

APPENDIX D, SAMPLE 1: EIGHT YEAR NRC/FEMA EVALUATED EXERCISE CYCLE DEMONSTRATION CRITERIA

Developer Instruction

Below is an example of a method that may be used to track exercise demonstration criteria. The table may be included in your drill and exercise procedures.

Example instructions for using the table below:

- Using the checklist, determine your expected exercise dates for each of the scenario demonstration criteria and develop your eight (8) year exercise schedule. Planning with offsite officials and organizations for ORO availability is an essential element in developing and scheduling your drills and exercises.
- Upon verification of schedule dates, include in the site business plan.

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
1. Hostile Action-Based Scenario								
HOSTILE ACTION-Based exercises must implement the NRC endorsed HAB objectives provided in NEI 06-04, Revision 2, "Conducting a HOSTILE ACTION-Based Emergency Response Drill," Revision 2, Appendix A, Dated 7/25/11.								
2. Minimum or No Release Exercise								
<p>A no RADIOLOGICAL RELEASE or an unplanned MINIMAL RADIOLOGICAL RELEASE that requires the site to declare a Site Area Emergency, but does not require declaration of a General Emergency. For this scenario variation, the following conditions shall apply:</p> <ul style="list-style-type: none"> • Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out-of-sequence activities, plan reviews, staff assistance visits, or other means as described in FEMA Rep Manual. • If the offsite organizations elect not to participate in the licensee-required no/minimal exercise, they will still be obligated to conduct a full scale exercise to meet the requirements as specified in 44 CFR 350.9. <p>An out-of-sequence based activity may be used to satisfy the 44 CFR 350.9 requirement, if agreed to by FEMA in advance, at the time the extent of play agreement is put in place.</p> <p>Note: When planning for a joint no/MINIMAL RADIOLOGICAL RELEASE exercise, the affected ORO, the licensee, and FEMA will identify offsite capabilities that may still need to be evaluated and agreed upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements.</p>								

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
3. Demonstration of 50.54(hh)(2)								
Demonstrate the use of mitigation requirement and procedures required by 50.54(hh)(2) [FRN-A, 113, 3]. Use of strategies to mitigate spent fuel pool damage scenarios and reactor accidents may be conducted separately for the main scenario time line [ISG, 33, 3].								
4. Rapid Escalation Exercise (to Site Area or General Emergency)								
At least one exercise over the cycle must rapidly progress to a Site Area or General Emergency in order to test the ERO's ability to respond to an accelerated event.								
5. Radiological Release								
Response to a scenario with a radiological release that requires evacuation or sheltering.								
6. Simulated Repair								
Successful simulated repair of simulated damaged equipment to prevent or mitigate core damage, reactor pressure loss or containment loss.								
7. Ingestion Pathway Exercise for State demonstration.								

Note: Any of the above drills may be combined or held separately as determined by the licensee, State and local offsite response organizations.

APPENDIX D, SAMPLE 2: KEY EMERGENCY RESPONSE FUNCTIONS/SKILLS PER FACILITY

Developer Instruction

Below is an example of a method that may be used to ensure station drills and exercises demonstrate key emergency response functions and skills. The table may be included in your drill and exercise program procedures.

Example Instructions:

- Using the checklist below determine by facility which of the planning standards and objectives must be demonstrated during your drill and exercise cycle.

Planning Standard/Objectives	CR	TSC	OSC	EOF	JIC
A. Assignment of Responsibility					
A.1.1: Coordination of Response Actions				X	
A.1.2: ICP Interface	X	X		X	X
A.2.1: Continuous (24 Hour) Operations	X	X	X	X	X
A.2.2: Shift Relief	X	X	X	X	X
B. Onsite Emergency Organization					
B.1.1: On-Shift ERO	X				
B.1.2: Augmentation of the On-Shift ERO	X				
B.2.1: Transfer of Command and Control	X	X		X	
B.2.2: Maintaining Command and Control	X	X		X	
B.3.1: Management and Supervision of the ERO	X	X	X	X	X
B.4.1: Minimum Staffing		X	X	X	X
B.4.2: Full Staffing		X	X	X	X
B.5.1: Use of Medical, Fire and LLEA Support	X	X			
C: Emergency Response Support Resources					
C.1.1: NRC Site Response Team		X		X	X
C.2.1: EOC Liaisons				X	
C.3.1: Radiological Laboratory Support				X	

