



AFTER ACTION REPORT

Watts Bar Nuclear Plant

REP Program Exercise

[FINAL]

October 19, 2011

Radiological Emergency Preparedness (REP) Program



FEMA

Published February 2012

This Page Is Intentionally Blank

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Table of Contents

	Page
Table of Contents	1
Administrative Handling Instructions	3
Executive Summary	5
Section 1: Exercise Overview	7
1.1 Exercise Details	7
1.2 Exercise Planning Team	8
1.3 Participating Organizations	8
Section 2: Exercise Design Summary	11
2.1 Exercise Purpose and Design	11
2.2 FEMA Exercise Objectives and Capabilities	11
2.3 Scenario Summary	14
Section 3: Analysis of Capabilities	15
3.1 Exercise Evaluation and Results	15
3.2 Evaluation Summaries	15
3.2.1 State Of Tennessee	15
3.2.1.1 State Emergency Operations Center	15
3.2.1.2 Dose Assessment	17
3.2.1.3 Field Coordination Center	18
3.2.1.4 Local Primary 1 (LP-1) EAS Station	19
3.2.2 Joint Operations	19
3.2.2.1 Central Emergency Control Center	19
3.2.2.2 Joint Information Center	20
3.2.3 Risk Jurisdictions	21
3.2.3.1 Meigs County, Tennessee	21
3.2.3.1.1 Emergency Operations Center	21
3.2.3.1.2 Traffic and Access Control Points	22
3.2.3.1.3 Backup Route Alerting	23

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR	2011 Watts Bar Nuclear Plant REP Exercise
3.2.3.2	McMinn County, Tennessee24
3.2.3.2.1	Emergency Operations Center24
3.2.3.2.2	Traffic and Access Control Points25
3.2.3.3	Rhea County, Tennessee26
3.2.3.3.1	Emergency Operations Center26
3.2.3.3.2	Traffic and Access Control Points27
3.2.3.3.3	Waterway Clearance28
Section 4:	Conclusion29

List of Appendices

Appendix A:	Exercise Timeline (Table 1).....31
Appendix B:	Results Summary of Exercise Evaluation (Table 2)33
Appendix C:	Exercise Evaluator and Assignments35
Appendix D:	Exercise Locations39
Appendix E:	Extent of Play Agreement.....41
Appendix F:	Acronyms.....57

Administrative Handling Instructions

1. This After Action Report (AAR) for the 2011 Watts Bar Nuclear Power Plant (WBN) Radiological Emergency Preparedness, Full Plume Phase Emergency Planning Zone (EPZ) Exercise is considered a public document.

2. Points of Contact:

Federal:

Mr. Kevin Keyes
North Section Chief
FEMA Region IV
3003 Chamblee-Tucker Road
Atlanta, Georgia 30341-4122
770/220-5378
kevin.keyes@dhs.gov

Meigs County:

Mr. Tony Finnel
Director
Emergency Management
14816 Hwy 58 South 1
Decatur, Tennessee 37322
meigsema@yahoo.com

Rhea County:

Mr. Bill Cranfield
Director
Emergency Management
8860 Back Valley Road
Evansville, Tennessee 37322
rheaema@volstate.net

State of Tennessee:

General Bassham
Director
TN Emergency Management Agency
3041 Sidco Drive
Nashville, Tennessee 37204-1502
616/741-0001

McMinn County:

Ms. Betty Hamby
Director
Emergency Management
107 S. Congress Parkway
Athens, Tennessee 37303
mcminnema@comcast.net

Tennessee Valley Authority:

Mr. Walter H. Lee
Manager
Emergency Preparedness
1101 Market Street, LP 6B-C
Chattanooga, Tennessee 37402

This Page Is Intentionally Blank

Executive Summary

On October 19, 2011, the Department of Homeland Security/Federal Emergency Management Agency (FEMA) Region IV Radiological Emergency Preparedness (REP) Program staff evaluated a full plume exposure pathway exercise in the Emergency Planning Zone for the Watts Bar Nuclear Plant (WBN). The plant site, consisting of approximately 1,800 acres, is located in Rhea County in southeastern Tennessee. The site is located on the west shore of the Tennessee River, approximately 50 miles north-northeast of Chattanooga, and 54 miles southwest of Knoxville. The Watts Bar Nuclear Plant is owned and operated by the Tennessee Valley Authority (TVA).

FEMA's overall objective of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency at WBN. The purpose of this report is to analyze exercise results based on the assessment of target capabilities. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures. The evaluation team conducted this exercise using Homeland Security Exercise and Evaluation Program (HSEEP) methodology.

The previous Federal evaluated exercise was conducted on June 9, 2009. The qualifying emergency preparedness exercise was conducted on November 15-16, 1995.

Officials and representatives from the State of Tennessee, Meigs, McMinn and Rhea Counties, the Nuclear Regulatory Commission (NRC) Region II, and TVA, as well as numerous volunteers participated in this exercise. The cooperation and teamwork of the participants was evident throughout all the phases of the exercise. FEMA wishes to acknowledge the efforts and hard work of the many individuals who participated in the success of this exercise. FEMA would also like to acknowledge the enthusiasm and contributions of the exercise planning team during the design of the exercise. The introduction of new products and concepts into the design phase of the exercise was embraced by the team, and they exhibited an eagerness to improve emergency management and response at all levels.

The State and Risk counties successfully demonstrated the required REP criterion to accomplish and demonstrate the following capabilities: Emergency Operations Center Management, Emergency Public Information and Warning, Emergency Public Safety and Security Response and Hazardous Materials Response and Decontamination.

During this exercise, FEMA did not identify Deficiencies or Area Requiring Corrective Action (ARCA). Overall, State and local organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. Communications were identified as a general strength throughout the exercise. Not only was the communications equipment interoperable and functional, but the personnel utilizing it kept everyone well informed and helped to maintain situational awareness across the board. The evaluation team noted continuing progress in the coordination of activities between the State, counties, and all other response entities.

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

The objectives for the 2011 WBN REP Exercise were as follows:

- **Objective 1:** Demonstrate the ability to provide Emergency Operations Center Management including Direction and Control through the Counties' and State Emergency Operations Centers.
- **Objective 2:** Demonstrate the ability to provide protective action decision-making for State and County emergency workers and public through exercise play and discussions of plans and procedures.
- **Objective 3:** Demonstrate the ability to physically implement protective actions for State and County emergency workers and public through exercise demonstration.
- **Objective 4:** Demonstrate the ability to activate the Prompt Alert and Notification System utilizing the PNS/EAS System through exercise play.
- **Objective 5:** Demonstrate the effectiveness of plans, policies and procedures in the Joint Information Center (JIC) for public and private sector emergency information communications.

These objectives encompass the REP Exercise Evaluation Criteria as negotiated in the Extent of Play Agreement.

