written Report may be required per §150
c) Recovery of or accounting for loss of any shipment of Special Nuclear Material or spent fuel	§73.71(a)	
d) Greater than 10 curies of tritium at any one time or 100 curies in one calendar year, or	§30.55(c)	15-Day Written Report required
e) More than 15 pounds of uranium or thorium at any one time or more than 150 pounds in one calendar year.	§40.64(c) §150.17(c)	15-Day Written Report required

IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
3. <u>EXPOSURE TO INDIVIDUALS OR RELEASES</u> Any event involving by-product, source or Special Nuclear Material that may have caused or threatens to cause:		
a) An individual to receive:	§20.2202(a)(1)	LER required by §50.73(a)(2)(viii), (a)(2)(ix) and §20.2203
1) A total effective dose equivalent of $\geq 25$ Rem		
2) An eye dose equivalent of $\geq 75$ Rem		
3) A shallow-dose equivalent to the skin or extremities of $\geq 250$ Rad		
4) An intake of 5 ALI in 24 hours		
b) Release of radioactive material in excess of Technical Specification Instantaneous Limits shall be declared an emergency in accordance with PEP-310. The reporting requirements of PEP-310 shall take precedence over the less restrictive times for reporting requirements of §20.2202 and §50.72(b)(2) for releases.	§20.2202(a)(2) §50.72(b)(2)(iv)	LER required by §50.73(a)(2)(viii), (a)(2)(ix) and §20.2203
4. <u>ACCIDENTAL CRITICALITY</u> Accidental criticality of special nuclear material.	§70.52(a)	None
5. <u>SECURITY EVENTS</u> <b>Note:</b> Reporting of Security Events (Including Safeguards and Fitness-For-Duty Events) is per SEC-NGGC-2147. Notify site Security personnel.		
<u>INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) REPRESENTATIVE</u> Individual claiming to be an IAEA representative who is not accompanied by an NRC employee and has no prior confirmation of credentials in writing.  Notification is by telephone to Director, Office of Nuclear Reactor Regulation	§75.7  §75.6 and §75.7	None
6. <u>FITNESS FOR DUTY - NRC EMPLOYEE</u> Notification of NRC employee's unfitness for duty. Per §26.27(d), the appropriate Regional Administrator must be notified immediately by telephone. During other than normal working hours, the NRC Operations Center must be notified.	§26.27(d)	None

IMMEDIATE NOTIFICATION REQUIREMENTS

**NOTE :** PLP-717, Equipment Important To Emergency Preparedness and ERO Response, Attachment 2, Essential ERO Equipment and Compensatory Measures, contains guidance on determining immediate reportability. Other Technical Specification and ODCM reporting requirements may apply and are located in Attachment 2 of this (AP-617) procedure. **[CR 580945 CAPR]**

## NOTES

<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
7. <u>LOSS OF EMERGENCY RESPONSE CAPABILITY</u>	§50.72(b)(3)(xiii)	None
Any event that results in a major loss of assessment capability, offsite response capability, or communications capability (e.g., significant portion of Control Room indication, Emergency Telecommunication System, or offsite notification system).		
This may include loss of any of the following:		
<ul style="list-style-type: none"> <li>a) Emergency Response Facilities</li> <li>b) Radiation Monitors and Plant Equipment used in identification of Emergency Action Levels</li> <li>c) Computers and Telecommunications including:               <ul style="list-style-type: none"> <li>1. Selective Signaling</li> <li>2. NRC Emergency Telecommunication System</li> <li>3. Emergency Response Data System [In the event of a failure of the NRC supplied onsite ERDS modem, the NRC should be notified via phone number 301-816-5100 with:                   <ul style="list-style-type: none"> <li>1) the name of the contact at location of failure,</li> <li>2) phone number of contact,</li> <li>3) location of contact, and</li> <li>4) any other information that would expedite repair]</li> </ul> </li> <li>4. PABX telephone system</li> <li>5. Plant PA System</li> <li>6. Corporate Telephone Communication System (Voicenet) and the Commercial Telephone System</li> <li>7. Satellite Phones</li> <li>8. Sound Powered Phone System</li> <li>9. HNP Emergency Notification (Everbridge) System</li> <li>10. Emergency Response Facility Information System (ERFIS)</li> <li>11. Safety Parameter Display System (SPDS)</li> <li>12. Dose Assessment Software (RASCAL)</li> </ul> </li> <li>d) Sirens and Tone Alert Radios</li> </ul>		

Use PLP-717, Attachment 2 in determination of immediate reportability.

IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
8. <u>RADIOLOGICAL EXPOSURE/RELEASE</u>  Any event involving licensed material possessed by the licensee that may have caused or threatens to cause an individual to receive, in a period of 24 hours: a) A total effective dose equivalent > 5 Rem; or  b) An eye dose equivalent > 15 Rem; or  c) A shallow-dose equivalent to the skin or extremities > 50 Rem; or  d) An intake of > 1 ALI.	§20.2202(b)	30-Day Written Report Required per §20.2203
9. <u>UNUSUAL OR IMPORTANT ENVIRONMENTAL EVENTS</u>  Any event that indicates or could result in significant environmental impact causally related to plant operation. Examples are:  a) Excessive bird impaction  b) Onsite plant or animal disease outbreak  c) Mortality or unusual occurrence of Endangered Species  d) Fish Kills  e) Increase in nuisance organisms or conditions  f) Unanticipated or emergency discharge of waste water or chemical substances  g) Damage to vegetation resulting from cooling tower drift deposition  h) Station outage or failure of any cooling water intake or service water system components due to bio-fouling by Corbicula (Asiatic Clam)	Env. Prot. Plan, (Operating License Appendix B) Section 4.1, and PLP-500  ESS determines threshold  ESS determines threshold  ESS determines threshold  Local and State Notifications defined in PLP-500  ESS determines threshold  Local and State Notifications defined in PLP-500  ESS determines threshold  ESS determines threshold	Local, State & Federal Agency Notifications defined in PLP-500 require NRC notification within 4 hours per 50.72 (See Note 12) If event is significant and not reportable to a Local, State, or Federal agency, a 24 hour NRC notification may still be required per Env. Prot. Plan.  30-Day Follow-up written report required per Env. Prot. Plan Subsection 5.4.2

IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
10. <u>VIOLATION OF OPERATING LICENSE CONDITIONS</u>		
a) Any event resulting in the plant operating in a manner which violates the SHNPP Facility Operating License, Section 2.C:	OL Section 2.G	60-day LER required per 10 CFR 50.73 and 10 CFR 50.4(e)
(1) Intentionally raising power above 2948 MWt (100%) for any period of time.	NEI Position Statement: Guidance to Licensees on	
(2) Failure to reduce thermal power to less than or equal to 2948 MWt when the 2-hour average exceeds 2948 MWt.	Complying with the Licensed Power Limit (NRC ADAMS Accession No. ML081750537)	
(3) Permitting the core thermal power 8-hour average to exceed 2948 MWt.		
(4) Failure to take prudent action prior to a pre-planned evolution that could cause a power increase to exceed 2948 MWt (example: Scheduled securing of a Heater Drain Pump without first reducing power to accommodate the expected power increase. A short term increase in transient power above 2948 MWt following a boron dilution is not included if actions to reduce power are taken in a reasonable time following the dilution reactivity transient).		
Note: No actions are allowed that would intentionally raise core thermal power above 2948 MWt for any period of time. Small, short-term fluctuations in power that are not under the direct control of a license reactor operator or result from actions taken for a different purpose (example: temperature control) are not considered intentional.		
b) A failure to comply with the following administrative requirements (See Note 1):	OL Section 2.G	60-day LER required per 10 CFR 50.73 and 10 CFR 50.4(e)
1) Deviation from the requirements of the Environmental Protection Plan;	OL Section 2.C.2	
2) Failure to comply with anti-trust conditions of Appendix C to OL;	OL Section 2.C.3	
3) Failure to comply with new fuel storage requirements.	OL Section 2.C.10	



IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

	<u>NOTIFICATION</u>	<u>REFERENCE</u>	<u>WRITTEN FOLLOW-UP</u>
11.	<u>FITNESS FOR DUTY PROGRAM EVENTS</u>		
<b>Note:</b>	Reporting of Security Events (Including Safeguards and Fitness-For-Duty Events) is per SEC-NGGC-2147. Notify site Security personnel.		
a)	Sale, use, or possession of illegal drugs within the protected area.	§26.719	None
b)	Any acts by any person licensed under §55, or by any supervisory personnel assigned to perform duties within the scope of §26	§26.719	None
	1) Involving the sale, use, or possession of a controlled substance,		
	2) Resulting in a confirmed positive test on such persons,		
	3) Involving use of alcohol within the protected area, or		
	4) Resulting in a determination of unfitness for scheduled work due to the consumption of alcohol.		
c)	False positive error on a blind performance test specimen when error is determined to be administrative.	App. A to Part 26 B.2.8(e)(5) Reference 2.35	Non-docketed correspondence to NRC FFD coordinator

IMMEDIATE NOTIFICATION REQUIREMENTS

## NOTES

12. OFF SITE NOTIFICATION HAS BEEN OR WILL BE MADE

Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

§50.72(b)(2)(xi)  
Reference 2.42

For Tritium Spills

If a liquid spill or leak to the environment exceeding the following criterion has entered or has the potential to enter groundwater:

- Spill or leak that exceeds or may have exceeded 100 gallons from a source containing licensed material, **OR**
- Any spill or leak, regardless of volume or activity, deemed by the licensee to warrant voluntary communication,

Then, make informal notification to state/local offices before the end of the next business day. Provide a copy of the information to NEI via email at GW\_Notice@nei.org. Notification to the NRC should begin prior to notifying the first state/local official or the press, if possible, but no later than four hours after commencing communications with state/local officials or the press. The approval by the Site Vice president (or designee) of a written communication plan and a completed communication message for state/local official as part of the NEI 07-07 Ground Water Protection Initiative, or a formal press release is the initiating event for an NRC Event Notification under 10 CFR 50.72 (b)(2)(xi).

For Oil Spills

Oil spills greater than 25 gallons on land, oil spills on navigable waters or shorelines within 100 feet of the water, or oil spills that require notification to the National Response Center as determined by PLP-500.)

13. FATALITY OR HOSPITALIZATION

- a) See SAF-SUBS-00033 and contact the Site Safety Representative SAF-SUBS-00033
- b) OSHA must be notified within 8 hours of:
  - 1) Workplace Fatality
  - 2) Workplace incident with 3 or more personnel hospitalized
- c) North Carolina requires a call to the Dept. of Labor, Elevator Division, within 24 hours of an injury or fatality related to elevators.

See Note 12 for NRC required 4-hour notification

TECHNICAL SPECIFICATION AND ODCM SPECIAL REPORTS

A Special Report may be identified from CRs, EIRs, declared emergencies or as the result of equipment inspections. The following steps shall be performed when it appears that a Special Report is required.

1. The Supervisor - Licensing/Regulatory Programs shall be notified of the event if this has not already occurred via a CR or EIR.
2. The Supervisor - Licensing/Regulatory Programs shall inform the General Manager - Harris Plant and applicable unit manager(s) of the need for a special report.
3. The Supervisor - Licensing/Regulatory Programs shall assign action items to the responsible units per Reference 2.12 to provide input for the required reports.
4. Completed reports shall be routed for approval per Reference 2.2.
5. A copy of the completed special report shall be provided to the Secretary - PNSC for review at a subsequent PNSC meeting.
6. The special report shall be transmitted as a QA Record.

REPORTING REQUIREMENTS

<u>SUBJECT</u>	<u>TS [ODCM] REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Leak or boron deposit found during inspection	O.L. NRC Order dated 2/11/03	HESS	60 days after returning the plant to operation
Moderator Temperature Coefficient more positive than specified limits	3.1.1.3	HESS	10 Days
Remote Shutdown Monitoring Instrument inoperable for greater than 60 days	3.3.3.5.a	Maint	14 Days
Radiation Monitors, Pressurizer Safety Valve Position Indicators or Subcooling Margin Monitors inoperable for greater than 7 days. (Also see OWP-ERFIS)	3.3.3.6	Maint or IT (and Engineering for Rad. Monitors)	14 Days
PORV/RCS Vents used to mitigate RCS pressure transient at low temperature	3.4.9.4	Operations	30 Days
An ECCS actuation and injection of water into the Reactor Coolant System (See Note 2)	3.5.2, 3.5.3	Operations	90 Days (See Note 3)
Change to Sample Plan Used for Snubber Functional Testing	3.7.8 PLP-106 Att. 4	HESS	Before Implementation

TECHNICAL SPECIFICATION AND ODCM SPECIAL REPORTS

<u>SUBJECT</u>	<u>TS [ODCM] REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Radioactive Material in Liquid Holdup Tanks exceeding limits	3.11.1.4	Environmental and Chemistry	Include in Annual Radioactive Effluent Release Report
Use of non-preferred Incore Detectors when evaluating QPTR	4.2.4.2 (Bases)	HESS	30 Days
Abnormal degradation of Containment Vessel structure detected during required inspections	4.6.1.6.2	HESS	15 Days
Sealed Source leakage test results	4.7.9.3	Radiation Protection	Annually if removable contamination greater than 0.005 µCi detected
Greater than 30 total rods or 10 rods per fuel assembly replaced with filler rods or vacancies during any single refueling.	5.3.1	HESS	30 Days Following Start-up
Safety Limit Violation.	6.7.1	Operations	14 Days
Startup Report following:	6.9.1.1	HESS	90 Days Following Resumption of Commercial Operations or Completion of Startup Test Program, or 9 months after Initial Criticality, whichever is earliest. Supplementary reports required each 3 months.
1) License amendment to increase power level.			
2) Installation of fuel of different design or manufacturer.			
3) Modifications that significantly alter the nuclear, thermal or hydraulic characteristics of the unit.			
Change to Core Operating Limits Report	6.9.1.6.4	HESS	Upon issuance; must be submitted no later than the date of implementation.
Steam Generator Tube Inspection Report	6.9.1.7	HESS	Within 180 days after initial entry into Hot Shutdown following completion of an inspection performed in accordance with TS 6.8.4.I.
Special Reports	6.9.2	As Assigned	As Requested
Unreviewed Environmental Question	T.S. Appendix B EPP Section 3.1	Environmental and Chemistry	Before implementation of change