Planning Standard/Objectives	CR	TSC	OSC	EOF	JIC
C.3.2: Non-ERO Support and Assistance		X	X	X	X
D. Emergency Classification System					
D.1.1: Event Declaration	X	X		X	
D.1.2: EAL Tracking	X	X		X	
E: Notification Methods and Procedures					
E.1.1: ERO Notification	X				
E.1.2: Backup ERO Notification	X				
E.2.1: State/Local Notification	X	X		X	
E.2.2: Follow-Up Information Messages	X	X		X	
E.3.1: NRC Notification	X	X		X	
E.3.2: Continuous NRC Communications	X	X		X	
F. Emergency Communications					
F.1.1: Inter-Facility Communications	X	X	X	X	X
F.1.2: Back-Up Communications	X	X	X	X	X
F.2.1: NRC ETS (Other Than ENS and HPN)				X	
F.3.1: EOC Communications				X	
F.4.1: Industry Event Communications				X	
G. Public Education and Information					
G.1.1: Media Statements				X	X
G.2.1: Media Briefings					X
G.3.1: Media Accommodations					X
G.3.2: Public Information Integration					X
G.4.1: Media Monitoring					X
G.5.1: Rumor Control					X
H: Emergency Facilities and Equipment					
H.1.1: Facility Setup		X	X	X	X
H.2.1: Facility Activation		X	X	X	X
H.3.1: TSC Support of Emergency Response Activities		X			

Planning Standard/Objectives	CR	TSC	OSC	EOF	JIC
H.3.2: OSC Support of Emergency Response Activities			X		
H.3.3: EOF Support of Emergency Response Activities				X	
H.3.4: JIC Support of Emergency Response Activities					X
H.4.1: Facility Relocation		X	X		
H.5.1: Facility Display Information	X	X	X	X	X
H.5.2: Obtaining Key Parameters From Offsite Sources	X	X		X	
H.5.3: Meteorological Data	X	X		X	
I. Accident Assessment and Mitigation					
I.1.1: Initial and Continuing Accident Assessment	X	X	X	X	
I.1.2: Accident Mitigation		X		X	
I.2.1: Radiological Release	X	X		X	
I.2.2: Dose Assessment	X	X		X	
I.2.3: Loss of Rad Monitoring Capability		X		X	
I.3.1: Core Damage Assessment		X			
I.4.1: In Plant Radiological Monitoring			X		
I.4.2: Onsite Radiological Monitoring			X		
I.4.3: Field Monitoring Team Dispatch and Control				X	
I.4.4: Plume Monitoring				X	
I.4.5: Post-Plume Monitoring				X	
I.5.1: Emergency Response Team (ERT) Task Development and Prioritization	X	X	X		
I.5.2: Briefing, Dispatch and Control of ERTs	X	X	X		
I.6.1: SAMGs	X	X		X	
I.6.2: EDMGs	X	X			
I.6.3: 10 CFR 50.54(x/y)	X	X		X	

Planning Standard/Objectives	CR	TSC	OSC	EOF	JIC
I.6.4: Security Contingencies	X	X			
J: Protective Response					
J.1.1: Assembly and Accountability	X	X	X		
J.2.1: Site Evacuation	X	X			
J.2.2: Local Area Evacuation	X	X			
J.3.1: KI	X	X		X	
J.4.1: Offsite PARs	X	X		X	
J.5.1: Personal Protective Equipment		X	X		
K. Radiological Exposure Control					
K.1.1: Emergency Exposure	X	X		X	
K.1.2: Tracking Emergency Worker Exposure	X	X		X	
K.2.1: Personnel Monitoring and Decontamination		X	X		
K.2.2: Equipment Monitoring and Decontamination		X	X		
K.2.3: Evacuee Monitoring and Decontamination		X		X	
K.3.1: Onsite Contamination Control Measures		X	X		
K.3.2: Station Habitability		X	X		
L: Medical and Public Health Support					
L.1.1: Contaminated Injured Individual	X				
L.2.1: Transport of a Contaminated Injured Individual	X				
L.3.1: Hospital Coordination					
M. Recovery & Reentry Planning & Post Accident					
M.1.1: Event Termination	X	X		X	
M.2.1: Recovery		X		X	X
M.3.1: Ingestion Pathway				X	
Z: ERO Fundamentals					
Z.1.1: Briefings and Updates	X	X	X	X	X

Planning Standard/Objectives	CR	TSC	OSC	EOF	JIC
Z.2.1: Log keeping and Records	X	X	X	X	X
Z.3.1: Equipment and Facility Restoration	X	X	X	X	X
Z.4.1: Human Performance	X	X	X	X	X

APPENDIX D, SAMPLE 3: LIST OF EMERGENCY ACTION LEVEL INITIATING CONDITIONS TO DEMONSTRATE OVER THE 8 YEAR CYCLE

Developer Instruction

Below is an example of a method that may be used track demonstration of EAL ICs over the 8 year cycle. The table may be included in your drill and exercise program procedures. This list is based on NEI 99-01, Revision 5. Adjust for the EAL scheme used by your plant.