FEMA will provide an Improvement Plan (IP) to the State of Tennessee that detail strengths and Areas for Improvement observed during the exercise. The IP will be published under a separate cover and classified For Official Use Only (FOUO) in compliance with HSEEP standards.

Section 1: Exercise Overview

1.1 Exercise Details

Exercise Name

2011 Watts Bar Nuclear Power Plant Radiological Emergency Preparedness Evaluated Exercise (2011 WBN REP Exercise)

Type of Exercise

Full-Scale Exercise

Exercise Date

October 19, 2011

Locations

See Appendix D for a complete listing of locations that supported exercise activities.

Sponsors

Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, Tennessee 37204-1502

Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402-2801

Program

FEMA REP Program

Mission

Response

Capabilities

- Emergency Operations Center Management
- Emergency Public Information and Warning
- Emergency Public Safety and Security Response
- Hazardous Materials Response and Decontamination

Scenario Type

REP, Full Plume Phase EPZ

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

1.2 Exercise Planning Team

Role	Name	Agency
Exercise Director	Gary Lima	TEMA
Lead Controller	David Green	TEMA
Lead Evaluator	Alejandro Sera	DHS/FEMA Region IV
Exercise Logistics	David Nash	TEMA
Evaluation Supervisor	Kevin Keyes	DHS/FEMA Region IV
Scenario Development Lead	Kenneth King	TVA
Agency Representative	Walt Lee	TVA
Agency Representative	Tony Finnell	Meigs County
Agency Representative	Betty Hamby	McMinn County
Agency Representative	Tom Trotter	McMinn County
Agency Representative	Billy Cranfield	Rhea County
Agency Representative	Bill Tittle	Hamilton County
Agency Representative	Wayne Stuntz	Hamilton County
Agency Representative	Jeff Gunter	Bradley County
Agency Representative	Liz Flanagan	TN DHEC
Agency Representative	Bruce House	TN DHEC

1.3 Participating Organizations

The following agencies, organizations and units of government participated in the 2011 WBN REP Exercise:

State of Tennessee
<ul style="list-style-type: none">• Military Department<ul style="list-style-type: none">▪ Tennessee Emergency Management Agency• Tennessee Department of Environment and Conservation<ul style="list-style-type: none">▪ Division of Radiological Health▪ Division of State Parks• Tennessee Department of Health<ul style="list-style-type: none">▪ Division of Food and General Sanitation• Tennessee Department of Agriculture<ul style="list-style-type: none">▪ Division of Forestry• Tennessee Department of Safety<ul style="list-style-type: none">▪ Tennessee Highway Patrol• Tennessee Department of Human Services• Tennessee Department of Transportation• Tennessee Wildlife Resources Agency• Tennessee Department of Tourism Development
Meigs County, Tennessee
<ul style="list-style-type: none">• County Mayor• County Emergency Services Division• County Sheriff

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

<ul style="list-style-type: none"> • County Fire Services • County EMS • County Highway Department • County Schools • County Human Services • County Department of Health • County Public Information Officer • City of Decatur Mayor • City of Decatur Police • City of Decatur Fire • American Red Cross, Hiwassee Chapter • ARES / RACES
McMinn County, Tennessee
<ul style="list-style-type: none"> • County Mayor • County Emergency Services Division • County Sheriff • County Fire • County Rescue • County EMS • County Public Works • County Board of Education • County Human Services • County Health Department • County Department of Health • County Radiological Officer • County Public Information Officer • County Meteorologist • County Animal Services • County Procurement • City of Decatur Mayor • City of Decatur Police • City of Decatur Fire • American Red Cross, Hiwassee Chapter • ARES / RACES • City of Athens Police Department • City of Athens Fire Department • TEMA • TDOT
Rhea County, Tennessee
<ul style="list-style-type: none"> • County Mayor • County Emergency Services Division • County Sheriff • County Fire • County Rescue • County EMS

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

<ul style="list-style-type: none">• County Public Works• County Board of Education• County Human Services• County Health Department• County Public Information Officer• American Red Cross, Hiwassee Chapter• ARES / RACES• Civil Air Patrol• TEMA
Federal
<ul style="list-style-type: none">• Tennessee Valley Authority• Nuclear Regulatory Commission• FEMA RIV
Non-Governmental Organizations
<ul style="list-style-type: none">• Salvation Army• American Red Cross• Voluntary Organizations Active in Disaster (VOAD)

Section 2: Exercise Design Summary

2.1 Exercise Purpose and Design

The Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) administers the Radiological Emergency Preparedness (REP) Program pursuant to the regulations found in Title 44 Code of Federal Regulation (CFR) parts 350, 351 and 352. 44 CFR 350 codifies 16 planning standards that form the basis for radiological emergency response planning for licensee, State, tribal and local governments impacted by the Emergency Planning Zones (EPZs) established for each nuclear power plant site in the United States. 44 CFR 350 sets forth the mechanisms for the formal review and approval of State, Tribal and local government Radiological Emergency Response Plans (RERPs) and procedures by DHS/FEMA. One of the REP program cornerstones established by these regulations is the biennial exercise of offsite response capabilities. During these exercises State, Tribal and local governments demonstrate their abilities to implement their plans and procedures to protect the health and safety of the public in the event of a radiological emergency at the nuclear plant.

The 2011 WBN REP Exercise was designed utilizing the Homeland Security Exercise and Evaluation Program (HSEEP). HSEEP is a capabilities and performance-based exercise program which provides a standardized policy, methodology and terminology for exercises. The use of HSEEP is intended to ensure that the REP program conforms to established best practices and helps provide unity and consistency of effort for exercises at all levels of government. Prior to the exercise, the design team conducted planning meetings on a regular basis which focused on identifying objectives, designing the scenario, creating documentation, coordinating logistics, planning exercise conduct, and selecting an evaluation and improvement methodology.

The results of this exercise together with the review of the RERPs and procedures and verification of the periodic requirements set forth in NUREG-0654/FEMA-REP-1 through the Annual Letter of Certification and staff assistance visits enable FEMA to provide a statement with the transmission of this final AAR to the NRC that State, Tribal and local plans and preparedness are: (1) adequate to protect the health and safety of the public living in the vicinity of the nuclear power plant by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency; and (2) capable of being implemented.

The Tennessee Multi-Jurisdiction Radiological Emergency Response Plan for the WBN Plant was formally submitted to FEMA by the State of Tennessee on April 12, 1996. Title 44 CFR Part 350 approval was granted by FEMA on July 3, 1997.

2.2 FEMA Exercise Objectives and Capabilities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the Target Capabilities List (TCL). The capabilities listed below

form the foundation for the organization of all FEMA Region IV REP Program objectives and observations in this exercise.