TECHNICAL SPECIFICATION AND ODCM SPECIAL REPORTS

<u>SUBJECT</u>	<u>TS [ODCM] REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Proposed changes/renewal application for NPDES Permit	T.S. Appendix B EPP Section 3.2	Environmental and Chemistry	At time of submittal to the permitting agency
Changes to/renewal of NPDES Permit or State Certification	T.S. Appendix B EPP Section 3.2	Environmental and Chemistry	30 Days after change/renewal
Stay of NPDES Permit or State Certification	T.S. Appendix B EPP Section 3.2	Environmental and Chemistry	30 Days following stay
Unusual or Important Environmental Events	T.S. Appendix B EPP Sections 4.1 and 5.4.2	Environmental and Chemistry	30 Days after event. (Note 4) See also 24 hour notifications
Seismic Monitoring Instrument inoperable for greater than 30 days	PLP-114	Maint	10 Days
Actuation of Seismic Monitoring Instruments during seismic event greater than or equal to 0.01g (See Note 1)	PLP-114	HESS	14 Days
Meteorological Monitoring Instrument inoperable for greater than 7 days	PLP-114	Maint	10 Days
Metal Impact Monitoring System Channel(s) inoperable for greater than 30 days.	PLP-114	Maint	10 Days
Explosive gas monitoring instrument inoperable for greater than 30 days.	PLP-114	Maint	30 Days (Note: No time specified in PLP-114)
Area Temperatures exceeding PLP-114, Attachment 4 limits by more than 30°F, or for greater than 8 hours	PLP-114	HESS & Operations	30 Days
A calculated dose to a member of the public from the release of radioactive materials in liquid effluents to an unrestricted area exceeding limits	[3.11.1.2]	Environmental and Chemistry	30 Days
Radioactive liquid waste being discharged without treatment and in excess of limits and any portion of the liquid radwaste treatment system not in operation	[3.11.1.3]	Environmental and Chemistry & Operations	30 Days
Calculated air dose in gaseous effluent exceeding limits in areas at or beyond site boundary	[3.11.2.2]	Environmental and Chemistry	30 Days

TECHNICAL SPECIFICATION AND ODCM SPECIAL REPORTS

<u>SUBJECT</u>	<u>TS [ODCM] REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Calculated dose to a member of the public from a release of gaseous effluents containing Iodine 131, Iodine 133, tritium and radionuclides in particulate form with half-lives greater than eight days exceeding the limits.	[3.11.2.3]	Environmental and Chemistry	30 Days
Untreated radioactive gaseous waste discharged in excess of limits and any portion of the gaseous radwaste treatment system not in operation.	[3.11.2.4]	Environmental and Chemistry & Operations	30 Days
Calculated dose from release of radioactive material in liquid or gaseous effluents, to a member of the public in excess of limits.	[3.11.4]	Environmental and Chemistry	30 Days
Level of radioactivity, as a result of plant effluent in a specified location, exceeding the reporting levels of ODCM O.R. Table 3.12-2 when averaged over any calendar quarter.	[3.12.1]	Environmental and Chemistry	30 Days

NOTES:

1. Refer to the following TS Surveillance Requirements following any seismic event: 4.3.3.3.2 and 4.4.5.3.c.2
2. Refer to the following TS Surveillance Requirements following any safety injection actuation: 4.4.5.3.c.1, 4.4.5.3.c.3, 4.4.5.3.c.4, 4.4.6.2.2.d, and 4.5.2.g.1
3. LER also required (see Reference 2.6). The information required by the Special Report exceeds the requirements of the LER.
4. Events requiring reports to other government agencies shall be reported per those requirements in lieu of the Environmental Protection Plan. A copy of the report shall be sent to the NRC.

ROUTINE REPORTS

The SHNPP Technical Specifications, ODCM, §20 and §50 require that reports be provided to the NRC at routine intervals. The following steps apply to routine reports:

1. The Supervisor - Licensing/Regulatory Programs shall establish action items per Reference 2.12 for these reports.
2. As applicable, the responsible unit and Licensing/Regulatory Programs shall establish standard formats for a routine report.
3. Routine reports shall be routed for approval per Reference 2.2.
4. Routine reports shall be transmitted as a QA record.

NOTE: TS = Technical Specification  
OR = ODCM Operational Requirement

<u>SUBJECT</u>	<u>REGULATORY REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Annual Operating Report	T.S. 6.9.1.2	Lic / Reg Prog	Before 3/1
Annual Radiological Environmental Operating Report	T.S. 6.9.1.3 O.R. 3.12.1 O.R. Table 3.12-1 O.R. Table 4.12-1 O.R. 4.12.2 O.R. 3.12.3 O.R. 4.12.3	Environmental and Chemistry	Before 5/1
Annual Environmental Operating Report	Env. Prot. Plan 5.4.1	Environmental and Chemistry	Before 5/1
Annual Radioactive Effluent Release Report	T.S. 3.11.1.4 T.S. 6.9.1.4 T.S. 6.14.c ODCM App. F.3 O.R. Table 4.11-1 O.R. 3.12.1 O.R. Table 3.12-1 O.R. 3.12.2 O.R. 3.3.3.10 O.R. 3.3.3.11 §50.36a(a)(2)	Environmental and Chemistry	Before 5/1

ROUTINE REPORTS

**NOTE 1:** This report does not need to be routed for approval per Reference 2.2 since it is not correspondence to a regulatory agency.

<u>SUBJECT</u>	<u>REGULATORY REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Consolidated Data Entry (CDE) Report	FSAR Section 1.8 (Reg. Guide 1.16)	Lic / Reg Prog	By the 21 <sup>st</sup> day of each quarter
Individual Worker Radiation Dose Report (To employee) (See Note 1 above)	§19.13(b)	ESS Rad Services (Dosimetry)	Annually
Annual Exposure Report for Individual Monitoring	§20.2206(b)	Lic / Reg Prog	Annually, by April 30th
Semiannual Fitness for Duty Program Performance Data Analysis Report	§26.71(d)	Nuclear Operations	Within 60 days of the end of each 6-month reporting period (Jan-June and July-Dec)
ECCS evaluation model changes or errors where sum of absolute magnitudes of changes results in PCT change $\leq 50^{\circ}\text{F}$	§50.46(a)(3)	NFM&SA	Annually
Changes to QA Program which do not reduce commitments	§50.54(a)(3)	NOS	In accordance with §50.71(e)
Insurance and Financial Security Annual Report	§50.54(w)(3)	Nuclear Operations	Annually, on April 1
In-service Inspection Summary	§50.55a (ASME Section XI IWA-6230)	HESS	90 days after completion of inspections
FSAR Update, facility changes, tests, and experiments conducted without prior approval	§50.59(b) §50.71(e)	Lic / Reg Prog	Six months following each refueling outage. Interval not to exceed 24 months between updates



ROUTINE REPORTS

<u>SUBJECT</u>	<u>REGULATORY REFERENCE</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Annual Financial Report, including certified financial statements	§50.71(b)	Nuclear Operations	Upon issuance of the report (Normally April 30)
Status of Decommissioning Funding	§50.75(f)	Nuclear Operations	March 31, 1999 and at least once every two years thereafter (frequency becomes annual when the plant is within 5 years of projected end of operation or when the plant is involved in mergers or acquisitions).
Simulator - Report of uncorrected performance test failures and schedule for correction	§55.45(b)(5)(ii)	Training	Every 4 years on anniversary of certification
Material Status Reports (old Forms DOE/NRC-742 and 742(c))	§74.13(a)(1) §70.53(a)(1) §40.64(b) §150.17(b)	HESS	30 days after March 31 and September 30 NOTE: 40.64 and 150.17 require statement of foreign origin source material.
QA Program for Transportation of Radioactive Material Packages	§71.101	Nuclear Operations	Every 5 Years. Docket 71-0345
Financial Protection - Guarantee of payment of deferred premiums	§140.21	Nuclear Operations	Annually, on anniversary date on which indemnity agreement is effective (Normally April 30)

EVENT REPORTS (Other than LERs)

Title 10 of the Code of Federal Regulations and other requirements require that reports be provided to the NRC and other regulatory agencies based on the occurrence of specific events. The following instructions apply to these events (unless otherwise noted):

1. The responsible unit shall determine if written procedures should be prepared to implement the reporting requirement.
2. When written reports are required to be submitted to the NRC, the General Manager - Harris Plant and the Supervisor – Licensing/Regulatory Programs shall be informed.
3. Completed reports shall be routed for approval per Reference 2.2.
4. The event report shall be transmitted as a QA Record.

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Report to former radiation worker of worker's exposure to radiation (Note 7)	19.13(c)	Radiation Protection	Upon request; within 30 days from request or 30 days after exposure has been determined
Radiation Exposure Data to Individual-Overexposure (Note 7)	19.13(d)	Radiation Protection	Upon overexposure (Note 5)
Radiation Exposure Data to Terminating Employees (Note 7)	19.13(e)	ESS Rad Services (Dosimetry)	Upon request at termination
Bioassay Services to Determine Exposure	20.1204(c)	Radiation Protection	As requested by NRC
Report of planned special exposure	20.1206(f) 20.2204	Radiation Protection	Within 30 days following planned special exposure
Report to individual of planned special exposure (Note 7)	20.1206(g)	Radiation Protection	Within 30 days from planned special exposure
Respiratory Protection Program Equipment not certified by NIOSH/MSA	20.1703(d)	Radiation Protection	30 Days prior to equipment usage
Theft or loss of licensed material greater than 10 times Appendix C quantities	20.2201(a)(1)(ii) 20.2201(b)	Radiation Protection Radiation Protection	30 Days (by ETS) 30 Days (written follow-up)
Additional information on theft or loss	20.2201(d)	Radiation Protection	30 Days
AP-617	Rev. 35	Page 29 of 49	

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Reports of Overexposures/ Excessive Levels and Concentrations	20.2203 40CFR190 ODCM O.R. 3.11.4	Radiation Protection	30 Days (Note 5)
Missing Waste Shipment Trace Investigation	20 App. G, Sec. III.E	Radiation Protection	2 weeks after completion of Investigation
Interim evaluation report of identified deviation or failure to comply (when evaluation cannot be completed within 60 days of discovery)	21.21(a)(2)	Lic / Reg Prog	Within 60 days of discovery
Failure to Comply or Existence of a Defect (Refer to AP-616)	21.21(c)(1) & (d)(3)	Lic / Reg Prog	2 days, written follow-up within 30 days
FFD testing more conservative than §26 requirements	26 App. A, Sec. A.1.1(2)	Human Res	Within 60 days of implementing change
FFD - Unsatisfactory performance testing of a certified laboratory	26 App. A, Sec. B.2.8 (e)(4)	Human Res	30 days
Reports required as condition of Parts 30-35 licenses (By-product Material)	30.34(e)(4)	Radiation Protection	As specified in license
Renewal or non-renewal of Parts 30-35 licenses	30.36	Radiation Protection	30 Days prior to expiration
Notification of byproduct (Part 30) or SNM (Part 70) license expiration or cessation of principal activities	30.36(d) 70.38(d)	Radiation Protection	Within 60 days
Amendment to Part 30-35 License	30.38	Radiation Protection	As Required
Failure of or damage to shielding, on-off mechanism or indicator; detection of removable radioactive material	31.5(c)(5)	Radiation Protection	5 Days (5 Day report required per Byproduct Materials License in lieu of 30 day requirement)
Transfer of device to specific or general licensee	31.5(c)(8) 31.5(c)(9)(i)	Radiation Protection	30 Days
Leaking of sealed radiographic source	34.27(d)	Licensed Radiographer	5 Days

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Incidents involving radiographic equipment:	34.101(a)	Licensed Radiographer	Within 30 days of occurrence
<ul style="list-style-type: none"> <li>unintentional disconnection of the source assembly from the control cable.</li> <li>inability to retract the source assembly to its fully shielded position and secure it in this position.</li> <li>failure of any component (critical to safe operation of the device) to properly perform its intended function.</li> </ul>			
Licensee identified information which has significant implications for public health and safety or the common defense and security	50.9(b) 30.9(b) 40.9(b) 70.9(b) 71.7(b)	Lic / Reg Prog	As necessary (Note 4); §70.9(b) specifies within two working days of identifying the information
Change to the LOCA analysis which results in a change to the Peak Clad Temperature	50.46(a)(3)	NFM&SA	If ≤50°F, then include in the annual report. If >50°F, then 30 days.
Changes in QA Program which reduce commitments	50.54(a)	NOS	Before implementation
Request for Written Information	50.54(f)	As Specified	As Requested
Changes to Operator Requalification Program which decreases scope, time allotted or frequency of conducting portions of the program	50.54(i-1)	Training	Before Implementation
Changes in Security Plan, Guard Training and Qualification Plan, or Safeguards Contingency Plan made without prior approval	50.54(p) 70.32(g)	Security	Before implementation if changes reduce effectiveness of plan; otherwise, within two months after change. <b>NOTE:</b> §70.32(g) specifies within 60 days for safeguards contingency plan.