Example Instructions:

- Using the sample checklist, track in the box, the year and specific drill, mini-drill, functional drill, exercise, simulator session or table top in which the IC was demonstrated. The activity has to reasonably simulate the interactions between the appropriate emergency response facilities and/or individuals that would be expected to occur during emergencies [ISG, 30, 4]:
 - Indicate which ERO team participated,
 - Indicate which operations crew participated.
- Tracking opportunities for each of the ICs along with associated success or failure may assist in future trending.

Radiological Effluent

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
AU1 Any release of gaseous or liquid radioactivity to the environment Greater Than 2 times the Radiological Effluent Technical Specifications/ODCM for 60 minutes or longer. <i>Op. Modes: All</i>								
AU2 UNPLANNED rise in plant radiation levels. <i>Op. Modes: All</i>								
AA1 Any release of gaseous or liquid radioactivity to the environment Greater Than 200 times the Radiological Effluent Technical Specifications/ODCM for 15 minutes or longer. <i>Op. Modes: All</i>								
AA3 Rise in radiation levels within the facility that impedes operation of systems required to maintain plant safety functions. <i>Op. Modes: All</i>								
AA2 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.								

Initiating Condition		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<i>Op. Modes: All</i>									
AS1	Off-site dose resulting from an actual or IMMINENT release of gaseous radioactivity Greater Than 100 mrem TEDE or 500 mrem Thyroid CDE for the actual or projected duration of the release. <i>Op. Modes: All</i>								
AG1	Off-site 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. <i>Op. Modes: All</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

S=LOCT Licensed Operator Continuing Training or Licensed Operator Initial Training

Cold Shutdown

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
CU1 RCS leakage. <i>Op. Modes: Cold Shutdown</i>								
CU2 UNPLANNED loss of RCS/RPV inventory. <i>Op. Modes: Refueling</i>								
CU3 AC power capability to emergency busses reduced to a single power source for 15 minutes or longer such that any additional single failure would result in station blackout. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CU4 UNPLANNED loss of decay heat removal capability. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CU6 Loss of all On-site or Off-site communications capabilities. <i>Op. Modes: Cold Shutdown, Refueling, Defueled</i>								
CU7 UNPLANNED loss of required DC power for 15 minutes or longer. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CU8 Inadvertent criticality. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CA1 Loss of RCS/RPV inventory. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CA3 Loss of all Off-site and all On-site AC power to emergency busses for 15 minutes or longer. <i>Op. Modes: Cold Shutdown, Refueling, Defueled</i>								
CA4 Inability to maintain plant in cold shutdown. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CS1 Loss of RCS/RPV inventory affecting core decay heat removal capability. <i>Op. Modes: Cold Shutdown, Refueling</i>								
CG1 Loss of RCS/RPV inventory affecting fuel clad integrity with containment challenged. <i>Op. Modes: Cold Shutdown, Refueling</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

Permanently Defueled/ISFSI

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
D-AU1 Any release of gaseous or liquid radioactivity to the environment greater than 2 times the Radiological Effluent Technical Specification/ODCM for 60 minutes or longer. <i>Op. Modes: Not Applicable</i>								
D-AU2 UNPLANNED rise in plant radiation levels. <i>Op. Modes: Not Applicable</i>								
D-SU1 UNPLANNED Spent Fuel Pool temperature rise. <i>Op. Modes: Not Applicable</i>								
D-HU1 Confirmed SECURITY CONDITION or threat which indicates a potential degradation in the level of safety of the plant. <i>Op. Modes: Not Applicable</i>								
D-HU2 Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Unusual Event. <i>Op. Modes: Not Applicable</i>								
D-HU3 Natural or destructive phenomena inside the PROTECTED AREA affecting the ability to maintain spent fuel integrity. <i>Op. Modes: Not Applicable</i>								
D-AA1 Any release of gaseous or liquid radioactivity to the environment greater than 200 times the Radiological Effluent Technical Specification/ODCM for 15 minutes or longer. <i>Op. Modes: Not Applicable</i>								
D-AA2 UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity. <i>Op. Modes: Not Applicable</i>								
D-HA1 HOSTILE ACTION within the fuel building or control room. <i>Op. Modes: Not Applicable</i>								
D-HA2 Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert. <i>Op. Modes: Not Applicable</i>								
E-HU1 Damage to a loaded cask CONFINEMENT BOUNDARY. <i>Op. Modes: Not Applicable</i> Note: Security related events for IFSFIs are to be covered under the H Series recognition category.								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