- **Emergency Operations Center (EOC) Management:** Is the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC for a pre-planned or no-notice event. EOC Management includes EOC activation, notification, staffing, and deactivation; management, direction, control, and coordination of response and recovery activities; coordination of efforts among neighboring governments at each level and among local, regional, State, and Federal EOCs; coordination public information and warning; and maintenance of the information and communication necessary for coordinating response and recovery activities.
- **Emergency Public Information and Warning:** Is the capability that includes public information, alert/warning and notification. It involves developing, coordinating, and disseminating information to the public, coordinating officials, and incident management and responders across all jurisdictions and disciplines effectively under all hazard conditions.
- **Emergency Public Safety and Security Response:** Is the capability to reduce the impact and consequences of an incident or major event by securing the affected area, including crime/incident scene preservation issues as appropriate, safely diverting the public from hazards, providing security support to other response operations and properties, and sustaining operations from response through recovery. Public Safety and Security Response requires coordination among officials from law enforcement, fire and Emergency Medical Services.
- **Hazardous Materials Response and Decontamination:** Is the capability to assess and manage the consequences of a hazardous materials release, either accidental or as part of a terrorist attack. It includes testing and identifying all likely hazardous substances onsite; ensuring that responders have protective clothing and equipment; conducting rescue operations to remove affected victims from the hazardous environment; conducting geographical survey searches of suspected sources or contamination spreads and establishing isolation perimeters; mitigating the effects of hazardous materials, decontaminating on-site victims, responders, and equipment; coordinating off-site decontamination with relevant agencies, and notifying environmental, health, and law enforcement agencies having jurisdiction for the incident to begin implementation of their standard evidence collection and investigation procedures.

Additionally, each capability is linked to several corresponding activities and tasks to provide additional detail. Based upon the identified exercise objectives, the following capabilities and associated activities were evaluated.

- **Objective 1:** Demonstrate the ability to provide Emergency Operations Center Management including Direction and Control through the Counties' and State

Emergency Operations Centers.

- **Capability: EOC Management** - Activate EOC; Direct EOC Operations; and Provide EOC Connectivity
- **Objective 2:** Demonstrate the ability to provide protective action decision-making for State and County emergency workers and public through exercise play and discussions of plans and procedures.
 - **Capability: EOC Management** - Support and Coordinate Response
 - **Capability: Emergency Public Information and Warning** - Manage Emergency Public Information and Warnings; Activate Emergency Public Information, Alert/Warning, and Notification Plans and Issue Emergency Warnings
- **Objective 3:** Demonstrate the ability to physically implement protective actions for State and Counties' emergency workers and public through exercise demonstration.
 - **Capability: EOC Management** - Direct EOC Operations
 - **Capability: Emergency Public Safety and Security Response** - Activate Public Safety and Security Response; Control Traffic, Crowd, and Scene; and Command and Control Public Safety and Security Response Operations
 - **Capability: Hazardous Materials Response and Decontamination** – Assess Hazard and Evaluate Risk
- **Objective 4:** Demonstrate the ability to activate the Prompt Alert and Notification System utilizing the PNS/EAS System through exercise play.
 - **Capability: Emergency Public Information and Warning** - Manage Emergency Public Information and Warnings; Activate Emergency Public Information, Alert/Warning, and Notification Plans; and Issue Public Information, Alerts/Warnings, and Notifications.
- **Objective 5:** Demonstrate the effectiveness of plans, policies and procedures in the Joint Information Center (JIC) for public and private sector emergency information communications.
 - **Capability: Emergency Public Information and Warning** - Issue Public Information, Alerts/Warnings, and Notifications; Conduct Media Relations and Provide Public Rumor Control.

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

2.3 Scenario Summary

This Exercise was conducted with the Watts Bar Plant Simulator in the interactive mode. Times given were for planning purposes only. Actual times did vary due to dynamic response of the Simulator.

Initial Conditions:

Unit 1:

- Operating at 100% power for the last 200 days.
- The core is at MOL.
- The Boron concentration is 747 ppm.
- 1B MDAFW pump is out of service for repairs.

Unit 2:

Time		Location	Event
8:10	0:10	Watts Bar	The CO2 tank in the diesel building explodes causing damages to the 1A Diesel Generator room wall causing concrete debris to fall on the diesel and the floor.
8:25	0:25	Watts Bar	ALERT base on EAL 4.2
9:30	1:30	Watts Bar	Main feed water regulating valve fail closed to the #1 steam generator which leads to a reactor trip signal on low level. The reactor fails to trip automatically or manually (ATWS). The injection of cold AFW water results in Steam Generator#1 having a tube rupture. When Operations attempts to close the steam supply to the TDAFW pump from SG#1 the steam supply valve 1-FCV-1-15 to SG#1 fails close.
9:45	1:45	Watts Bar	Site Area Emergency declared base on EAL 2.3
10:30	2:30	Watts Bar	A steam safety valve on #1 Steam Generator fails full open causing a release to the environment. The MSL radiation monitors reach the GE setpoint at the same time the release starts. The rad levels are maintained for the required 15 minutes in EAL 1.3.4. Gaseous Effluents.
10:45	2:45	Watts Bar	General Emergency Declared base on EAL 7.1
11:45	3:45	Watts Bar	A small fire occurs on the 1B Diesel Generator exhaust manifold due to prolonged running at no-load.
13:00		Endex	

Section 3: Analysis of Capabilities

3.1 Exercise Evaluation and Results

This section contains the results and findings of the evaluation of all jurisdictions and functional entities that participated in the October 19, 2011 plume exercise. Exercise criteria are listed by number and the demonstration status of those criteria are indicated by the use of the following terms:

- Met (No Deficiency or Areas Requiring Corrective Action (ARCAs) assess and no unresolved ARCAs from prior exercise)
- ARCAs assessed or unresolved ARCAs from previous exercises
- Deficiency assessed
- Plan Issues
- Not Demonstrated

3.2 Evaluation Summaries

3.2.1 State Of Tennessee

3.2.1.1 State Emergency Operations Center

Emergency Operations Center Management Capability Summary:

Tennessee Emergency Management Agency (TEMA) successfully demonstrated the capability to provide multi-agency coordination for incident management by activating and operating an EOC for a pre-planned or no-notice event. This capability included EOC activation, notification, staffing, direction and control, and coordination of response activities.

Effective and efficient procedures were used to alert, notify and mobilize emergency personnel in the SEOC and were accomplished successfully in a timely manner as specified in the Tennessee Multi-Jurisdictional Radiological Emergency Response Plan (MJRERP) Annex B-Notification and Warning Plan.

Emergency Service Coordinators (ESC) had access to the appropriate amount of equipment, supplies and maps to support their needs also ESC and branches used WebEOC extensively to post actions and important information. Redundant communication systems insured the ESC had the ability to communicate with other agencies, as specified in the MJRERP Basic Plan, and Annex C-Communications Plan.

The Direction and Control Officer (DACO) demonstrated good direction and control through the exercise, as specified in the MJRERP Annex A-Direction and Control. Protective Actions Recommendation (PAR) and Protective Actions Decision (PAD) were discussed and coordinated with the Risk Counties, questions and recommendations were

welcome by the DACO. During briefings all branches were polled as to their current status and had the branch representatives review their expected actions for potential future actions.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1 and 2.b.2

Emergency Public Information and Warning Capability Summary:

TEMA successfully demonstrated the capability to alert/warn, and notify the risk counties by coordinating the timely activation of the fixed sirens system and the Emergency Alert Systems (EAS).