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Changes in emergency plan or implementing procedures made without prior approval	50.54(q) 50 App E(V)	Emerg Prep	Before implementation if changes reduce effectiveness of plan, otherwise within 30 days after change
Notification of safe and stable condition of reactor and no significant risk to public health and safety	50.54(w)(4)(ii)	Emerg Prep	After attaining safe and stable condition (following an accident with costs >\$100 million)
Cleanup plan for decontaminating reactor to permit resumption of operation or commencement of decommissioning	50.54(w)(4)(ii)	Emerg Prep	Within 30 days of notification that reactor is in safe and stable condition (following an accident with costs >\$100 million)
Plan for management of <u>and</u> notification of significant change in the proposed waste management program (of irradiated fuel at the reactor, after expiration of license and until transferred to DOE)	50.54(bb)	Lic / Reg Prog	Within 2 years after cessation of operation or 5 years before expiration of OL <u>and</u> after making change in program
Filing of petition for bankruptcy (Title 11 of US Code)	50.54(cc)(1) 30.34(h) 40.41(f) 70.32(a)(9)(i)	Lic / Reg Prog	Immediately following filing
Notification that conformance to a certain Code required by Section XI of the ASME B&PV Code and Addenda for inservice test is impractical	50.55a(f)(5) (iii)	HESS	After identifying problem
Determination that a pump or valve test required by Section XI of the ASME B&PV Code and Addenda is impractical and not included in the revised inservice test program	50.55a(f)(5) (iv)	HESS	No later than 12 months after expiration of initial 120-month period of operation, and each subsequent 120-mo. period of operation during which the test is determined to be impractical

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Notification that conformance to a certain Code required by Section XI of the ASME B&PV Code and Addenda for inservice inspection is impractical	50.55a(g)(5)(iii)	HESS	After identifying problem
Determination that a pump or valve test required by Section XI of the ASME B&PV Code and Addenda is impractical and not included in the revised inservice inspection program	50.55a(g)(5)(iv)	HESS	No later than 12 months after expiration of initial 120-month period of operation, and each subsequent 120-mo. period of operation during which the test is determined to be impractical
Updated assessment of projected value for RT <sub>PTS</sub> for reactor vessel beltline materials - after significant change in projected value of RT <sub>PTS</sub> or change in facility's operating expiration date	50.61(b)(1)	HESS	After change
Plan for thermal annealing of reactor vessel	50.66	HESS	3 yrs prior to date when fracture toughness criteria would be exceeded
Reports required as a condition of license	50.71(a)	As Specified	As Specified in License
Telephone report in lieu of LER for an invalid actuation of a system listed in 50.73(a)(2)(iv)(B), other than RPS actuation when critical	50.73(a)(1)	Operations	60 Days
Reassignment of Licensed Operator to position not requiring license	50.74(a)	Operations	30 Days
Termination of Licensed Operator	50.74(b)	Operations	30 Days
Hardware and software changes that affect transmitted data points identified in ERDS Data Point Library	50 App. E, Sec. VI.3.a	Nuclear Info Systems	Within 30 days after changes are completed
Hardware and software changes (except data point modifications) that could affect transmission format and computer communication protocol to the ERDS	50 App. E, Sec. VI.3.b	Nuclear Info Systems	As soon as practicable and at least 30 days prior to making modification

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Test methods for supplemental fracture toughness tests	50 App. G Sec. III.B	HESS	Submitted and approved prior to testing
Fracture Toughness	50 App G, Sec. IV.A.1	HESS	3 years before date when predicted fracture toughness will no longer satisfy App G
Report of test results of specimens withdrawn from capsules (fracture toughness tests)	50 App H, Sec. IV	HESS	Within One Year of Withdrawal
Report of effluents released in excess of one-half design objective exposure	50 App I, Sec. IV.A	Environmental and Chemistry	Within 30 Days from end of quarter (Special Report required by T.S. 3.11.4 satisfies this requirement)
Reactor Building ILRT	50 App J, Option A, Sec. V.B TS 4.6.1.2	HESS	3 Months After Test (No time specified in regulation or TS)
Certification of Medical Fitness	55.23 55.31	Training	Upon Application
Incapacitation Because of Disability or Illness	55.25 50.74(c)	Operations	30 Days after learning of diagnosis
Application for Operator License	55.31	Training	As necessary
Reapplication for Operator License	55.35	Training	Two months after first denial, six months after second denial, two years after third and subsequent denials
Conviction of a Felony for Licensed Operator	55.53(g) 73.71(b)	Operations/ Security	30 Days
Application for Operator License Renewal	55.57	Training	As necessary
Reports of Conditions of Part 70 License	70.32(b)(5) 75.36	Security	As specified in license
Changes in plan for Physical Protection of SNM in transit made without prior approval	70.32(d)	Security	2 Months

EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Accident notification report required by DOT on transportation of licensed material	71.5(a)(1)(iv) 49CFR171.15 & 16	Radiation Protection	Carrier is to provide notice to DOT at the earliest practicable moment and written follow-up within 30 days
Transportation Package Information	71.12(c)(3) 71.101(f)	Radiation Protection	Before first use (Note 1)
Deviations related to Type B package for transport of radioactive material, specifically: <ul style="list-style-type: none"> <li>significant reduction in effectiveness of Type B packaging during use</li> <li>defects with safety significance in Type B packaging after first use, or the means employed to repair the defects and prevent recurrence</li> <li>conditions of approval of certificate of compliance not observed in making a shipment</li> </ul>	71.95	Radiation Protection	Within 30 days (NOTE: requirement is for licensee to report)
Advance notification of shipment of Irradiated Fuel, Nuclear Waste, or certain shipments of SNM	71.97(a) 73.37(b)(1) 73.72(a) 73.73(a) 73.74(a)	Radiation Protection	Before shipment (Note 2)
Revision notice or cancellation notice for shipment of irradiated fuel, nuclear waste, or certain shipments of SNM	71.97(e) 71.97(f) 73.37(f) 73.72(a)(5) 73.73(b) 73.74(b)	Radiation Protection	Upon change/ cancellation (Note 2)
Advance Notice and Approval of Routes for Shipment of Irradiated Fuel	73.37(b)(7) 73.37(f)	Radiation Protection & Nuclear Operations	Before shipment (Note 2)
Theft or unlawful diversion or attempted theft or unlawful diversion of SNM or spent fuel	73.71 74.11 150.16(b)	Security	As required (See also 1 hour notifications and SEC-NGGC-2147)



EVENT REPORTS (Other than LERs)

<u>SUBJECT</u>	<u>10 CFR Reference or (other)</u>	<u>RESP UNIT</u>	<u>TIMING OF RESPONSE</u>
Results of Trace Investigation of Lost or Unaccounted for Shipment of SNM	73.71(a)74.11	Security	30 Days
Threat to or reduced effectiveness of physical security	73.71(d)	Security	30 Days (See also 1 hour notifications and SEC-NGGC-2147)
Nuclear Material Transfer (old Form DOE/NRC-741)	74.15(a) 40.64(a) 70.54 150.16(a) 150.17(a)	HESS	Whenever transfer occurs (Note 6)
Earthquake exceeding Operating Basis Earthquake values	100 App. A, Sec. V(A)(2)	HESS	Prior to resuming operations
Import or export of nuclear equipment or material	110	Radiation Protection	Varies; see Part 110
Bodily injury or property damage from possession or use of radioactive material resulting in an indemnity claim	140.6(a)	Radiation Protection	As promptly as practical
Change in proof of financial protection or other financial information filed with the NRC	140.15(e)	Treasury	Promptly
Termination of liability insurance policy used for financial protection (notification of renewal or other proof of financial protection)	140.17(b)	Treasury	At least 30 days prior to termination
Failure of High Integrity Container or Notification of Misuse of a High Integrity Container	PLP-300	Radiation Protection	Within 30 days of knowledge of the incident
Cooling Tower Beacon Outage greater than 30 minutes or restoration from an outage greater than 30 minutes. (Note 8) [Note: The FAA is automatically informed of lighting outage on the communication and meteorological towers via a remote monitoring system]	FAA Advisory Circular AC 70/7460-1K	Operations	Upon Discovery
Level of radioactivity in onsite groundwater, exceeding the reporting levels of ODCM O.R. Table 3.12-2 for drinking water.	CHE-NGGC-0057	Environmental and Chemistry	Within 30 days of discovery

EVENT REPORTS (Other than LERs)NOTES:

1. Development and use of a package will require special reporting requirements per §71.5, 71.95 and 71.101(f).
2. Notification to NRC received at least 10 days before transport of the shipment commences; see §73.72(a), 73.73(a), or 73.74(a) for additional details. State Governor(s) of states through which material is to be shipped shall also be notified by mail postmarked at least 7 days before shipment or by messenger 4 days prior to shipment. Notification of any subsequent schedule changes of greater than six (6) hours or cancellation of shipment shall also be made before the change (See §71.97(c) for additional notification to the Regional NRC Administrator).
3. Not used
4. Report not required if such reporting would duplicate information already submitted per other NRC reporting requirements.
5. When reporting exposure of an individual, the individual shall also be notified not later than the transmittal to the NRC.
6. §40.64(a) specifies next working day for transfers and 10 days for receipt of foreign origin source material. §150.16(a) and 150.17(a) specify within 10 days after material is received.
7. This report does not need to be routed for approval per Reference 2.2 since it is not correspondence to a regulatory agency.
8. Notify the DOT-FAA Flight Service Station at either 1-877-487-6867 or 1-800-992-7433. The following information will be required:
  - a. Harris Nuclear Plant, caller name and telephone number
  - b. Which Hyperbolic Cooling Tower Beacon Warning Lights (by compass orientation) are inoperable
  - c. Location - Plant location is latitude 35°38'01"N, longitude 78°57'23"W and a distance of 16 miles Southwest of Raleigh
  - d. Height - The Cooling Tower is 523 feet above ground level. The height of the Cooling Tower above sea level is 784 feet.
  - e. Estimated return to service date

Determine from the Flight Service Station the name of the individual contacted and when a follow-up call should be made. Document the notification and any required follow-up in an NCR with Licensing as the responsible organization.

One Hour Notifications - Sample Wording for the Description Field

(Licensing will review notifications for follow-up clarification as needed.)

## I.A. OPERATIONAL EVENTS -10 CFR 50.72 (b) (1)

- Technical Specification Deviations (10 CFR 50.54x)

## DEVIATION FROM TECHNICAL SPECIFICATIONS PER 10 CFR 50.54(x)

At \_\_\_\_\_ hrs license condition \_\_\_\_\_ was deviated from per 10 CFR 50.54(x). This condition requires \_\_\_\_\_. *Discussion as to why the condition was not met, affect on the plant and when compliance was/will be restored.*

The NRC Resident Inspector was notified.

- Safety Limit Violation (TS 6.7.1)

## VIOLATION OF SAFETY LIMIT

At \_\_\_\_\_ hrs Technical Specification Safety Limit \_\_\_\_\_ was violated when \_\_\_\_\_. Immediate corrective actions were \_\_\_\_\_. *Discussion as to the affect on the plant, additional planned actions, and any compensatory actions taken to assure safety.*

The NRC Resident Inspector was notified.

## I.B. RADIOLOGICAL EVENTS

- Radioactive Shipments

**Note:** The time and date of the spent fuel shipment is safeguards information. Date and time of discovery is not safeguards but care should be taken not to link the event to arrival of the cask.

## Example: SURFACE CONTAMINATION ABOVE LIMITS

Smearable contamination on a radioactive materials package, a used fuel shipping cask transported by rail, exceeded the limits of 10 CFR 71.47. There is no evidence of personnel contamination or spread of contamination beyond the rail car. There is no indication of increased exposure to the public as a result of this event.

The NRC Resident Inspector was notified.

- Loss or Theft of Licensed Material/Radiological Sabotage

(This example is for Loss only. Theft or Sabotage is reported using SEC-NGGC-2147.)

LOCATION OF \_\_\_\_\_ IS UNKNOWN

*How was loss of SNM discovered and what efforts to relocate are underway? What assurance is there that the lost SNM is under the control of a licensee (vs. the public) and that no personnel have been overexposed?*

The NRC Resident Inspector was notified. Region II (*name*) and the State of North Carolina have also been notified.

- Exposure to Individuals or Releases

## PERSONNEL OVEREXPOSURE

A worker received (*internal/external*) contamination resulting in an estimated total effective dose equivalent (TEDE) of \_\_\_\_\_ Rem (\_\_\_\_\_mSv). The individual had been *doing what, where. How detected? What location on the body. What decontamination was performed to what result?*

*What immediate corrective actions are being taken?*

The NRC Resident Inspector was notified

- Accidental Criticality in the Fuel Handling Building

No example. This event is extremely rare.

## I.C. SECURITY EVENTS

- Security Events Reported per SEC-NGGC-2147.

Security and Safeguards events are prepared by the Security Organization per SEC-NGGC-2147.

- International Atomic Energy Agency (IAEA) Representative

No example. This event is extremely rare.

## I.D. FITNESS FOR DUTY

- FFD - NRC Employee

No example. This event is extremely rare.