Fission Product Matrix

Initiating Condition		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
FG1	Loss of ANY Two Barriers AND Loss or Potential Loss of the third barrier. <i>Op. Modes: Power Operation, Hot Standby, Startup, Hot Shutdown</i>								
FS1	Loss or Potential Loss of ANY two barriers. <i>Op. Modes: Power Operation, Hot Standby, Startup, Hot Shutdown</i>								
FA1	ANY Loss or ANY Potential Loss of EITHER Fuel Clad OR RCS. <i>Op. Modes: Power Operation, Hot Standby, Startup, Hot Shutdown</i>								
FU1	ANY Loss or ANY Potential Loss of Containment. <i>Op. Modes: Power Operation, Hot Standby, Startup, Hot Shutdown</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

Hazards

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
HU1 Natural or destructive phenomena affecting the PROTECTED AREA. <i>Op. Modes: All</i>								
HU2 FIRE within the PROTECTED AREA not extinguished in within 15 minutes of detection OR EXPLOSION within the PROTECTED AREA. <i>Op. Modes: All</i>								
HU3 Release of toxic, corrosive, asphyxiant, or flammable gases deemed detrimental to NORMAL PLANT OPERATIONS. <i>Op. Modes: All</i>								
HU4 Confirmed SECURITY CONDITION or threat which indicates a potential degradation in the level of safety of the plant. <i>Op. Modes: All</i>								
HU5 Other conditions exist which in the judgment of the Emergency Director warrant declaration of a NOUE. <i>Op. Modes: All</i>								
HA1 Natural or destructive phenomena affecting VITAL AREAS. <i>Op. Modes: All</i>								
HA2 FIRE or EXPLOSION affecting the operability of plant safety systems required to establish or maintain safe shutdown. <i>Op. Modes: All</i>								
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. <i>Op. Modes: All</i>								
HA5 Control room evacuation has been initiated. <i>Op. Modes: All</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

Hazards

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
HA4 HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat. <i>Op. Modes: All</i>								
HA6 Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert. <i>Op. Modes: All</i>								
HS2 Control room evacuation has been initiated and plant control cannot be established. <i>Op. Modes: All</i>								
HS3 Other conditions exist which in the judgment of the Emergency Director warrant declaration of a Site Area Emergency. <i>Op. Modes: All</i>								
HS4 HOSTILE ACTION within the PROTECTED AREA. <i>Op. Modes: All</i>								
HG1 HOSTILE ACTION resulting in loss of physical control of the facility. <i>Op. Modes: All</i>								
HG2 Other conditions exist which in the judgment of the Emergency Director warrant declaration of a General Emergency. <i>Op. Modes: All</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

System Malfunctions

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
SU1 Loss of all Off-site AC power to emergency busses for 15 minutes or longer. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU2 Inability to reach required shutdown within Technical Specification limits. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU3 UNPLANNED loss of safety system annunciation or indication in the control room for 15 minutes or longer. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU4 Fuel Clad degradation. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU5 RCS leakage. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU6 Loss of all On-site or Off-site communications capabilities. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SU8 Inadvertent criticality. <i>Op. Modes: Hot Standby, Hot Shutdown</i>								
SA2 Automatic Scram (Trip) fails to shutdown the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor. <i>Op. Modes: Power Operation, Startup</i>								
SA4 UNPLANNED loss of safety system annunciation or indication in control room with EITHER (1) a SIGNIFICANT TRANSIENT in progress, or (2) compensatory indicators are unavailable. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SA5 AC power capability to emergency busses reduced to a single power source for 15 Minutes or longer such that any additional single failure would result in station blackout. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SS1 Loss of all Off-site and all On-site AC power to emergency busses for 15 minutes or longer. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