The warning of the general public is the responsibility of local governments in coordination with the SEOC. The siren system located within the 10 mile Emergency Planning Zone (EPZ) and the EAS were used to disseminate emergency information and warnings, to the public in accordance with the plan and were evaluated under the same capability at the Risk Counties. The DACO coordinated with the Risk Counties the time in which the sirens system was going to be activated and which EAS message was going to be disseminated each time.

The State Emergency Information Director (SEID) had the responsibility to assure all activities concerning the development, and coordination of emergency information was completed. The SEID under the direction of the DACO, prepared, coordinated and disseminated the correct EAS message to the Joint Information Center (JIC) and the Risk Counties.

Public inquiry staff at the EOC monitored telephone calls and maintained a watch on social media sites using provided computers to identify trends. Rumors were quickly identified and addressed properly, in accordance with the MJRERP Annex D-Public Information.

The State of Tennessee maintains its own web site for the public to obtain information and in addition uses Twitter, Facebook, YouTube, and other electronic means of both releasing information and monitoring public trends. The SEOC also allows the public to sign up for a service and receive information over cell phones, text messaging, and email.

The demonstrations met the requirements of this capability and REP criteria: 5.a.1 and 5.b.1

3.2.1.2 Dose Assessment

Hazardous Material Response and Decontamination Capability Summary:

The State of Tennessee successfully demonstrated this capability through the State response at two fixed facilities and activities of field monitoring teams (FTs). The State organization that has the primary responsibility for this capability is the Tennessee Department of Environment and Conservation (TDEC) and specifically the Division of Radiological Health (DRH).

DRH personnel were pre-positioned at their assigned locations in accordance with the Extent-of-Play agreement. All staff members were aware of the procedures that would be used to alert, notify and mobilize personnel in an actual event. There were redundant communication systems available in the fixed facilities and for the field teams, as well as adequate equipment, supplies, dosimetry and KI for the responders. All staff members understood exposure and exposure rate limits, for themselves and teams in the field.

DRH coordinated all offsite radiological monitoring. The State FTs were under the direct control of the staff in the Radiological Monitoring Coordinating Center (RMCC). RMCC staff members were aware of the location of the TVA offsite team and positioned the State FTs so that the most useful data could be obtained.

The State FTs made measurements in a fashion to determine the edges of the radioactive plume and the FTs depended on TVA teams to determine plume maximum readings. This approach assured that the State FTs would not be exposed to doses approaching their emergency worker limits.

The FT reported their results to the RMCC which in turn reported the results to the Dose Assessment area in the SEOC. The Dose Assessment area staff also received WBN radiation monitoring instrument readings on a periodic basis along with TVA generated dose projections.

The DRH Radiation Control Officer (RCO) at the SEOC reviewed all available data and developed a PAR which was provided to the DACO. The RCO also reviewed all available data with the Medical Officer from the Department of Health to verify that the use of KI was appropriately implemented.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.a.1, 3.b.1, 4.a.1, 4.a.2 and 4.a.3

3.2.1.3 Field Coordination Center

Emergency Operations Center Management Capability Summary:

TEMA successfully demonstrated the capability to provide multi-agency coordination for incident management by activating and operating an EOC for a pre-planned or no-notice event. This capability included EOC activation, notification, staffing, direction and control, and coordination of response activities.

Effective and efficient procedures were used to alert, notify and mobilize emergency personnel to meet the mission of the East TEMA Field Coordination Center (FCC) according to the MJRERP Annex B-Notification and Warning Plan.

The primary purpose of the FCC is to serve as a staging base to coordinate State and Federal resources sent to the area to support the local governments. The FCC coordinated with the RMCC in FTs and sampling efforts. The FCC has redundant communications systems to communicate with the Risk Counties and all the FCC Coordinators dispatched to the counties, in accordance with the MJRERP Annex C-Communications.

Personnel and resources coordinated by the FCC will include radiological monitoring teams, agriculture sample teams, physical security personnel, technical advisors, and other personnel as required. Incoming personnel from both State and Federal agencies may not be familiar with the assigned areas. The FCC is prepared to brief these personnel on the existing situation and provide maps, radio frequencies and procedures, and other essential information to enable them to function in the EPZ.

The FCC Director dispatched Area Coordinators to the counties after the Alert ECL. The Area Coordinators were responsible to brief the director on resources needed for the counties. The FCC Director and Deputy Director provided frequent briefings on plant conditions, emergency classification levels, and response activities. They demonstrated strong leadership and thorough knowledge of the State Emergency Response Plan and procedures.

Designated personnel with leadership roles in the FCC provided consistent direction and control to that part of the overall response effort for which they were responsible. During the briefing they used checklists to ensure the FCC was following the plan. Each work station was equipped with a telephone, and laptop computer. Information Technology support was available on site and communications was sufficient to support operations. There were copies of plans available. The FCC staff members' and others agencies clearly understood their responsibilities, followed their procedures, and performed their functions in a coordinated and timely manner.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 3.a.1 and 4.a.2

3.2.1.4 Local Primary 1 (LP-1) EAS Station

Emergency Public Information and Warning Capability Summary:

This capability was successfully evaluated during an interview of the Station Manager. According to the State of Tennessee Statewide Emergency Alert System Plan (revised June 1998), WIVK Knoxville (AM-990 and FM 107.7) is the designated EAS LP-1 for the East Tennessee Area.

The SEOC is linked with both the primary and alternate EAS stations as well as the NOAA Weather Radio station by individual dedicated telephone lines. When informed by the SEID and advised of the message(s) to be broadcast, the Emergency Alert System Coordinator-PIO (EASC-PIO) will contact and notify the NOAA station in Morristown to begin broadcasting EAS Message #2. Immediately following this notification, the EASC-PIO will contact the primary EAS station (WIVK, FM 107.7) and request that they prepare to record an emergency message for rebroadcast to the public, in accordance with WBN Supplement 1-Emergency Alert System.

WIVK's Station Manager was interviewed by telephone and demonstrated his knowledge, experience, and expertise on the process and procedures established to activate the Emergency Alert System and WIVK's emergency plan for an event at WBN.

The demonstrations met the requirements of this capability and REP criteria: 1.d.1, 1.e.1 and 5.a.1

3.2.2 Joint Operations

3.2.2.1 Central Emergency Control Center

Emergency Operations Center Management Capability Summary:

The capability of Emergency Operations Center Management was successfully demonstrated at the CECC, this capability provides multi-agency coordination (MAC) for incident management by activating and operating an EOC for a pre-planned or no-notice event.

The evaluation included activation, notification, staffing, direction and control, coordination of efforts among neighboring governments at each level and among local, regional, State, and Federal EOCs.