## SAMPLE WORKSHEET

<b>NRC FORM 361</b> <b>COMMISSION</b> (12-2000)			<b>U.S. NUCLEAR REGULATORY</b>  <b>OPERATIONS CENTER</b>		
<b>REACTOR PLANT</b> <b>EVENT NOTIFICATION WORKSHEET</b>			<b>EN #</b>		
NRC OPERATION TELEPHONE NUMBER: PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 <small>*Licensees who maintain their own ETS are provided these telephone numbers.</small>					
<b>NOTIFICATION TIME</b> 15:43 EDT	<b>FACILITY OR ORGANIZATION</b> Harris Nuclear Plant	<b>UNIT</b> 1	<b>NAME OF CALLER</b> John Caves		<b>CALL BACK #</b> (919) 362-3636
<b>EVENT TIME &amp; ZONE</b> 14:33 EDT	<b>EVENT DATE</b> 09/18/2003	<b>POWER/MODE BEFORE</b> 100% Power, Mode 1		<b>POWER/MODE AFTER</b> 100% Power, Mode 1	
<b>EVENT CLASSIFICATIONS</b>		<b>1-Hr. Non-Emergency 10 CFR 50.72(b)(1)</b>		(v)(A) Safe S/D Capability AINA	
GENERAL EMERGENCY GEN/AAEC		TS Deviation ADEV		(v)(B) RHR Capability AINB	
SITE AREA EMERGENCY SIT/AAEC		<b>4-Hr. Non-Emergency 10 CFR 50.72(b)(2)</b>		(v)(C) Control of Rad Release AINC	
ALERT ALE/AAEC		(i) TS Required S/D ASHU		(v)(D) Accident Mitigation AIND	
UNUSUAL EVENT UNU/AAEC		(iv)(A) ECCS Discharge to RCS ACCS		(xii) Offsite Medical AMED	
X	50.72 NON-EMERGENCY (see next columns)	(iv)(B) RPS Actuation (scram) ARPS		X	(xiii) Loss Comm/Asmt/Resp ACOM
PHYSICAL SECURITY (73.71) DDD		(j) Offsite Notification ASRE		<b>60-Day Optional 10 CFR 50.73(a)(1)</b>	
MATERIAL/EXPOSURE B???		<b>4-Hr. Non-Emergency 10 CFR 50.72(b)(3)</b>		Valid Specified System Actuation AINV	
FITNESS FOR DUTY HFTI		(iii) Designated Condition ADEG		<b>Other Unspecified Requirement (identify)</b>	
OTHER UNSPECIFIED REQMT. (see next column)		(ii)(B) Unanalyzed Condition AUNA		NONR	
INFORMATION ONLY NNF		(iv)(A) Specified System Actuation AESF		NONR	
<b>DESCRIPTION</b>					
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)					
As of 2:33 PM, EDT, more than 20% of the offsite emergency sirens were inoperable for greater than one hour due to loss of power caused by Hurricane Isabel. Currently 27 of 81 sirens are out of service. The State of North Carolina and all four counties within the 10-mile emergency planning zone were notified and are in stand-by to implement mobile route alerting if needed. At this time, Harris cannot estimate the time of siren recovery. This requires an 8-hour non-emergency notification per 10CFR 50.72(b)(3)(xiii) due to the loss of a significant portion of the offsite notification system. The NRC Senior Resident Inspector was informed.					
<b>NOTIFICATIONS</b>	<b>YES</b>	<b>NO</b>	<b>WILL BE</b>	<b>ANYTHING UNUSUAL OR NOT UNDERSTOOD?</b> <input type="checkbox"/> YES (EXPLAIN ABOVE) <input checked="" type="checkbox"/> NO	
<b>NRC RESIDENT</b>	X				
<b>STATE(s)</b>	X			<b>DID ALL SYSTEMS FUNCTION AS REQUIRED?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<b>LOCAL</b>	X				
<b>OTHER GOV AGENCIES</b>	X				
<b>MEDIA/PRESS RELEASE</b>		X		MODE OF OPERATION UNTIL CORRECTED: 1	ESTIMATE FOR RESTART DATE:
				ADDITIONAL INFO ON BACK <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

<b>NRC FORM 361</b> <b>COMMISSION</b> (12-2000)			<b>U.S. NUCLEAR REGULATORY</b>  <b>OPERATIONS CENTER</b>		
<b>REACTOR PLANT</b> <b>EVENT NOTIFICATION WORKSHEET</b>					
<b>EN #</b>					
NRC OPERATION TELEPHONE NUMBER: PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 <small>*Licensees who maintain their own ETS are provided these telephone numbers.</small>					
NOTIFICATION TIME  EST / EDT	FACILITY OR ORGANIZATION <b>Harris Nuclear Plant</b>	UNIT <b>1</b>	NAME OF CALLER	CALL BACK # <b>919 -</b>	
EVENT TIME & ZONE  EST / EDT	EVENT DATE	POWER/MODE BEFORE		POWER/MODE AFTER	
<b>EVENT CLASSIFICATIONS</b>		<b>1-Hr. Non-Emergency 10 CFR 50.72(b)(1)</b>		(v)(A) Safe S/D Capability AINA	
GENERAL EMERGENCY GEN/AAEC		TS Deviation ADEV		(v)(B) RHR Capability AINB	
SITE AREA EMERGENCY SIT/AAEC		<b>4-Hr. Non-Emergency 10 CFR 50.72(b)(2)</b>		(v)(C) Control of Rad Release AINC	
ALERT ALE/AAEC		(i) TS Required S/D ASHU		(v)(D) Accident Mitigation AIND	
UNUSUAL EVENT UNU/AAEC		(iv)(A) ECCS Discharge to RCS ACCS		(xii) Offsite Medical AMED	
50.72 NON-EMERGENCY (see next columns)		(iv)(B) RPS Actuation (scram) ARPS		(xiii) Loss Comm/Asmt/Resp ACOM	
PHYSICAL SECURITY (73.71) DDDD		(xi) Offsite Notification APRE		<b>60-Day Optional 10 CFR 50.73(a)(1)</b>	
MATERIAL/EXPOSURE B???		<b>8-Hr. Non-Emergency 10CFR 50.72(b)(3)</b>		Invalid Specified System Actuation AINV	
FITNESS FOR DUTY HFIT		(ii)(A) Degraded Condition ADEG		<b>Other Unspecified Requirement (identify)</b>	
OTHER UNSPECIFIED REQMT. (see last column)		(ii)(B) Unanalyzed Condition AUNA		NONR	
INFORMATION ONLY NNF		(iv)(A) Specified System Actuation AESF		NONR	
<b>DESCRIPTION</b>					
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. <i>(Continue on back)</i>					
NOTIFICATIONS	YES	NO	WILL BE	ANYTHING UNUSUAL OR <input type="checkbox"/> YES (EXPLAIN ABOVE) <input type="checkbox"/> NO	
NRC RESIDENT				NOT UNDERSTOOD?	
STATE(s)				DID ALL SYSTEMS <input type="checkbox"/> YES <input type="checkbox"/> NO	
LOCAL				FUNCTION AS REQUIRED?	
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED:	ESTIMATE FOR RESTART DATE:
MEDIA/PRESS RELEASE				ADDITIONAL INFO ON BACK <input type="checkbox"/> YES <input type="checkbox"/> NO	

AP-617	Rev. 35	Page 42 of 49
--------	---------	---------------

**Reportability Evaluation (REW) Worksheet**

Notification Requirements Per 10CFR50.73 Reports  
(Ref. NUREG-1022)

NCR-\_\_\_\_\_

A Licensee Event Report (LER) is generally required for any event of the type described in this Attachment within 60 days after the discovery of the event. HNP shall report any applicable event if it occurred within three years of the date of discovery regardless of the plant mode or power level, and regardless of the significance of the structure, system, or component that initiated the event.

**I. Description of the Event**



## II. For each Reportability Evaluation, perform the following:

- Consult with or perform a pre-job briefing with Licensing.
- Using the details of the event, determine if the reporting category applies to this event.
- **Mark** the appropriate block Yes or No.
- If uncertain, gather more information to make the determination. Consult Licensing as needed.
- Reference NUREG-1022 as needed since it contains many examples that may aid in the determination.
- Complete the Reportable Evaluation Section to justify the conclusion that was reached based on known facts.

Situation meets this condition?	Reportable Event
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Plant Shutdown Required by Technical Specifications?</b>
The completion of any nuclear plant shutdown required by the HNP Technical Specifications.	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Operation or Condition Prohibited by Technical Specifications?</b>
Any operation or condition which was prohibited by the HNP Technical Specifications except when: <ul style="list-style-type: none"> <li>a. The Technical Specification is administrative in nature;</li> <li>b. The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or</li> <li>c. The Technical Specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event.</li> </ul>	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Deviation from Technical Specifications?</b>
Any deviation from the HNP Technical Specifications authorized pursuant to section 50.54(x).	

<b>Situation meets this condition?</b>	<b>Reportable Event</b>
<b>Yes</b> <input type="checkbox"/> <b>No</b> <input type="checkbox"/>	<b>System Actuation?</b>
<p>Any event or condition that resulted in a manual or automatic actuation of any of the systems listed below, except when:</p> <ul style="list-style-type: none"> <li>a. The actuation resulted from and was part of a pre-planned sequence during testing or reactor operation; or</li> <li>b. The actuation was invalid <b>and</b>;             <ul style="list-style-type: none"> <li>(1) Occurred while the system was properly removed from service;</li> <li style="text-align: center;">or</li> <li>(2) Occurred after the safety function had been already completed.</li> </ul> </li> </ul> <p>The systems to which the requirements above apply are:</p> <ul style="list-style-type: none"> <li>a. Reactor protection system (RPS) including reactor trip.</li> <li>b. General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).</li> <li>c. Emergency core cooling systems (ECCS) including: high-head and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.</li> <li>d. Auxiliary or Feedwater system.</li> <li>e. Containment heat removal and depressurization systems, including containment spray and fan cooler systems.</li> <li>f. Emergency ac electrical power systems, including emergency diesel generators (EDGs).</li> <li>g. Emergency service water systems.</li> </ul>	
<b>Yes</b> <input type="checkbox"/> <b>No</b> <input type="checkbox"/>	<b>Common Cause Inoperability of Independent Trains or Channels?</b>
<p>Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to:</p> <ul style="list-style-type: none"> <li>a. Shut down the reactor and maintain it in a safe shutdown condition,</li> <li>b. Remove residual heat,</li> <li>c. Control the release of radioactive material, or</li> <li>d. Mitigate the consequences of an accident.</li> </ul>	

Situation meets this condition?	Reportable Event
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Event or Condition that Could Have Prevented Fulfillment of a Safety Function?</b>
<p>Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:</p> <ul style="list-style-type: none"> <li>a. Shut down the reactor and maintain it in a safe shutdown condition;</li> <li>b. Remove residual heat;</li> <li>c. Control the release of radioactive material; or</li> <li>d. Mitigate the consequences of an accident.</li> </ul>	
<p>Events covered above may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. <b>However, individual component failures need not be reported if redundant equipment in the same system was operable and available to perform the required safety function.</b></p>	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Single Cause that Could Have Prevented Fulfillment of the Safety Functions of Trains or Channels in Different Systems?</b>
<p>Any event or condition that as a result of a single cause could have prevented the fulfillment of a safety function for two or more trains or channels in <b>different</b> systems that are needed to:</p> <ul style="list-style-type: none"> <li>a. Shut down the reactor and maintain it in a safe shutdown condition,</li> <li>b. Remove residual heat,</li> <li>c. Control the release of radioactive material, or</li> <li>d. Mitigate the consequences of an accident.</li> </ul> <p>Events covered above may include cases of procedural error, equipment failure, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacy. However, HNP is <b>not</b> required to report an event above if the event results from:</p> <ul style="list-style-type: none"> <li>a. A shared dependency among trains or channels that is a natural or expected consequence of the approved plant design; or</li> <li>b. Normal and expected wear or degradation.</li> </ul>	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Degraded or Unanalyzed Condition?</b>
<p>Any event or condition that resulted in:</p> <ul style="list-style-type: none"> <li>a. The condition of the nuclear power plant including its principal safety barriers, being seriously degraded; or</li> <li>b. The nuclear power plant being in an unanalyzed condition that significantly degraded plant safety.</li> </ul>	

Situation meets this condition?	Reportable Event
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>External Threat or Hampering?</b>
Any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear plant.	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Internal Threat or Hampering?</b>
Any event that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases.	
Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Radioactive Release?</b>
<p>Any airborne radioactive release that, when averaged over a time period of 1 hour, resulted in airborne radionuclide concentrations in an unrestricted area that exceeded 20 times the applicable concentration limits specified in appendix B to 10CFR20, table 2, column 1.</p> <p>Any liquid effluent release that, when averaged over a time period of 1 hour, exceeds 20 times the applicable concentrations specified in Appendix B to 10CFR20 table 2, column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases.</p>	

III. Reportable Evaluation

IV. Conclusion

Based on the information above, this event:  
(check one)

- ☐ Does **NOT** meet the reportability requirements of 10 CFR 50.73.
- ☐ **IS** reportable to the NRC per the requirements of 10.CFR 50.73.

Revision 35 Summary	
Rev 35 processed with PRR 337339 PRRs Incorporated: 283909, 310079, 329593, 337339, 654718 CRs Incorporated: 589278 (ENHN), 589282 (BREC), 613083 (CORR), 622683 (CORR), 634918 (CORR)	
[CR 613083] 2.0.42 new reference for NEI 07-07	
[ENHN 589278, BREC 589282] Attachment 1 has been restructured/reordered from notification time to functional area.	
[PRR 329593, 337339] Attachment 1 NOTE 7 revised to add note for ERDS modem	
[PRR 283909, 329593] Attachment 1 NOTE 11 revised reference from 26.73(a)(2) to 26.719	
[CR 613083, 622683] Attachment 1 NOTE 12 revised to add fleet interim guidance regarding NEI 07-07	
[PRR 654718] Attachment 1 NOTE 12 revised to clarify information for oil spills	
[PRR 329593, 337339] Attachment 3 CDE Report Timing Of Response column revised from "By the end of the 1st month following each quarter" to "By the 21st day following each quarter"	
[PRR 310079] Attachment 3 and Attachment 4 revised to change "NAS" to "NOS"	
[CR 634918] Attachment 4 Cooling Tower Beacon Outage revised to add note the FAA is automatically informed.	
[PRR 329593] Attachment 7 revised to add "EST/EDT" to the Notification time block and Event Time & Zone block.	