System Malfunctions

Initiating Condition	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
SS2 Automatic Scram (Trip) fails to shutdown the reactor and manual actions taken from the reactor control console are not successful in shutting down the reactor. <i>Op. Modes: Power Operation, Startup</i>								
SS3 Loss of all vital DC power for 15 minutes or longer. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SS6 Inability to monitor a SIGNIFICANT TRANSIENT in progress. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SG1 Prolonged loss of all Off-site and all On-site AC power to emergency busses. <i>Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown</i>								
SG2 Automatic Scram (Trip) and all manual actions fail to shutdown the reactor and indication of an extreme challenge to the ability to cool the core exists. <i>Op. Modes: Power Operation, Startup</i>								

Denote participation by using D=drill, E=exercise, S=LOCT, T=table top and put month/year (i.e. D0311 would be drill in March of 2011)

APPENDIX D, SAMPLE 4: KEY ELEMENTS TO INCLUDE IN ALL EVALUATED EXERCISES

Developer Instruction

Below is an example of a checklist that may be used to track that opportunities exist in an exercise to demonstrate key elements. The table may be included in your drill and exercise procedures.

Example Instructions:

- Using the checklist verify your exercise scenario has included these “Key Elements.”

Exercise element	Included (Yes/No)
1. Event classification.*	
2. Timely notification of offsite authorities.*	
3. PAR development (development of PARs involving public EVACUATION or SHELTERING is required only in exercises that include a General Emergency).*	
4. Radiological assessment.	
5. Expected shift staff response to accident transients or other events that meet EAL criteria while implementing the Emergency Plan.	
6. ERO response and ERF activation following declared emergencies.	
7. Integration of licensee response with OROs to include briefings, coordination of worker protection, and, as appropriate to the scenario, coordination of public protective actions, RADIOLOGICAL RELEASE monitoring, and offsite response to the site.	
8. Communications that support response between onsite and offsite ERFs.	
9. Dissemination of information to the public via media channels and press briefings.	
10. Development and implementation of radiological or physical protection (i.e., in response to HOSTILE ACTION) protective actions for onsite workers as appropriate to the scenario.	
11. Operational and engineering assessment of accident sequences.	

Exercise element	Included (Yes/No)
12. Accident mitigation through the simulated repair of equipment. This must include mechanical, electrical, and/or instrumentation and control activities. The scenario should be designed to allow some repairs to be successful, but must provide the opportunity to demonstrate mitigation planning and repair execution. Radiological control activities must support some repair teams.	

* Drill and exercise Program Performance Indicators.

APPENDIX D, SAMPLE 5: CHECKLIST TO ENSURE DRILL AND EXERCISE DIVERSITY

Developer Instruction

Below is an example of a checklist that may be used to ensure drill and exercise diversity. The table may be included in your drill and exercise procedures.

Example Instructions:

- Using the sample checklist review the current scenario timeline/sequence of events against previously used scenarios (within the last two years) to ensure the scenarios are dissimilar to prevent pre-conditioning of the ERO.

Screening Question	Yes/No
1. Does the exercise scenarios include a wide spectrum of RADIOLOGICAL RELEASEs and events under the provisions of 10 CFR Part 50, Appendix E, Section V.F.2.i?	
2. Has more than one EAL been shared with the previous exercise or any practice drills/exercises conducted in preparation for the current exercise? Note: Limited availability of ICs and EALs may not allow licensees to develop scenarios with wide variations. There may not be enough GEs to demonstrate in exercises without repeating GE EALs. However, there should be sufficient SAE EALs to meet the guidance. Document in the drill package your basis for repeating GE declarations.	
3. Has the equipment failure mechanisms used for reaching ICs been varied to the extent practical? Note: Where the design of plant systems makes variation difficult, circumstances and timing may be changed to achieve the required variation (e.g., a fire or explosion causes the failure rather than a random mechanical fault). Document in the drill package your basis for repeating failure mechanisms.	
4. Has the same scenario for a biennial exercise been used within 2 years of prior use? Note: Some elements of a previous drill scenario could be reused in an exercise scenario without detracting from the performance enhancing experience, but the complete scenario should not be used. Document in the drill package your basis for repeating some elements.	
5. Have scenario diversity issues been discussed with the NRC staff in advance of scenario transmittal?	

APPENDIX D, SAMPLE 6: CHECKLIST FOR SCENARIO SUBMITTAL TO NRC/FEMA FOR REVIEW

Developer Instruction

Below is an example of a checklist that may be used for submittal of your exercise to the NRC. The table may be included in your drill and exercise procedures. Checklist is based on FEMA REP Manual page IV-47 and Section 3.02 of draft inspection module 71114.08, "Exercise Review."

Example Instructions:

- Using the table, review each item for the exercise package prior to submitting to the NRC.