Direction and Control was the responsibility of the utility operator and was accomplished in a professional and effective manner. The State and local government officials dispatched to the CECC served in a liaison capacity between the utility operator and their respective EOCs. The government officials in conjunction with the utility operators

Emergency Director, effectively communicated, coordinated, and functioned as a cohesive response and recovery unit.

The utility operator's assessment as well as the State's independent assessments of the offsite health and safety considerations supported the PADs, which were based on plant conditions, and an ongoing radiological release. All PADs were based on sound technical analyses, which included environmental field measurements, computerized dose assessment models, plant conditions, a thorough understanding of the simulated emergency at hand, and effective interactions with the utility operator's senior staff.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1 and 2.b.1.

3.2.2.2 Joint Information Center

Emergency Public Information and Warning Capability Summary:

The State of Tennessee successfully demonstrated the capability Emergency Public Information and Warning, at the JIC. The evaluation included activation, notification, staffing, direction and control and issuing of warnings.

TVA provides the preponderance of support materials to facilitate JIC and media operations in the JIC operations room, the Citizen Information Center/Rumor Control/media monitoring location, the media update desk, media work area and media briefing room. All areas are well equipped and have redundancy in communications with landlines, cell phones, facsimiles, internet connectivity and state and utility radio systems, all of which were operational.

The JIC, a joint public and private sector organization, is lead by co-directors provided by the State and TVA. Upon activation, the JIC was the central location for the coordination and dissemination of emergency information while the SEOC maintains the responsibility for emergency instructions (e.g., protective action decision coordination/EAS message dissemination). The JIC Procedures clearly lay out the operations and roles of government and utility personnel assigned to this center.

Effective implementation of the joint information system (JIS) requires close coordination between the State and local PIOs in the JIC and the respective SEOC/local EOCs. The degree of coordination observed was exceptional both internal to the JIC and with external agencies and offices. Protocols for the reviewing and approval of messages by both co-directors was adhered to and accomplished without adversely affecting timely message release. There was some question as to the manner of TVA/SEOC emergency information message coordination prior to the JIC activation. There were no risk county media releases before JIC activation. In addition to using press releases and EAS messages, both TEMA and the TVA have embraced social networking as a means to provide emergency information to the public and media.

The JIC was fully operational for a little over four hours during which 11 messages were prepared and two media briefings conducted. The coordination prior to the media briefings adequately prepared the TVA and government spokespersons to address pertinent topics regarding the safeguarding of the public.

The role of the mock media was played and supported by a local community college journalism class. The students offered realism to this normally mundane part of the exercise. The questions were well formulated and challenged the Information Manager, as well as the spokespersons. Although, the persistent questioning was not expected, it was well received by the spokespersons and added to overall success of the exercise. The Citizen Information Center/Rumor Control staff maintained an operational awareness that allowed them to respond to public queries, identify trends and respond to rumors in a timely manner.

The demonstration met the requirements of this capability and criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1 and 5.b.1

3.2.3 Risk Jurisdictions

3.2.3.1 Meigs County, Tennessee

3.2.3.1.1 Emergency Operations Center

Emergency Operations Center Management Capability Summary:

Meigs County successfully demonstrated the capability to provide MAC for incident management by activating and operating an EOC. This included: EOC activation, notification, staffing, management, direction, control, and coordination of response activities.

The Meigs County EOC (MCEOC) new remodeled space provides much needed space for the support and coordination of an emergency at Meigs County, the MCEOC had sufficient equipment and redundant communications systems for a successful operations, it was composed of representatives from various municipal and county agencies, they clearly understood their responsibilities, followed their agency plans, and performed their assigned functions with high levels of proficiency.

The MCEOC personnel were pre-positioned the Emergency Services Director (Director) explained the normal callout system and the ability to insure the EOC could be activated in a timely manner.

Frequent staff briefings and round table discussions were conducted to ensure that all essential emergency response elements were carried out as identified in the plan. They demonstrated their ability to effectively coordinate with the State, other risk counties, and

outside agencies.

The Director provided outstanding direction and control throughout the exercise and demonstrated the ability to protect the health and safety of the citizens of Meigs County, by implementing the early protective actions for the children, which included re-location of endangered schools and residents that required special assistance. EAS activations, PAR and PADs were discussed with the SEOC prior to implementation by the MCEOC, as specified in the Meigs County Implementing Procedures.

Meigs County demonstrated their ability to effectively coordinate with the SEOC, other risk counties and outside agencies, for the response to an emergency at WBN.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1 and 3.d.2.

Emergency Public Information and Warning Capability Summary:

Meigs County successfully demonstrated the capability to develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public.

After the SEOC activated the siren system one siren was identified as failing (simulated) to function properly. The Director immediately initiated actions which successfully performed backup route alerting.

The Public Information Officer (PIO) continuously maintained contact with the Meigs County PIO at the JIC; press releases generated by the JIC were reviewed by the Director and the County Decision Team. Public inquiries were answered with accurate and up to date information. There were no trends or rumors identified during the exercise.

The demonstrations met the requirements of this capability and REP criteria: 5.a.1 and 5.b.1

3.2.3.1.2 Traffic and Access Control Points

Emergency Public Safety and Security Response Capability Summary:

This capability was successfully evaluated during the exercise via an interview of the Meigs County Sheriff, Fire and Rescue Department and Decatur Police Department.

MCEOC has pre-identified and mapped all the TCPs that would be staffed by each department. The local Sheriff has the responsibility to oversee all the TCPs, provide coordination of un-manned roadblocks, and coordinate with the Meigs County Road Department to assist with road impediments and roadside services.

TCPs not only assisted traffic flow out of the area, diverting the public from the possible

hazards, but also discouraged theft and vandalism from occurring in the evacuation quadrant.

Representatives from each of the departments were interviewed and each provided thorough information as to emergency worker responsibilities, dosimetry reading, record keeping, turn back values and KI ingestion procedures.

Vehicles were equipped with sufficient safety equipment to aid in traffic direction and had multiple communication systems, along with computer aided dispatch technology to receive and transmit essential information.

The demonstrations met the requirements of this capability and REP criteria: 1.d.1, 3.d.1 and 3.d.2

3.2.3.1.3 Backup Route Alerting

Emergency Public Information and Warning Capability Summary:

Meigs County successfully demonstrated the capability to warn and disseminate emergency information to the public in the event of a Prompt Notification System (PNS) failure. Once the PNS is activated from the SEOC, the Sheriff will be notified of any siren(s) that fail to operate, and a deputy will be dispatched to the area of the failed siren to alert those residents.

Each vehicle and driver that will be utilized to perform this task will be equipped with a map that indicates the siren locations, the contour outline of the coverage of each siren, and the roads in the sound contour. When notified of a siren failure the driver(s) can determine the roads on which residents should be alerted based on the map.