## 2014 NRC SRO Question 93 (18) Reference

Shearon Harris Nuclear Power Plant (SHNPP)  
Offsite Dose Calculation Manual (ODCM)

December 1998  
Rev. 11

### 3/4.3.3 MONITORING INSTRUMENTATION

#### 3/4.3.3.11 Radioactive Gaseous Effluent Monitoring Instrumentation

##### OPERATIONAL REQUIREMENT

---

- 3.3.3.11 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Operational Requirements 3.11.2.1 are not exceeded. The Alarm/Trip Setpoints of these channels meeting Operational Requirement 3.11.2.1 shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY: As shown in Table 3.3-13

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above Operational Requirement, immediately (1) suspend the release of radioactive gaseous effluents monitored by the affected channel or (2) declare the channel inoperable and take ACTION as directed by b. below.
- b. With the number of OPERABLE radioactive gaseous effluent monitoring instrumentation channels less than the Minimum Channels OPERABLE, take the ACTION shown in Table 3.3-13. Exert best efforts to return the instrument to OPERABLE status within 30 days. If unsuccessful, explain in the next Annual Radioactive Effluent Release Report pursuant to ODCM, Appendix F, Section F.2 why this inoperability was not corrected in a timely manner.

##### SURVEILLANCE REQUIREMENTS

---

- 4.3.3.11 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and a DIGITAL CHANNEL OPERATIONAL TEST or an ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-9.

Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25% of the specified surveillance interval.

## 2014 NRC SRO Question 93 (18) Reference

Shearon Harris Nuclear Power Plant (SHNPP)  
Offsite Dose Calculation Manual (ODCM)

August 1995  
Rev. 6

TABLE 2.3-13  
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

	INSTRUMENT	MIN. CHANNELS OPERABLE	APPLICABILITY	ACTION
1.	GASEOUS WASTE PROCESSING SYSTEM - HYDROGEN AND OXYGEN ANALYZERS			
	Specification is not used in ODCM			
2.	TURBINE BUILDING VENT STACK			
a.	Noble Gas Activity Monitor	1	*	47
b.	Iodine Sampler	1	*	49
c.	Particulate Sampler	1	*	49
d.	Flow Rate Monitor	1	*	46
e.	Sampler Flow Rate Monitor	1	*	46
3.	PLANT VENT STACK			
a.	Noble Gas Activity Monitor	1	*	47
b.	Iodine Sampler	1	*	49
c.	Particulate Sampler	1	*	49
d.	Flow Rate Monitor	1	*	46
e.	Sampler Flow Rate Monitor	1	*	46
4.	WASTE PROCESSING BUILDING VENT STACK 5			
a.1	Noble Gas Activity Monitor (PIG)	1	*	45, 51
a.2	Noble Gas Activity Monitor (WRGM)	1	MODES 1, 2, 3	52
b.	Iodine Sampler	1	*	49
c.	Particulate Sampler	1	*	49
d.	Flow Rate Monitor	1	*	46
e.	Sampler Flow Rate Monitor	1	*	46
5.	WASTE PROCESSING BUILDING STACK 5A			
a.	Noble Gas Activity Monitor	1	*	47
b.	Iodine Sampler	1	*	49
c.	Particulate Sampler	1	*	49
d.	Flow Rate Monitor	1	*	46
e.	Sampler Flow Rate Monitor	1	*	46

TABLE NOTATIONS

\* At all times.



## 2014 NRC SRO Question 93 (18) Reference

Shearon Harris Nuclear Power Plant (SHNPP)  
Offsite Dose Calculation Manual (ODCM)

August 1995  
Rev. 6

TABLE 3.3-13 (Continued)

ACTION STATEMENTS

- ACTION 45 - With the number channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the waste gas decay tank(s) may be released to the environment provided that prior to initiating the release:
- a. At least two independent samples of the tank's contents are analyzed, and
  - b. At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge valve lineup.
- Otherwise, suspend release of radioactive effluents via this pathway.
- ACTION 46 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 4 hours.
- ACTION 47 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.
- ACTION 48 - Not Used in the ODCM.
- ACTION 49 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via the affected pathway may continue provided samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.
- ACTION 50 - Not used in the ODCM.
- ACTION 51 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement for both the FIG and WRGM, effluent releases via this pathway may continue provided grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.
- ACTION 52 - With the number of OPERABLE accident monitoring instrumentation channels for the radiation monitor(s) less than the Minimum Channels OPERABLE requirements of Technical Specification Table 3.3-10, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and either restore the inoperable channel(s) to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission, pursuant to Technical Specification 6.9.2, within the next 14 days that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channel(s) to OPERABLE status.

## 2014 NRC SRO Question 88 (13) Reference

### CONTAINMENT SYSTEMS

#### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

##### CONTAINMENT SPRAY SYSTEM

##### LIMITING CONDITION FOR OPERATION

---

3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3, and 4.

##### ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours. Refer also to Specification 3.6.2.3 Action.

## 2014 NRC SRO Question 88 (13) Reference

### CONTAINMENT SYSTEMS

#### CONTAINMENT COOLING SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.6.2.3 Four containment fan coolers (AH-1, AH-2, AH-3, and AH-4) shall be OPERABLE with one of two fans in each cooler capable of operation at low speed. Train SA consists of AH-2 and AH-3. Train SB consists of AH-1 and AH-4.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

- a. With one train of the above required containment fan coolers inoperable and both Containment Spray Systems OPERABLE, restore the inoperable train of fan coolers to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both trains of the above required containment fan coolers inoperable and both Containment Spray Systems OPERABLE, restore at least one train of fan coolers to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore both above required trains of fan coolers to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With one train of the above required containment fan coolers inoperable and one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the inoperable train of containment fan coolers to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

COLD CONDITIONS		Progress Energy		Harris Nuclear Plant Emergency Action Level Matrix																																			
				Revision 10	Sheet 2 of 2																																		
		GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT																																		
C  Cold SD/ Refuel System Malfunct.	1  Loss of AC Power	<div>Note 6: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time</div> <div>None</div>	<div>None</div>	<div>CA1 Loss of all offsite and all onsite AC power to emergency buses for ≥ 15 min.</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div>DEF</div></div> <div>CA1.1 Loss of <b>all</b> offsite and <b>all</b> onsite AC power to 6.9 KV emergency buses 1A-SA and 1B-SB for ≥ 15 min. (Note 6)</div>	<div>CU1 AC power capability to emergency buses reduced to a single power source for ≥ 15 min. such that <b>any</b> additional single failure would result in station blackout</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CU1.1 AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB reduced to a single power source for ≥ 15 min. (Note 6) <b>AND</b> <b>Any</b> additional single power source failure will result in station blackout</div>																																		
	2  Loss of DC Power				<div>CU2 Loss of <b>required</b> DC power for ≥ 15 min.</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CU2.1 &lt; 105 VDC on <b>required</b> Emergency DC Buses (125V) (DP-1A-SA, DP-1B-SB) for ≥ 15 min. (Note 6)</div>																																		
	3  RCS Level	<div>CG3 Loss of RCS inventory affecting fuel clad integrity with Containment challenged</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CG3.1 RCS level &lt; 63% RVLIS Full Range for ≥ 30 min., Table C-5 (Note 6) <b>AND</b> <b>Any</b> Containment Challenge Indication, Table C-4</div> <div>CG3.2 RCS level <b>cannot</b> be monitored with core uncover indicated by <b>any</b> of the following for ≥ 30 min. (Note 6):<ul style="list-style-type: none"><li>Containment radiation &gt; 10,000 R/hr (RM-1CR-3589-SA or RM-1CR-3590-SB)</li><li>Erratic source range monitor indication</li><li>Unexplained level rise in <b>any</b> Table C-1 sump / tank attributable to RCS leakage</li></ul><b>AND</b> <b>Any</b> Containment Challenge Indication, Table C-4</div> <div>Table C-1 Sumps / Tanks<ul style="list-style-type: none"><li>Containment sumps</li><li>PRT</li><li>RCDT</li><li>CCW surge tank</li><li>RAB sumps</li><li>RWST</li><li>RMWST</li><li>Recycle Holdup Tank</li></ul></div> <div>Table C-4 Containment Challenge Indications<ul style="list-style-type: none"><li>Containment Closure <b>not</b> established</li><li>Containment hydrogen concentration ≥ 4%</li><li>Unplanned rise in Containment pressure</li></ul></div>	<div>CS3 Loss of RCS inventory affecting core decay heat removal capability</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CS3.1 With Containment closure <b>not</b> established, RCS level &lt; 70% RVLIS Full Range, Table C-5</div> <div>CS3.2 With Containment closure established, RCS level &lt; 63% RVLIS Full Range, Table C-5</div> <div>CS3.3 RCS level <b>cannot</b> be monitored with a loss of RCS inventory as indicated by <b>any</b> of the following for ≥ 30 min. (Note 6):<ul style="list-style-type: none"><li>Containment radiation &gt; 10,000 R/hr (RM-1CR-3589-SA or RM-1CR-3590-SB)</li><li>Erratic source range monitor indication</li><li>Unexplained level rise in <b>any</b> Table C-1 sump / tank attributable to RCS leakage</li></ul></div> <div>Table C-5 RCS Level Thresholds<table><tr><th></th><th>Plant El.</th><th>Standpipe</th><th>RVLIS Full Range</th><th>EAL</th></tr><tr><td>Reactor Vessel Flange</td><td>260.62'</td><td>0"</td><td>89%</td><td>CU3.2</td></tr><tr><td>Bottom of Hotleg</td><td>252.54'</td><td>-96.5"</td><td>72%</td><td>CA3.1</td></tr><tr><td>6 in. &lt; Bottom of Hotleg</td><td>252.04'</td><td>----</td><td>70%</td><td>CS3.1</td></tr><tr><td>Top of Active Fuel</td><td>249.01'</td><td>----</td><td>63%</td><td>CS3.2 CG3.1</td></tr></table></div> <div>Note 9: If area radiation levels rise with loss of water level, consider classification under EALs in subcategory R.2, Onsite Rad Conditions &amp; Spent Fuel Events</div>		Plant El.	Standpipe	RVLIS Full Range	EAL	Reactor Vessel Flange	260.62'	0"	89%	CU3.2	Bottom of Hotleg	252.54'	-96.5"	72%	CA3.1	6 in. < Bottom of Hotleg	252.04'	----	70%	CS3.1	Top of Active Fuel	249.01'	----	63%	CS3.2 CG3.1	<div>CA3 Loss of RCS inventory</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CA3.1 RCS standpipe level &lt; -96.5 in. (&lt; 72% RVLIS Full Range), Table C-5 <b>OR</b> RCS level <b>cannot</b> be monitored for ≥ 15 min. with a loss of RCS inventory as indicated by an unexplained level rise in <b>any</b> Table C-1 sump / tank attributable to RCS leakage (Note 6)</div> <div>CU3 RCS leakage</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div></div><div></div></div> <div>CU3.1 RCS leakage results in the inability to maintain or restore <b>EITHER</b> of the following for ≥ 15 min. (Note 6, 9): Pressurizer level &gt; 17% <b>OR</b> RCS level within the target band established by the General Procedure (when the level band is established below the pressurizer)</div> <div>CU3 RCS leakage</div> <div><div></div><div></div><div></div><div></div><div></div><div>6</div><div></div><div></div></div> <div>CU3.2 Unplanned RCS level drop below <b>EITHER</b> of the following for ≥ 15 min. (Note 6, 9): Reactor Vessel flange, Table C-5 (when the level band is established above the flange) <b>OR</b> Target band (when the level band is established below the flange)</div> <div>CU3.3 RCS level <b>cannot</b> be monitored with a loss of RCS inventory as indicated by an unexplained level rise in <b>any</b> Table C-1 sump / tank attributable to RCS leakage (Note 9)</div>										
		Plant El.	Standpipe	RVLIS Full Range	EAL																																		
	Reactor Vessel Flange	260.62'	0"	89%	CU3.2																																		
	Bottom of Hotleg	252.54'	-96.5"	72%	CA3.1																																		
6 in. < Bottom of Hotleg	252.04'	----	70%	CS3.1																																			
Top of Active Fuel	249.01'	----	63%	CS3.2 CG3.1																																			
4  RCS Temp.	<div>None</div>	<div>None</div>	<div>CA4 Inability to maintain plant in cold shutdown.</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CA4.1 An unplanned event results in <b>EITHER</b>: RCS temperature &gt; 200°F for &gt; Table C-3 duration <b>OR</b> RCS pressure increase &gt; 10 psig due to a loss of RCS cooling (this condition is <b>not</b> applicable in solid plant conditions)</div>	<div>CU4 Unplanned loss of decay heat removal capability with irradiated fuel in the Reactor Vessel</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CU4.1 Unplanned event results in RCS temperature &gt; 200°F</div> <div>CU4.2 Loss of all RCS temperature and RCS level indication for ≥ 15 min. (Note 6)</div>																																			
5  Comm.	<div>Table C-3 RCS Reheat Duration Thresholds</div> <table><tr><th>RCS Status</th><th>Containment Closure Status</th><th>Duration</th></tr><tr><td>Intact <b>AND not</b> reduced inventory</td><td>N/A</td><td>60 min.*</td></tr><tr><td><b>Not</b> intact <b>OR</b> reduced inventory</td><td>established</td><td>20 min.*</td></tr><tr><td></td><td><b>not</b> established</td><td>0 min.</td></tr></table> <div>* If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced, the EAL is not applicable</div>	RCS Status	Containment Closure Status	Duration	Intact <b>AND not</b> reduced inventory	N/A	60 min.*	<b>Not</b> intact <b>OR</b> reduced inventory	established	20 min.*		<b>not</b> established	0 min.	<div>Table C-2 Communications Systems</div> <table><tr><th>System</th><th>Onsite (internal)</th><th>Offsite (external)</th></tr><tr><td>PABX telephone system (desk phones)</td><td>X</td><td>X</td></tr><tr><td>HE&amp;EC PABX telephone system</td><td></td><td>X</td></tr><tr><td>Site paging system</td><td>X</td><td></td></tr><tr><td>Satellite phone</td><td></td><td>X</td></tr><tr><td>Radio communications networks</td><td>X</td><td></td></tr><tr><td>NRC ETS Phone</td><td></td><td>X</td></tr><tr><td>NRC HPN Phone</td><td></td><td>X</td></tr></table>	System	Onsite (internal)	Offsite (external)	PABX telephone system (desk phones)	X	X	HE&EC PABX telephone system		X	Site paging system	X		Satellite phone		X	Radio communications networks	X		NRC ETS Phone		X	NRC HPN Phone		X	<div>CU5 Loss of <b>all</b> onsite or offsite communications capabilities</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div>DEF</div></div> <div>CU5.1 Loss of <b>all</b> Table C-2 onsite (internal) communication methods affecting the ability to perform routine operations <b>OR</b> Loss of <b>all</b> Table C-2 offsite (external) communication methods affecting the ability to perform offsite notifications</div>
RCS Status	Containment Closure Status	Duration																																					
Intact <b>AND not</b> reduced inventory	N/A	60 min.*																																					
<b>Not</b> intact <b>OR</b> reduced inventory	established	20 min.*																																					
	<b>not</b> established	0 min.																																					
System	Onsite (internal)	Offsite (external)																																					
PABX telephone system (desk phones)	X	X																																					
HE&EC PABX telephone system		X																																					
Site paging system	X																																						
Satellite phone		X																																					
Radio communications networks	X																																						
NRC ETS Phone		X																																					
NRC HPN Phone		X																																					
6  Inadvertent Criticality				<div>CU6 Inadvertent criticality</div> <div><div></div><div></div><div></div><div></div><div></div><div>5</div><div>6</div><div></div></div> <div>CU6.1 An unplanned sustained positive startup rate observed on nuclear instrumentation</div>																																			