FACILITY: _____		Required By	Included
CHECK IF INCLUDED			
DIVERSITY REVIEW FOR PREVIOUS EXERCISE/DRILLS			
	Comparison to previous biennial exercise EALs and release pathways are different	NRC	
	Comparison to previous drills EALs and release pathways are different	NRC	
SCENARIO CONTENT FOR SUBMITTAL			
	Utility objectives/demonstration criteria for the exercise	NRC	
	Participating organizations	NRC	
	Specific exemptions or areas of simulation	NRC	
	Timeline and sequence of events	NRC	
	Simulator setup and control summary as appropriate	NRC	
	Participant messages	NRC	
	Onsite and offsite radiation survey data	NRC	
	Radiochemistry and effluent data	NRC	
	List of embedded functional drills (e.g. communication, semiannual HP, etc.)	NRC	
	List of classifiable events, estimated initiating time, estimated classification and notification time	NRC	
	Anticipated protective action recommendations	NRC	

FACILITY: _____		CHECK IF INCLUDED	
I. PRE-EXERCISE AGREEMENTS AND EXERCISE BACKGROUND MATERIALS			
	1.* Assessment areas to be demonstrated by designated State and local jurisdictions	FEMA	
	2.* Pre-exercise agreements, including extent of play by assessment area	FEMA	
	3.* Previous exercise evaluation report and related information on any technical issues	FEMA	
	4.* Radiological portions (e.g., emergency worker exposure limits, PAGs, air sampling procedures, dose calculation procedures, etc.) of the most recent version of the State, local, and appropriate agency plans/procedures, including detailed and legible maps showing pre-selected reference points.	FEMA/ NRC	
	5.* NUREG-0654/FEMA-REP-1 cross-reference index to the State, local, and appropriate agency plans/procedures	FEMA	
* Indicates those items that FEMA Region(s) are responsible for providing to the scenario review contractor.			
II. SCENARIO INFORMATION – GENERAL			
	1. Utility/State/local scenario timelines	FEMA/ NRC	
	2. All controller injects and messages with data in appropriate units, including those triggering the demonstration of specific technical objectives (any additional data or information needs will be identified during the detailed technical review)	FEMA/ NRC	
III. SCENARIO INFORMATION – RELEASE PARAMETERS			
	1. Potential-only or simulated release	FEMA	
	2. Either gross noble gas, gross radioiodine, and gross particulate release rate, or isotopic release rates. If gross release rates are given, the accident type must be stated. Isotopic release rates are required for post plume phase activities.	FEMA/ NRC	
	3. Site characteristics and topography assumed to affect the dispersion	FEMA	
	4. Release point information (height – elevation ground, or mixed; etc.)	FEMA	
III. SCENARIO INFORMATION – RELEASE PARAMETERS			
	5. Time of reactor shutdown	FEMA	
	6. Start time and duration of release	FEMA	
	7. Meteorological data used	FEMA	
	8. Atmospheric mixing depth (if not provided, 1250 meters will be used)	FEMA	
	9. Whether decay is or is not, included in the calculations	FEMA	

IV. SCENARIO INFORMATION – PLUME PHASE DATA			
	1. Centerline and isopleths of atmospheric dilution factors (X/Q) plotted on a map, including date and times of data values	FEMA	
	2. Direct radiation readings and locations	FEMA	
	3. Environmental samples – descriptions, locations, date, times, and results in appropriate units related to offsite instruments and procedures	FEMA	
	4. Radioiodine and particulate calculation results in appropriate units related to offsite instruments and procedures	FEMA	
	5. Map(s) that are legible and detailed for the plume phase data with plume location plotted at selected time periods	FEMA	
	6. Estimated doses and exposure rates calculated along the plume centerline. If different models are used by the State and utility, included data for both	FEMA	
V. SCENARIO INFORMATION – INGESTION/RELOCATION PHASE DATA (See REP Manual Section I., Item Number 1.)			
	1. Centerline and isopleths of dilution fractions X/Q plotted on a map, including date and times of data values	FEMA	
	2. Direct radiation readings and locations	FEMA	
	3. Environmental samples – descriptions, locations, date, times, and results in appropriate units related to offsite instrument and procedures	FEMA	
	4. Map(s) that are legible and detailed for the ingestion/relocation phase data with the deposition footprint locations indicated at selected time periods and results in appropriate units related to offsite instruments and procedures	FEMA	
	5. Estimated doses calculated along the plume centerline for the ingestion/relocation Phase	FEMA	
	6. Any planned inconsistencies between plume and ingestion/relocation data	FEMA	