The Meigs County Sheriff completed the task within the reasonable time, the County Fire Department and Decatur Police Department personnel were prepared to dispatch personnel as backup to the Sheriff Department.

Representatives from each of the departments were interviewed and each provided thorough information as to emergency worker responsibilities, dosimetry reading, record keeping, turn back values and KI ingestion procedures.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 3.a.1 and 5.a.3.

3.2.3.2 McMinn County, Tennessee

3.2.3.2.1 Emergency Operations Center

Emergency Operations Center Management Capability Summary:

McMinn County successfully demonstrated the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC. This included: EOC activation, notification, staffing, management, direction, control, and coordination of response activities.

Through discussion with the Emergency Management Director (Director) and review of county recall rosters provided, it was determined the county has an effective recall system with all key and essential positions identified for each county level of activation. Recall would have been accomplished by telephone, text and pager systems.

Equipment, maps, displays, dosimetry, KI and other supplies are sufficient to support emergency operations in the county. Redundant communications systems were established and utilized during the exercise. Communications systems were effective and uninterrupted throughout the exercise.

The Director provided outstanding direction and control throughout the exercise and demonstrated the ability to protect the health and safety of the citizens of McMinn County, by implementing the early protective actions for the children, which included relocation of endangered schools and residents that required special assistance.

EAS activations, PAR and PADs were discussed with the SEOC prior to implementation by the McMinn County Emergency Operations Center (MEOC), as specified in the McMinn County Implementing Procedures.

Frequent staff briefings and round table discussions were conducted to ensure that all essential emergency response elements were carried out as identified in the plan. All MEOC agencies were very familiar with their own plans and procedures and conducted their assigned responsibilities seamlessly. Plant conditions, air monitoring reports, road conditions, and support facilities were consistently monitored to ensure the safety of the public and emergency workers.

McMinn County demonstrated their ability to effectively coordinate with the SEOC, other risk counties and outside agencies, for the response to an emergency at WBN.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1 and 3.d.2.

Emergency Public Information and Warning Capability Summary:

McMinn County successfully demonstrated the capability to develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public.

Although the sirens and EAS messages are initiated at the SEOC, the Director monitored siren activation status and content of EAS messages for accuracy.

The McMinn County Mayor closely coordinated and maintained contact with the McMinn County PIO at the JIC; press releases generated by the JIC were reviewed by the Director and the County Mayor. Public inquiries were answered with accurate and up to date information.

The demonstrations met the requirements of this capability and REP criteria: 5.a.1 and 5.b.1

3.2.3.2.2 Traffic and Access Control Points

Emergency Public Safety and Security Response Capability Summary:

This capability was successfully evaluated during the exercise via an interview of the McMinn County Sheriff Department. MEOC has pre-identified and mapped all the TCPs that would be staffed in case of an evacuation order. The local Sheriff has the responsibility to oversee all the traffic control points, provide coordination of un-staffed roadblocks, and coordinate with the McMinn County Highway Department to assist with road impediments and roadside services.

TCPs not only assisted traffic flow out diverting the public from the possible hazards, but also discouraged theft and vandalism from occurring in the evacuation quadrant.

Representatives from the Sheriff Department were interview and each provided thorough information as to emergency worker responsibilities, dosimetry reading, record keeping, turn back values and KI ingestion procedures.

Vehicles were equipped with sufficient safety equipment to aid in traffic direction and had multiple communication systems, along with computer aided dispatch technology to receive and transmit essential information.

The demonstrations met the requirements of this capability and REP criteria: 1.d.1, 1.e.1, 3.d.1 and 3.d.2.

3.2.3.3 Rhea County, Tennessee

3.2.3.3.1 Emergency Operations Center

Emergency Operations Center Management Capability Summary:

Rhea County successfully demonstrated the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC. This included: EOC activation, notification, staffing, management, direction, control, and coordination of response activities.

Through discussion with the Emergency Management Director and review of county recall rosters provided, it was determined the county has an effective recall system with all key and essential positions identified for each county level of activation. Recall would have been accomplished by telephone, text and pager systems.

Equipment, maps, displays, dosimetry, KI and other supplies are sufficient to support emergency operations in the county. Redundant communications systems were established and utilized during the exercise. Communications systems were effective and uninterrupted throughout the exercise.

The Director and the county Executive Officer provided outstanding direction and control throughout the exercise and demonstrated the ability to protect the health and safety of the citizens of Rhea County, by implementing the early protective actions for the children, which included re-location of endangered schools and residents that required special assistance.

EAS activations, PAR and PADs were discussed with the SEOC prior to implementation by the Rhea County Emergency Operations Center (REOC), as specified in the Rhea County Implementing Procedures.

Frequent staff briefings and round table discussions were conducted to ensure that all essential emergency response elements were carried out as identified in the plan. All REOC agencies were very familiar with their own plans and procedures and conducted their assigned responsibilities seamlessly. Plant conditions, air monitoring reports, road conditions, and support facilities were consistently monitored to ensure the safety of the public and emergency workers.

Rhea County demonstrated their ability to effectively coordinate with the SEOC, other risk counties and outside agencies, for the response to an emergency at WBN.

The demonstrations met the requirements of this capability and REP criteria: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1 and 3.d.2.

Emergency Public Information and Warning Capability Summary:

Rhea County successfully demonstrated the capability to develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public.

Although the sirens and EAS messages are initiated at the SEOC, the Director monitored siren activation status and content of EAS messages for accuracy.

The Director and the PIO closely coordinated and maintained contact with the Rhea County PIO at the JIC, press releases generated by the JIC were reviewed by the Director. Public inquiries were answered with accurate and up to date information. PIO operations also included a Spanish speaking interpreter available to field calls and to assist the PIO where needed.

The demonstrations met the requirements of this capability and REP criteria: 5.a.1 and 5.b.1

3.2.3.3.2 Traffic and Access Control Points

Emergency Public Safety and Security Response Capability Summary:

This capability was successfully evaluated during the exercise via an interview of the Rhea County Sheriff Department. REOC has pre-identified and mapped all the TCPs that would be staffed in case of an evacuation order. The local Sheriff has the responsibility to oversee all the traffic control points, provide coordination of un-staffed roadblocks, and coordinate with the Rhea County Road Department and Traffic Assist Teams, to assist with road impediments and roadside services.

TCPs not only assisted traffic flow out, diverting the public from the possible hazards, but also discouraged theft and vandalism from occurring in the evacuation quadrant.

Representatives from the Sheriff Department were interviewed and each provided thorough information as to emergency worker responsibilities, dosimetry reading, record keeping, turn back values and KI ingestion procedures.

Vehicles were equipped with sufficient safety equipment to aid in traffic direction and had multiple communication systems, along with computer aided dispatch technology to receive and transmit essential information.

The demonstrations met the requirements of this capability and REP criteria: 1.d.1, 3.d.1 and 3.d.2.