EAL Identifier

XXX.X

Category (R, H, S, F, C) Sequential number within subcategory/classification  
Emergency classification (G, S, A, U) Subcategory number (1 if no subcategory)

NOTES

- Note 1: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time  
If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RS1.2/RG1.2). Do not delay declaration awaiting dose assessment results
- Note 2: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In the absence of data to the contrary, assume that the release duration has exceeded the applicable time if an ongoing release is detected and the release start time is unknown
- Note 3: If loss of water level in the refueling pathway occurs while in Mode 5, 6 or DEF, consider classification under EALs CU3.1, CU3.2 or CU3.3
- Note 4: Visible Damage is:
  - Damage to equipment or structure that is readily observable without measurements, testing, or analysis
  - Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component
  - Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blisteringVisible Damage does not include surface blemishes (e.g., paint chipping, scratches)
- Note 5: If the equipment in the stated area was already inoperable, or out of service, before the event occurred, then EAL HA3.1 should not be declared as it will have no adverse impact on the ability of the plant to safely operate or safely shutdown beyond that already allowed by Technical Specifications at the time of the event.
- Note 6: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time
- Note 7: See Fission Product Barrier thresholds (Table F-1) for possible escalation above the Unusual Event
- Note 8: A direct release is defined as a pathway from the containment to any environment outside the containment when containment or system isolation is required due to a safety injection signal, containment pressure greater than 3 psig, or a valid containment ventilation isolation signal and the pathway cannot be isolated from the Main Control Room
- Note 9: If area radiation levels rise with loss of water level, consider classification under EALs in subcategory R.2, Onsite Rad Conditions & Spent Fuel Events



2014 NRC SRO Question 87 (12) Reference															
ALL CONDITIONS			1	2	3	4	5	6	DEF						
			Power Operation	Startup	Hot Standby	Hot Shutdown	Cold Shutdown	Refueling	Defueled						
			GENERAL EMERGENCY			SITE AREA EMERGENCY			ALERT		UNUSUAL EVENT				
R	1 Offsite Rad Conditions	Abnorm. Rad Release / Rad Effluent	RG1 Offsite dose resulting from an actual or imminent release of gaseous radioactivity greater than 1000 mRem TEDE or 5000 mRem thyroid CDE for the actual or projected duration of the release using actual meteorology <div>123456DEF</div>			RS1 Offsite dose resulting from an actual or imminent release of gaseous radioactivity exceeds 100 mRem TEDE or 500 mRem thyroid CDE for the actual or projected duration of the release <div>123456DEF</div>			RA1 Any release of gaseous or liquid radioactivity to the environment greater than 200 times the ODCM for 15 minutes or longer <div>123456DEF</div>			RU1 Any release of gaseous or liquid radioactivity to the environment greater than 2 times the ODCM for 60 minutes or longer <div>123456DEF</div>			
			RG1.1 Valid reading on <b>any</b> radiation monitors > Table R-1 column "GE" for ≥ 15 min. (Note 1) <div>Note 1: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RS1.2/RG1.2). Do not delay declaration awaiting dose assessment results</div>			RS1.1 Valid reading on <b>any</b> radiation monitors > Table R-1 column "SAE" for ≥ 15 min. (Note 1)			RA1.1 Valid reading on <b>any</b> Gaseous monitors > Table R-1 column "Alert" for ≥ 15 min. (Note 2)  RA1.2 Valid reading on <b>any</b> Liquid monitors > Table R-1 column "Alert" for ≥ 15 min. (Note 2)  RA1.3 Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 200 x ODCM limits for ≥ 15 min. (Note 2) <div>Note 2: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded the applicable time if an ongoing release is detected and the release start time is unknown</div>			RU1.1 Valid reading on <b>any</b> Gaseous monitors > Table R-1 column "UE" for ≥ 60 min. (Note 2)  RU1.2 Valid reading on <b>any</b> Liquid monitors > Table R-1 column "UE" for ≥ 60 min. (Note 2)  RU1.3 Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 2 x ODCM limits for ≥ 60 min. (Note 2)			
			RG1.2 Dose assessment using actual meteorology indicates doses > 1,000 mRem TEDE or 5,000 mRem thyroid CDE at or beyond the site boundary  RG1.3 Field survey results indicate closed window dose rates > 1,000 mRem/hr expected to continue for ≥ 60 min. at or beyond the site boundary <b>OR</b> Analyses of field survey samples indicate thyroid CDE > 5,000 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)			RS1.2 Dose assessment using actual meteorology indicates doses > 100 mRem TEDE or 500 mRem thyroid CDE at or beyond the site boundary  RS1.3 Field survey results indicate closed window dose rates > 100 mRem/hr expected to continue for ≥ 60 min. at or beyond the site boundary <b>OR</b> Analyses of field survey samples indicate thyroid CDE > 500 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)									
	2 Onsite Rad Conditions & Spent Fuel Events	3 CR/CAS Rad	Table R-1 Effluent Monitor Classification Thresholds						RA2 Damage to irradiated fuel or loss of water level that has resulted or will result in the uncovering of irradiated fuel outside the Reactor Vessel <div>123456DEF</div>		RU2 Unplanned rise in plant radiation levels <div>123456DEF</div>				
			Table R-2 Radiation Monitors						RA2.1 A valid High Alarm on <b>any</b> Table R-2 radiation monitor due to damage to irradiated fuel or loss of water level  RA2.2 A water level drop in the reactor refueling cavity, spent fuel pool or fuel transfer canal that will result in irradiated fuel becoming uncovered		RU2.1 Unplanned water level drop in the reactor refueling cavity, spent fuel pool or fuel transfer canal as indicated by low level alarm or visual observation <b>AND</b> Valid Table R-2 radiation monitor reading rises due to loss of shielding above irradiated fuel (Note 3) <b>RU2.2</b> Unplanned valid area radiation reading increases by a factor of 1000 over normal" levels * Normal levels can be considered as the highest reading in the past 24 hours excluding the current peak value				
							RA3 Rise in radiation levels within the facility that impedes operation of systems required to maintain plant safety functions <div>123456DEF</div>						RA3.1 Valid dose rates > 15 mRem/hr in <b>EITHER</b> of the following areas requiring continuous occupancy to maintain plant safety functions: Control Room <b>OR</b> CAS		Note 3: If loss of water level in the refueling pathway occurs while in Mode S, 6 or DEF, consider classification under EALs CU3.1, CU3.2 or CU3.3
H	1 Natural or Destructive Phenomena		Containment Ventilation Isolation Monitors <ul style="list-style-type: none"><li>RM-1CR-3561A-SA Containment Ventilation Isolation</li><li>RM-1CR-3561B-SB Containment Ventilation Isolation</li><li>RM-1CR-3561C-SA Containment Ventilation Isolation</li><li>RM-1CR-3561D-SB Containment Ventilation Isolation</li></ul> Spent Fuel Pool Monitors <ul style="list-style-type: none"><li>Refueling cavity level &lt; 23 ft</li><li>RM-1CR-3561A-SA Containment Ventilation Isolation</li><li>RM-1CR-3561B-SB Containment Ventilation Isolation</li><li>RM-1CR-3561C-SA Containment Ventilation Isolation</li><li>RM-1CR-3561D-SB Containment Ventilation Isolation</li><li>ALB-023-4-17 SPENT FP HI/LO LEVEL, or ALB-023-5-17, NEW FP HI/LO LEVEL</li><li>RM-1FR-3564A-SA Spent Fuel Pool SW, SE, SW</li><li>RM-1FR-3564B-SB Spent Fuel Pool SW, SE, SE</li><li>RM-1FR-3565A-SA Spent Fuel Pool SW, SE, SW</li><li>RM-1FR-3565B-SB Spent Fuel Pool SW, SE, SE</li><li>ALB-023-4-18 SFP C HI/LO LEVEL, or ALB-023-5-18 SFP D HI/LO LEVEL</li><li>RM-1FR-3566A-SA Spent Fuel Pool NE, NW, NE</li><li>RM-1FR-3566B-SB Spent Fuel Pool NW, NE, NW</li><li>RM-1FR-3567A-SA Spent Fuel Pool NW, NE, NW</li><li>RM-1FR-3567B-SB Spent Fuel Pool NE, NW, NE</li></ul> FHB Emergency Exhaust <ul style="list-style-type: none"><li>REM-1FL-3508A-SA, FHB Emergency Exhaust</li><li>REM-1FL-3508B-SB, FHB Emergency Exhaust</li></ul>			Table H-1 Structures Containing Safe Shutdown Equipment <ul style="list-style-type: none"><li>Containment</li><li>Reactor Auxiliary Building</li><li>Fuel Handling Building</li><li>Waste Processing Building</li><li>Turbine Building (including Transformer Area)</li><li>Emergency Diesel Generator Building</li><li>Diesel Fuel Oil Storage Building (DFOST)</li><li>ESW Intake Structure</li><li>Auxiliary Reservoir Intake Structure</li><li>NSW Structure</li><li>Switchyard</li><li>Yard 261 Duct Banks (underground raceways containing Safe Shutdown power, control and instrument cables) serving <b>any</b> of the above areas</li></ul> <div>Note 4: Visible Damage is:<ul style="list-style-type: none"><li>Damage to equipment or structure that is readily observable without measurements, testing, or analysis</li><li>Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component</li><li>Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering</li></ul>Visible Damage does not include surface blemishes (e.g., paint chipping, scratches)</div>			HA1 Natural or destructive phenomena affecting Vital Areas <div>123456DEF</div>			HU1 Natural or destructive phenomena affecting the Protected Area <div>123456DEF</div>			
						HA1.1 Seismic event > OBE as indicated by <b>any</b> of the following: <ul style="list-style-type: none"><li>ALB-10/4-4, SEISMIC MON SYS OBE EXCEEDED is ALARMED</li><li>ALARM light on Seismic Switch Power Supply is LIT</li><li><b>Any</b> red alarm light is LIT on the Response Spectrum Annunciator</li></ul> <b>AND</b> Earthquake confirmed by <b>any</b> of the following: <ul style="list-style-type: none"><li>Earthquake felt in plant</li><li>National Earthquake Center</li><li>Control Room indication of degraded performance of systems required for the safe shutdown of the plant</li></ul>			HU1.1 Seismic event identified by <b>any two</b> of the following: <ul style="list-style-type: none"><li>Seismic event confirmed at the Strong Motion Accelerograph by <b>EITHER</b>: Amber EVENT ALARM light illuminates</li><li><b>OR</b></li><li>EVENT INDICATOR flag turns from black to white</li><li>Earthquake felt in plant</li><li>National Earthquake Center</li></ul>						
						HA1.2 Tornado striking or sustained high winds > 89 mph resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure containing systems or components required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of systems required for the safe shutdown of the plant (Table H-1)			HU1.2 Tornado striking within Protected Area boundary <b>OR</b> Sustained high winds > 89 mph						
				HA1.3 Internal flooding in the Reactor Auxiliary Building, DG Room A or DG Room B resulting in <b>EITHER</b> : An electrical shock hazard that precludes access to operate or monitor safety equipment <b>OR</b> Control Room indication of degraded performance of systems in the flooded area required for the safe shutdown of the plant			HU1.3 Internal flooding that has the potential to affect safety related equipment required by Technical Specifications for the current operating mode in <b>any</b> of the following areas: <ul style="list-style-type: none"><li>Reactor Auxiliary Building</li><li>DG Room A</li><li>DG Room B</li></ul>								
				HA1.4 Turbine failure-generated projectiles resulting in <b>EITHER</b> : Visible damage (Note 4) to or penetration of <b>any</b> Table H-1 structure containing systems or components required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of systems required for the safe shutdown of the plant (Table H-1)			HU1.4 Turbine failure resulting in casing penetration or damage to turbine or generator seals								
				HA1.5 Aux RSVR Level Low: LSC8752A (B) < 248 ft <b>OR</b> Main RSVR Level Low: LSC8750A (B) < 205.5 ft			HU1.5 Flood waters > 261 ft (plant grade) <b>OR</b> Aux RSVR Level Low: LSC8752A (B) < 250 ft <b>OR</b> Main RSVR Level Low: LSC8750A (B) < 206 ft								
Hazards	2 Fire or Explosion		Note 6: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time			HA2 Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown <div>123456DEF</div>			HU2 Fire within the Protected Area not extinguished within 15 min. of detection or explosion within the Protected Area <div>123456DEF</div>						
						HA2.1 Fire or explosion resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure <b>OR</b> system/component required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of <b>any</b> safe shutdown structure, system, or component within <b>any</b> Table H-1 area			HU2.1 Fire <b>not</b> extinguished within 15 min. of Control Room notification or verification of a Control Room fire alarm in <b>any</b> Table H-1 area (Note 6)  HU2.2 Explosion of sufficient force to damage permanent structures or equipment within the Protected Area						
						HA3 Access to a Vital Area is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of operable equipment required to maintain safe operations or safely shutdown the reactor <div>123456DEF</div>			HU3 Release of toxic, corrosive, asphyxiant or flammable gases deemed detrimental to normal plant operations <div>123456DEF</div>						
	3 Hazardous Gas		Note 5: If the equipment in the stated area was already inoperable, or out of service, before the event occurred, then EAL HA3.1 should not be declared as it will have no adverse impact on the ability of the plant to safely operate or safely shutdown beyond that already allowed by Technical Specifications at the time of the event.			HA3.1 Access to a Vital Area is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of systems required to maintain safe operations or safely shut down the reactor (Note 5)			HU3.1 Toxic, corrosive, asphyxiant or flammable gases in amounts that have or could adversely affect normal plant operations  HU3.2 Recommendation by local, county or state officials to evacuate or shelter site personnel based on offsite event						
						HA4 Hostile action within the Owner Controlled Area or airborne attack threat <div>123456DEF</div>			HU4 Confirmed security condition or threat which indicates a potential degradation in the level of safety of the plant <div>123456DEF</div>						
			HG4 Hostile action resulting in loss of physical control of the facility <div>123456DEF</div>			HS4 Hostile action within the Protected Area <div>123456DEF</div>			HA4.1 A hostile action is occurring or has occurred within the Owner Controlled Area as reported by Security Shift Supervision <b>OR</b> A validated notification from NRC of an airliner attack threat within 30 min. of the site						
4 Security		HG4.1 A hostile action has occurred such that plant personnel are unable to operate equipment required to maintain safety functions  HG4.2 A hostile action has caused failure of Spent Fuel Cooling systems <b>AND</b> Imminent fuel damage is likely for a freshly off-loaded reactor core in pool			HS4.1 A hostile action is occurring or has occurred within the Protected Area as reported by Security Shift Supervision			HU4.1 A security condition that does <b>not</b> involve a hostile action as reported by the Security Shift Supervision <b>OR</b> A credible site-specific security threat notification <b>OR</b> A validated notification from NRC providing information of an aircraft threat							
					HS5 Control Room evacuation has been initiated and plant control cannot be established <div>123456DEF</div>			HA5 Control Room evacuation has been initiated <div>123456DEF</div>							
		None			HS5.1 Control Room evacuation has been initiated <b>AND</b> Control of the plant <b>cannot</b> be established within 15 min.			None							
5 Control Room Evacuation		HG6 Other conditions exist that in the judgment of the SEC warrant declaration of a General Emergency <div>123456DEF</div>			HS6 Other conditions existing that in the judgment of the SEC warrant declaration of a Site Area Emergency <div>123456DEF</div>			HA6 Other conditions exist that in the judgment of the SEC warrant declaration of an Alert <div>123456DEF</div>			HU6 Other conditions existing that in the judgment of the SEC warrant declaration of a UE <div>123456DEF</div>				
		HG6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels (1,000 mRem TEDE and 5,000 mRem thyroid CDE) offsite for more than the immediate site area			HS6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or hostile action that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. <b>Any</b> releases are <b>not</b> expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels (1,000 mRem TEDE and 5,000 mRem thyroid CDE) beyond the site boundary			HA6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. <b>Any</b> releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels (1,000 mRem TEDE and 5,000 mRem thyroid CDE)			HU6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. <b>No</b> releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs				

HOT CONDITIONS		Progress Energy		Harris Nuclear Plant Emergency Action Level Matrix																													
		Revision 10		Sheet 1 of 2																													
		GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT																									
S System Malfunct.	1 Loss of AC Power	SG1 Prolonged loss of all offsite and all onsite AC power to emergency buses <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SG1.1 Loss of all offsite and all onsite AC power to 6.9 KV emergency buses 1A-SA and 1B-SB AND EITHER: Restoration of at least one emergency bus within 4 hours is not likely OR CSFST Core Cooling-RED or ORANGE entry conditions met		SS1a Loss of all offsite and all onsite AC power to emergency buses for ≥ 15 min. <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SS1.1 Loss of all offsite and all onsite AC power to 6.9 KV emergency buses 1A-SA and 1B-SB for ≥ 15 min. (Note 6)		SA1 AC power capability to emergency buses reduced to a single power source for ≥ 15 min. such that any additional single failure would result in station blackout <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SA1.1 AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB reduced to a single power source for ≥ 15 min. (Note 6) AND Any additional single power source failure will result in station blackout		SU1 Loss of all offsite AC power to emergency buses for ≥ 15 min. <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU1.1 Loss of all offsite AC power to 6.9 KV emergency buses 1A-SA and 1B-SB for ≥ 15 min. (Note 6)																									
	2 Loss of DC Power	None		SS2 Loss of all vital DC power for ≥ 15 min. <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SS2.1 < 105 VDC on both Emergency DC Buses (125V) (DP-1A-SA, DP-1B-SB) for ≥ 15 min. (Note 6)		None		None																									
	3 Criticality & RPS Failure	SG3 Automatic trip and all manual actions fail to shut down the reactor and indication of an extreme challenge to the ability to cool the core exists <div><div>1</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> SG3.1 An automatic trip fails to shut down the reactor AND All manual actions do not shut down the reactor as indicated by reactor power ≥ 5% AND EITHER of the following exist or have occurred due to continued power generation: CSFST Core Cooling-RED entry conditions met OR CSFST Heat Sink-RED entry conditions met		SS3 Automatic trip fails to shut down the reactor and manual actions taken from the reactor control console are not successful in shutting down the reactor <div><div>1</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> SS3.1 An automatic trip failed to shut down the reactor AND Manual actions taken at the reactor control console (actuation of MCB Reactor Trip Switch #1, #2 or MCB Turbine Trip switch) do not shut down the reactor as indicated by reactor power ≥ 5%		SA3 Automatic trip fails to shut down the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor <div><div>1</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> SA3.1 An automatic trip failed to shut down the reactor AND Manual actions taken at the reactor control console (actuation of MCB Reactor Trip Switch #1, #2 or MCB Turbine Trip switch) successfully shut down the reactor as indicated by reactor power < 5%		SU3 Inadvertent criticality <div><div></div><div></div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU3.1 An unplanned sustained positive startup rate observed on nuclear instrumentation																									
	4 Inability to Reach or Maintain Shutdown Conditions	None		None		None		SU4 Inability to reach required shutdown within Technical Specification limits <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU4.1 Plant is not brought to required operating mode within Technical Specifications LCO action statement time																									
	5 Inst.	Table S-1 Significant Transients <div>Reactor trip Electrical load rejection &gt; 25% full electrical load Runback &gt; 25% reactor power ECCS injection Reactor power oscillations &gt; 10%</div>		SS5 Inability to monitor a significant transient in progress <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SS5.1 Loss of approximately 75% (or more) of annunciation or indication on all MCB panels for ≥ 15 min. (Note 6) AND A significant transient is in progress, Table S-1 AND Compensatory indications are unavailable (ERFIS, OSI/PI)		SA5 Unplanned loss of safety system annunciation or indication in the Control Room with either (1) a significant transient in progress, or (2) compensatory indicators are unavailable <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SA5.1 Unplanned loss of approximately 75% (or more) of annunciation or indication on all MCB panels for ≥ 15 min. (Note 6) AND EITHER: A significant transient is in progress, Table S-1 OR Compensatory indications are unavailable (ERFIS, OSI/PI)		SU5 Unplanned loss of safety system annunciation or indication in the Control Room for ≥ 15 min. <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU5.1 Unplanned loss of approximately 75% (or more) of annunciation or indication on all MCB panels for ≥ 15 min. (Note 6)																									
	6 Comm.	None		None		Table S-2 Communications Systems <table><tr><th>System</th><th>Onsite (internal)</th><th>Offsite (external)</th></tr><tr><td>PABX telephone system (desk phones)</td><td>X</td><td>X</td></tr><tr><td>HE&amp;EC PABX telephone system</td><td></td><td>X</td></tr><tr><td>Site paging system</td><td>X</td><td></td></tr><tr><td>Satellite phone</td><td></td><td>X</td></tr><tr><td>Radio communications networks</td><td>X</td><td>X</td></tr><tr><td>NRC ETS Phone</td><td></td><td>X</td></tr><tr><td>NRC HPN Phone</td><td></td><td>X</td></tr></table>		System	Onsite (internal)	Offsite (external)	PABX telephone system (desk phones)	X	X	HE&EC PABX telephone system		X	Site paging system	X		Satellite phone		X	Radio communications networks	X	X	NRC ETS Phone		X	NRC HPN Phone		X	SU6 Loss of all onsite or offsite communications capabilities <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU6.1 Loss of all Table S-2 onsite (internal) communication methods affecting the ability to perform routine operations OR Loss of all Table S-2 offsite (external) communication methods affecting the ability to perform offsite notifications	
	System	Onsite (internal)	Offsite (external)																														
	PABX telephone system (desk phones)	X	X																														
HE&EC PABX telephone system		X																															
Site paging system	X																																
Satellite phone		X																															
Radio communications networks	X	X																															
NRC ETS Phone		X																															
NRC HPN Phone		X																															
7 Fuel Clad Degradation	None		None				SU7 Fuel clad degradation <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU7.1 RCS specific activity > 60 µCi/gm dose equivalent I-131 (or >1 µCi/gm dose equivalent I-131 for > 48 hrs) (Note 7) SU7.2 Valid Gross Failed Fuel Detector (RS-7411A) high alarm (> 1E+04 cpm) (Note 7)																										
8 RCS Leakage	None		None		Note 7: See Fission Product Barrier thresholds (Table F-1) for possible escalation above the Unusual Event		SU8 RCS leakage <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> SU8.1 Unidentified or pressure boundary leakage > 10 gpm OR Identified leakage > 25 gpm (Note 7)																										
F Fission Product Barriers	FG1 Loss of any two barriers AND loss or potential loss of the third barrier <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> FG1.1 Loss of any two barriers AND Loss or potential loss of the third barrier (Table F-1)		FS1 Loss or potential loss of any two barriers <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> FS1.1 Loss or potential loss of any two barriers (Table F-1)		FA1 Any loss or any potential loss of either Fuel Clad or RCS <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> FA1.1 Any loss or any potential loss of either Fuel Clad or RCS (Table F-1)		FU1 Any loss or any potential loss of Containment <div><div>1</div><div>2</div><div>3</div><div>4</div><div></div><div></div><div></div><div></div></div> FU1.1 Any loss or any potential loss of Containment (Table F-1)																										

Table F-1 Fission Product Barrier Matrix						
	Fuel Clad Barrier		Reactor Coolant System Barrier		Containment Barrier	
	Loss	Potential Loss	Loss	Potential Loss	Loss	Potential Loss
A.CSFST	1. CSFST Core Cooling-RED entry conditions met	1. CSFST Core Cooling-ORANGE entry conditions met OR CSFST Heat Sink-RED entry conditions met due to actual loss of secondary heat sink and heat sink is required	None	1. CSFST RCS Integrity-RED entry conditions met OR CSFST Heat Sink-RED entry conditions met due to actual loss of secondary heat sink and heat sink is required	None	1. CSFST Containment-RED entry conditions met
B.Core Exit T/Cs	2. Core exit TCs > 1,200°F	2. Core exit TCs > 730°F	None	None	None	2. Core exit TCs > 1,200°F AND Restoration procedure EOP-FRP-C.1 <b>not</b> effective within 15 min.  3. All of the following: • Core exit TCs > 730°F • RVLIS < Table F-2 thresholds • Restoration procedure EOP-FRP-C.1 <b>not</b> effective within 15 min.
C.Radiation	3. Containment radiation >150 R/hr (RM-1CR-3589-SA or RM-1CR-3590-SB)	None	1. Containment Leak Detection Monitor Noble Gas (REM-1LT-3502A-SA) > 8.3E-3 µCi/ml	None	None	4. Containment radiation > 600 R/hr (RM-1CR-3589-SA or RM-1CR-3590-SB)
D.Inventory	None	3. RVLIS < Table F-2 thresholds	2. RCS leak rate > available ECSS makeup capacity as indicated by a loss of RCS subcooling (< 10°F[40°F] - C, < 20°F[50°F] - M) 3. Ruptured SG results in an ECSS (SI) actuation	2. RCS leak rate > 120 gpm with letdown isolated	1. A Containment pressure rise followed by a rapid unexplained drop in Containment pressure 2. Containment pressure or sump level response <b>not</b> consistent with LOCA conditions 3. Ruptured SG is also faulted outside of Containment 4. Primary-to-secondary leakrate > 10 gpm AND Unisolable steam release from affected SG to the environment	5. Containment pressure 45 psig and rising 6. Containment hydrogen concentration ≥ 4% 7. Containment pressure > 10 psig AND Less than one full train of depressurization equipment operating (one CNMT spray pump and two CNMT fan coolers)
E.Other	4. Coolant activity > 300 µCi/gm dose equivalent I-131	None	None	None	5. Failure of all valves in any one line to close AND Direct downstream pathway to the environment exists after Containment isolation signal (Note 8)	None
F.Judgment	5. Any condition in the opinion of the SEC that indicates loss of the Fuel Clad barrier	4. Any condition in the opinion of the SEC that indicates potential loss of the Fuel Clad barrier	4. Any condition in the opinion of the SEC that indicates loss of the RCS barrier	3. Any condition in the opinion of the SEC that indicates potential loss of the RCS barrier	6. Any condition in the opinion of the SEC that indicates loss of the Containment barrier	8. Any condition in the opinion of the SEC that indicates potential loss of the Containment barrier