3.2.3.3.3 Waterway Clearance

Emergency Public Safety and Security Response Capability Summary:

Rhea County successfully demonstrated the capability to warn and disseminate emergency information to the public, on a waterway.

A representative from the Rhea County Sheriff Department was interviewed and provided thorough information as to emergency worker responsibilities, dosimetry reading, record keeping, turn back values and KI ingestion procedures. The officer also demonstrated extensive knowledge and understanding of river operations, the equipment used, routes and areas of special interest.

The Sheriff's Department Officer demonstrated the capability to communicate and coordinate actions through dispatch and was aware of procedures to conduct after completion of the mission to include reporting to the EOC and decontamination requirements if necessary.

The demonstrations met the requirements of this capability and REP criterion: 5.a.3.

Section 4: Conclusion

Officials and representatives from the State of Tennessee, Meigs, McMinn and Rhea Counties, the Nuclear Regulatory Commission (NRC) Region II, and TVA, as well as numerous volunteers participated in this exercise. The cooperation and teamwork of the participants was evident throughout all the phases of the exercise. The Federal Emergency Management Agency (FEMA) wishes to acknowledge the efforts and hard work of the many individuals who participated in the success of this exercise. FEMA would also like to acknowledge the enthusiasm and contributions of the exercise planning team during the design of the exercise.

Overall, State and local organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. Communications were identified as a general strength throughout the exercise. Not only was the equipment interoperable and functional, but the personnel utilizing it kept everyone well informed and helped to maintain situational awareness across the board. The evaluation team noted great progress in the coordination of activities between the State, counties, and all other response entities. During this exercise, FEMA did not identify any Deficiencies or ARCAs.

Appendix B contains two tables. Both tables provide a summary of exercise results for all participating jurisdictions and functional entities. Table 2 presents the status of REP exercise criteria that were demonstrated during this exercise. Exercise criteria are listed by number. Table 3 presents the status of target capabilities and activities that were demonstrated during this exercise. The demonstration status of the criteria and capabilities is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved Deficiency or ARCAs remain from prior exercises)
- D - Deficiency assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in Subsection B)

This Page Is Intentionally Blank

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Appendix A: Exercise Timeline (Table 1)

Table 1: Exercise Timeline

Emergency Classification Level of Activation	Time Utility Declared										
		SEOC	Deze	RMCC	FCC	JIC	Major County	Madison County	Reese County		
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Alert	8:21	8:44	8:44	8:39	8:39	N/A	8:31	8:36	8:42		
Site Area Emergency	9:38	9:50	9:50	9:52	9:52	9:58	9:50	10:02	10:03		
General Emergency	10:24	10:39	10:39	10:29	10:29	10:48	10:42	10:50	10:51		
Simulated Rad. Release Started	10:31	N/A	N/A	10:46	10:46	10:31	10:31	10:31	10:31		
Simulated Rad. Release Ended	Ongoing	N/A	N/A	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing		
Facility Declared Operational	9:00	9:02	9:02	8:00	8:00	9:55	8:45	8:30	9:15		
Exercise Terminated	14:07	13:00	13:00	15:10	15:10	14:10	13:00	12:38	13:01		
Declaration of State of Emergency Local:		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
State:		9:02	9:02				11:35	9:12	11:00		
Pre-Precautionary Action Decision:											
Schools:		N/A	N/A	N/A	N/A	N/A	10:10	10:05	10:30		
Special Populations:							N/A	10:45	10:35		
Clear Lake:							N/A	N/A	10:10		
1st Protective Action Decision:		10:02	10:02	N/A	N/A	10:08	10:02	10:02	10:02		
1st Sire Activation		10:17	10:17	10:17	10:17	10:17	10:17	10:17	10:17		
1st EAS Message 2, 7, 104		10:17	10:17	N/A	N/A	N/A	10:17	10:17	10:17		
2nd Protective Action Decision:											
Evacuate Zones: A1, B1, C1, D1		10:47	10:47	10:55	10:55	10:48	10:47	10:47	10:47		
Shelter in Place Zones: All Others											
2nd Sire Activation		11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00		
2nd EAS Message: 68		11:00	11:00	N/A	N/A	N/A	11:00	11:00	11:00		
3rd EAS Message: 5, 100		N/A	N/A	N/A	N/A	N/A	12:15	N/A	N/A		
KI Inspection Decision:											
Emergency Workers:		N/A	N/A	9:30	9:30	N/A	N/A	N/A	N/A		
General Public:											

This Page Is Intentionally Blank

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Appendix B: Results Summary of Exercise Evaluation (Table 2)

Table 2: REP Criteria Evaluation Result Summary

ELEMENT/Sub-Element	SEOC	Dose Assessment	RMCC	FMTs	FCC	JIC	LP-1	CECC	Meigs County	McMinn County	Rhea County
1. EMERGENCY OPERATIONS MANAGEMENT											
1.a.1. Mobilization	M	M	M	M	M	M		M	M	M	M
1.b.1. Facilities									M		
1.c.1. Direction and Control	M	M	M		M	M		M	M	M	M
1.d.1. Communications Equipment	M	M	M	M	M	M	M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	M	M	M	M	M	M	M	M	M
2. PROTECTIVE ACTION DECISION MAKING											
2.a.1. Emergency Worker Exposure Control	M	M	M		M				M	M	M
2.b.1. Rad Assessment & PARs Based on Available Information		M	M	M	M			M			
2.b.2. Rad Assessment and PADs for the General Public	M	M							M	M	M
2.c.1. Protective Action Decisions for Special Populations									M	M	M
2.d.1. Rad Assessment & Decision Making for Ingestion Exposure											
2.e.1. Rad Assmt & Decision Making for Relocation, Re-entry & Return											
3. PROTECTIVE ACTION IMPLEMENTATION											
3.a.1. Implementation of Emergency Worker Control				M					M	M	M
3.b.1. Implementation of KI Decisions				M					M	M	M
3.c.1. Implementation of PADs for Special Populations									M	M	M
3.c.2. Implementation of PADs for Schools									M	M	M
3.d.1. Implementation of Traffic and Access Control									M	M	M
3.d.2. Impediments to Evacuation and Traffic and Access Control											
3.e.1. Implementation of Ingestion Decisions Using Adequate Information											
3.e.2. Implementation of IP Decisions Showing Strategies & Instru. Mater.											
3.f.1. Implementation of Relocation, Re-entry and Return Decisions											
4. FIELD MEASUREMENT and ANALYSIS											
4.a.1. Plume Phase Field Measurement & Analysis Equipment				M							
4.a.2. Plume Phase Field Measurement & Analysis Management		M	M		M						
4.a.3. Plume Phase Field Measurements & Analysis Procedures				M							
4.b.1. Post Plume Field Measurement & Analysis											
4.c.1. Laboratory Operations											
5. EMERGENCY NOTIFICATION & PUBLIC INFO											
5.a.1. Activation of Prompt Alert and Notification	M						M		M	M	M
5.a.3. Activation of Prompt Alert & Notification Backup Alert & Notification											
5.b.1. Emergency Info and Instructions for the Public and the Media	M					M			M	M	M
6. SUPPORT OPERATIONS/FACILITIES											
6.a.1. Monitoring & Decon of Evacuees & EWs & Registration of Evacuees											
6.b.1. Monitoring and Decon of Emergency Worker Equipment											
6.c.1. Temporary Care of Evacuees											
6.d.1. Transport and Treatment of Contaminated Injured Individuals											