Table F-2 RVLIS Thresholds		
RVLIS		No. RCPs Operating
Full Range	39%	None
Dynamic Head Range	60%	3
	33%	2
	25%	1

EAL Identifier

XXX.X

Category (R, H, S, F, C) Sequential number within subcategory/classification  
Emergency classification (G, S, A, U) Subcategory number (1 if no subcategory)

NOTES
Note 1: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RS1.2/RG1.2). Do not delay declaration awaiting dose assessment results
Note 2: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In the absence of data to the contrary, assume that the release duration has exceeded the applicable time if an ongoing release is detected and the release start time is unknown
Note 3: If loss of water level in the refueling pathway occurs while in Mode 5, 6 or DEF, consider classification under EALs CU3.1, CU3.2 or CU3.3
Note 4: Visible Damage is: <ul style="list-style-type: none"><li>Damage to equipment or structure that is readily observable without measurements, testing, or analysis</li><li>Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component</li><li>Example damage includes: deformation due to heat or impact, denting, cracking, penetration, rupture, cracking, paint blistering</li></ul> Visible Damage does not include surface blemishes (e.g., paint chipping, scratches)
Note 5: If the equipment in the stated area was already inoperable, or out of service, before the event occurred, then EAL HA3.1 should not be declared as it will have no adverse impact on the ability of the plant to safely operate or safely shutdown beyond that already allowed by Technical Specifications at the time of the event.
Note 6: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time
Note 7: See Fission Product Barrier thresholds (Table F-1) for possible escalation above the Unusual Event
Note 8: A direct release is defined as a pathway from the containment to any environment outside the containment when containment or system isolation is required due to a safety injection signal, containment pressure greater than 3 psig, or a valid containment ventilation isolation signal and the pathway cannot be isolated from the Main Control Room
Note 9: If area radiation levels rise with loss of water level, consider classification under EALs in subcategory R.2, Onsite Rad Conditions & Spent Fuel Events



2014 NRC SRO Question 87 (12) Reference											
ALL CONDITIONS				1	2	3	4	5	6	DEF	
				Power Operation	Startup	Hot Standby	Hot Shutdown	Cold Shutdown	Refueling	Defueled	
		GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT				UNUSUAL EVENT			
R	1	RG1 Offsite dose resulting from an actual or imminent release of gaseous radioactivity greater than 1000 mRem TEDE or 5000 mRem thyroid CDE for the actual or projected duration of the release using actual meteorology	RS1 Offsite dose resulting from an actual or imminent release of gaseous radioactivity exceeds 100 mRem TEDE or 500 mRem thyroid CDE for the actual or projected duration of the release	RA1 Any release of gaseous or liquid radioactivity to the environment greater than 200 times the ODCM for 15 minutes or longer	RU1 Any release of gaseous or liquid radioactivity to the environment greater than 2 times the ODCM for 60 minutes or longer						
		123456DEF	123456DEF	123456DEF	123456DEF						
		RG1.1 Valid reading on <b>any</b> radiation monitors > Table R-1 column "GE" for ≥ 15 min. (Note 1)	RS1.1 Valid reading on <b>any</b> radiation monitors > Table R-1 column "SAE" for ≥ 15 min. (Note 1)	RA1.1 Valid reading on <b>any</b> Gaseous monitors > Table R-1 column "Alert" for ≥ 15 min. (Note 2)	RU1.1 Valid reading on <b>any</b> Gaseous monitors > Table R-1 column "UE" for ≥ 60 min. (Note 2)						
	2	Note 1: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time. If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RS1.2/RG1.2). Do not delay declaration awaiting dose assessment results		RA1.2 Valid reading on <b>any</b> Liquid monitors > Table R-1 column "Alert" for ≥ 15 min. (Note 2)	RU1.2 Valid reading on <b>any</b> Liquid monitors > Table R-1 column "UE" for ≥ 60 min. (Note 2)						
		RG1.2 Dose assessment using actual meteorology indicates doses > 1,000 mRem TEDE or 5,000 mRem thyroid CDE at or beyond the site boundary	RS1.2 Dose assessment using actual meteorology indicates doses > 100 mRem TEDE or 500 mRem thyroid CDE at or beyond the site boundary	RA1.3 Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 200 x ODCM limits for ≥ 15 min. (Note 2)	RU1.3 Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 2 x ODCM limits for ≥ 60 min. (Note 2)						
	3	RG1.3 Field survey results indicate closed window dose rates > 1,000 mRem/hr expected to continue for ≥ 60 min. at or beyond the site boundary OR Analyses of field survey samples indicate thyroid CDE > 5,000 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)	RS1.3 Field survey results indicate closed window dose rates > 100 mRem/hr expected to continue for ≥ 60 min. at or beyond the site boundary OR Analyses of field survey samples indicate thyroid CDE > 500 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)	Note 2: The SEC should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In the absence of data to the contrary, assume that the release duration has exceeded the applicable time if an ongoing release is detected and the release start time is unknown							
2	Onsite Rad Conditions & Spent Fuel Events	Table R-1 Effluent Monitor Classification Thresholds						RA2 Damage to irradiated fuel or loss of water level that has resulted or will result in the uncovering of irradiated fuel outside the Reactor Vessel.	RU2 Unplanned rise in plant radiation levels		
		123456DEF						123456DEF	123456DEF		
	3	CR/CAS Rad	RA3 Rise in radiation levels within the facility that impedes operation of systems required to maintain plant safety functions						Note 3: If loss of water level in the refueling pathway occurs while in Mode 5, 6 or DEF, consider classification under EALs CU3.1, CU3.2 or CU3.3		
H	1	Table R-2 Radiation Monitors						HA1 Natural or destructive phenomena affecting Vital Areas	HU1 Natural or destructive phenomena affecting the Protected Area		
		123456DEF						123456DEF	123456DEF		
		Natural or Destructive Phenomena						HA1.1 Seismic event > OBE as indicated by <b>any</b> of the following: • ALB-10/4-4, SEISMIC MON SYS OBE EXCEEDED is ALARMED • ALARM light on Seismic Switch Power Supply is LIT • <b>Any</b> red alarm light is LIT on the Response Spectrum Annunciator <b>AND</b> Earthquake confirmed by <b>any</b> of the following: • Earthquake felt in plant • National Earthquake Center • Control Room indication of degraded performance of systems required for the safe shutdown of the plant	HU1.1 Seismic event identified by <b>any two</b> of the following: • Seismic event confirmed at the Strong Motion Accelerograph by <b>EITHER</b> : Amber EVENT ALARM light illuminates <b>OR</b> EVENT INDICATOR flag turns from black to white • Earthquake felt in plant • National Earthquake Center		
	2	Fire or Explosion						HA1.2 Tornado striking or sustained high winds > 89 mph resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure containing systems or components required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of systems required for the safe shutdown of the plant (Table H-1)	HU1.2 Tornado striking within Protected Area boundary <b>OR</b> Sustained high winds > 89 mph		
		Hazardous Gas						HA1.3 Internal flooding in the Reactor Auxiliary Building, DG Room A or DG Room B resulting in <b>EITHER</b> : An electrical shock hazard that precludes access to operate or monitor safety equipment <b>OR</b> Control Room indication of degraded performance of systems in the flooded area required for the safe shutdown of the plant	HU1.3 Internal flooding that has the potential to affect safety related equipment required by Technical Specifications for the current operating mode in <b>any</b> of the following areas: • Reactor Auxiliary Building • DG Room A • DG Room B		
	3	Hazards						HA1.4 Turbine failure-generated projectiles resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure containing systems or components required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of systems required for the safe shutdown of the plant (Table H-1)	HU1.4 Turbine failure resulting in casing penetration or damage to turbine or generator seals		
	4	Security						HA1.5 Aux RSVR Level Low: LSC8752A (B) < 248 ft <b>OR</b> Main RSVR Level Low: LSC8750A (B) < 205.5 ft	HU1.5 Flood waters > 261 ft (plant grade) <b>OR</b> Aux RSVR Level Low: LSC8752A (B) < 250 ft <b>OR</b> Main RSVR Level Low: LSC8750A (B) < 206 ft		
		Control Room Evacuation						HA1.6 Vehicle crash resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure containing systems or components required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of systems required for the safe shutdown of the plant (Table H-1)	HU2 Fire within the Protected Area not extinguished within 15 min. of detection or explosion within the Protected Area		
		Judgment						HA2 Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown	HU2.1 Fire <b>not</b> extinguished within 15 min. of Control Room notification or verification of a Control Room fire alarm in <b>any</b> Table H-1 area (Note 6)		
	5	Hazardous Gas						HA2.1 Fire or explosion resulting in <b>EITHER</b> : Visible damage (Note 4) to <b>any</b> Table H-1 structure <b>OR</b> system/component required for safe shutdown of the plant <b>OR</b> Control Room indication of degraded performance of <b>any</b> safe shutdown structure, system, or component within <b>any</b> Table H-1 area	HU2.2 Explosion of sufficient force to damage permanent structures or equipment within the Protected Area		
		Security						HA3 Access to a Vital Area is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of operable equipment required to maintain safe operations or safely shutdown the reactor	HU3 Release of toxic, corrosive, asphyxiant or flammable gases deemed detrimental to normal plant operations		
	6	Hazards						HA3.1 Access to a Vital Area is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of systems required to maintain safe operations or safely shut down the reactor (Note 5)	HU3.1 Toxic, corrosive, asphyxiant or flammable gases in amounts that have or could adversely affect normal plant operations		
	4	Security						HA4 Hostile action within the Owner Controlled Area or airborne attack threat	HU4 Confirmed security condition or threat which indicates a potential degradation in the level of safety of the plant		
		Control Room Evacuation						HA4.1 A hostile action is occurring or has occurred within the Owner Controlled Area as reported by Security Shift Supervision <b>OR</b> A validated notification from NRC of an airliner attack threat within 30 min. of the site	HU4.1 A security condition that does <b>not</b> involve a hostile action as reported by the Security Shift Supervision <b>OR</b> A credible site-specific security threat notification <b>OR</b> A validated notification from NRC providing information of an aircraft threat		
		Judgment						HA5 Control Room evacuation has been initiated	None		
	5	Hazardous Gas						HA5.1 Control Room evacuation has been initiated			
		Security						HA6 Other conditions exist that in the judgment of the SEC warrant declaration of a Site Area Emergency	HU6 Other conditions existing that in the judgment of the SEC warrant declaration of a UE		
	6	Hazards						HA6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which involve actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. <b>ANY</b> releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels (1,000 mRem TEDE and 5,000 mRem thyroid CDE)	HU6.1 Other conditions exist which in the judgment of the SEC indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. <b>No</b> releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs		

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

---

3.1.3.1 All shutdown and control rods shall be OPERABLE and positioned within  $\pm 12$  steps (indicated position) of their group step counter demand position.

APPLICABILITY: MODES 1\* and 2\*.

ACTION:

- a. With one or more rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.
- b. With more than one rod misaligned from the group step counter demand position by more than  $\pm 12$  steps (indicated position), be in HOT STANDBY within 6 hours.
- c. With more than one rod inoperable, due to a rod control urgent failure alarm or obvious electrical problem in the rod control system existing for greater than 36 hours, be in HOT STANDBY within the following 6 hours.
- d. With one rod trippable but inoperable due to causes other than addressed by ACTION a., above, or misaligned from its group step counter demand height by more than  $\pm 12$  steps (indicated position), POWER OPERATION may continue provided that within 1 hour:
  1. The rod is restored to OPERABLE status within the above alignment requirements, or
  2. The rod is declared inoperable and the remainder of the rods in the group with the inoperable rod are aligned to within  $\pm 12$  steps of the inoperable rod while maintaining the rod sequence and insertion limits of Specification 3.1.3.6. The THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation, or
  3. The rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that:
    - a) A reevaluation of each accident analysis of Table 3.1-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents

---

\*See Special Test Exceptions Specifications 3.10.2 and 3.10.3.



REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION

---

ACTION (Continued):

- remain valid for the duration of operation under these conditions:
- b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours;
  - c) A power distribution map is obtained from the movable incore detectors and  $F_0(Z)$  and  $F_{\Delta H}^N$  are verified to be within their limits within 72 hours; and
  - d) The THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within the next hour and within the following 4 hours the High Neutron Flux Trip Setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER.

SURVEILLANCE REQUIREMENTS

---

4.1.3.1.1 The position of each rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the rod position deviation monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 10 steps in any one direction at least once per 92 days.