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Table 3: Target Capability Evaluation Result Summary

Capability / Activity	SEOC	Dose	RMCC	FMT	FCC	JIC	LP-1	CECC	Meigs County	McMinn County	Rhea County
Emergency Operation Center Management											
Activate EOC	X								X	X	X
Direct EOC Tactical Operations	X								X	X	X
Gather and Provide Information											
Identify and Address Issues											
Prioritize and Provide Resources											
Provide EOC Connectivity	X								X	X	X
Support and Coordinate Response								X	X	X	X
Emergency Public Information and Warning											
Manage Emergency Public Information and Warning						X					
Activate Emergency Public Information, Alert/Warning and Notification						X	X				
Establish JIS											
Issue Emergency Warnings	X					X	X		X	X	X
Conduct Media Relations											
Provide Public Rumor Control	X					X			X	X	X
Emergency Public Safety and Security Response											
Activate Public Safety and Security Response									X	X	X
Command and Control Public Safety and Security Response											
Control Traffic, Crowd and Scene									X	X	X
Hazardous Materials Response and Decontamination											
Site Management and Control		X	X	X	X						
Hazard Assessment and Risk Evaluation		X	X	X	X						

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Appendix C: Exercise Evaluator and Assignments

Location	Evaluation Team	Capability and Activity
Tennessee		
State Emergency Operations Center (SEOC)	Gerald McLemore (FEMA) Joe Harworth (FEMA) Kiori Flores (FEMA) Gary Bolender (ICF)	EOC Management 1. Activate SEOC (1a1, 1e1) 2. Provide SEOC Connectivity (1d1) 3. Direct SEOC Operations (1c1, 2a1, 2b2) Emergency Public Information & Warning 1. Issue Emergency Warnings (5a1) 2. Provide Public Inquiry Control (5b1)
Dose Assessment, Radiation Protection Section, SEOC	Joseph Keller (ICF)	HAZMAT Response & Decontamination 1. Site Management & Control (1a1, 1c1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (2a1, 2b1, 2b2, 4a2)
Radiological Monitoring Coordination Center (RMCC)	John Fill (FEMA)	HAZMAT Response & Decontamination 1. Site Management & Control (1a1, 1c1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (2a1, 3a1, 4a2)
Radiological Field Monitoring Team 1	Marcy Campbell (ICF)	HAZMAT Response & Decontamination 1. Site Management & Control (1a1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (3a1, 3b1, 4a1, 4a3)
Radiological Field Monitoring Team 2	Michael Henry (ICF)	HAZMAT Response & Decontamination 1. Site Management & Control (1a1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (3a1, 3b1, 4a1, 4a3)
Radiological Field Monitoring Team 3	Dave Stuenkel (ICF)	HAZMAT Response & Decontamination 1. Site Management & Control (1a1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (3a1, 3b1, 4a1, 4a3)

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Location	Evaluation Team	Capability and Activity
Radiological Field Monitoring Team 4	William B. McRee (ICF)	HAZMAT Response & Decontamination <ol style="list-style-type: none"> 1. Site Management & Control (1a1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (3a1, 3b1, 4a1, 4a3)
East TEMA Field Coordination Center (FCC)	Roger Jobe (ICF)	HAZMAT Response & Decontamination <ol style="list-style-type: none"> 1. Site Management & Control (1a1, 1c1, 1d1, 1e1) 2. Hazard Assessment & Risk Evaluation (2a1, 3a1, 4a2)
Joint Information Center (JIC)	Bob Spence (FEMA) Lisa Rink (FEMA) Bill Larrabee (ICF)	Emergency Public Information & Warning <ol style="list-style-type: none"> 1. Activate Emergency Public Information, Alert/Warning & Notification Plans (1a1, 1d1, 1e1) 2. Manage Emergency Public Information & Warning (1c1) 3. Issue Emergency Warnings (5b1) 4. Provide Public Inquiry Control (5b1)
WIVK (LP-1) Knoxville	Lorenzo Lewis (FEMA)	Emergency Public Information & Warning <ol style="list-style-type: none"> 1. Manage Emergency Public Information and Warning (1d1, 1e1) 2. Issue Public Information, Alert/Warnings & Notifications (5a1)
Central Emergency Control Center / Emergency Operations Facility (CECC)	Bob Trojanowski (NRC)	EOC Management <ol style="list-style-type: none"> 1. Support and Coordinate Response (No EOP)

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

RISK COUNTIES		
Meigs County (MCEOC)		
Emergency Operations Center	Michael Dolder (FEMA) Jon Sandburg (FEMA) Alex Sera (FEMA) J. T. Ackerman (FEMA)	EOC Management <ol style="list-style-type: none"> 1. Activate EOC (1a1, 1e1) 2. Provide EOC Connectivity (1d1) 3. Direct EOC Operations (1c1, 2a1, 2b2, 2c1) 4. Support & Coordinate Response (3a1, 3b1, 3c1, 3c2, 3d1, 3d2) *3a1 and 3b1 for Back Up Route Alerting* Emergency Public Information & Warning <ol style="list-style-type: none"> 1. Issue Emergency Warnings (5a1, 5b1) 2. Provide Public Inquiry Control (5b1)
Traffic Control Points (interview)		Emergency Public Safety & Security Response <ol style="list-style-type: none"> 1. Activate Public Safety & Security Response (1d1) 2. Control Traffic, Crowd & Scene (3d1, 3d2)
Backup Route Alerting		Emergency Public Information & Warnings <ol style="list-style-type: none"> 1. Issue Public Information, Alert/Warnings & Notifications (5a3)
McMinn County (MEOC)		
Emergency Operations Center	Matt Bradley (FEMA) Walt Cushman (FEMA)	EOC Management <ol style="list-style-type: none"> 1. Activate EOC (1a1, 1e1) 2. Provide EOC Connectivity (1d1) 3. Direct EOC Operations (1c1, 2a1, 2b2, 2c1) 4. Support & Coordinate Response (3a1, 3b1, 3c1, 3c2, 3d1, 3d2) Emergency Public Information & Warning <ol style="list-style-type: none"> 1. Issue Emergency Warnings (5a1, 5b1) 2. Provide Public Inquiry Control (5b1)
Traffic Control Points (interview)		Emergency Public Safety & Security Response <ol style="list-style-type: none"> 1. Activate Public Safety & Security Response (1d1) 2. Control Traffic, Crowd & Scene (3d1, 3d2)

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Rhea County (RCEOC)		
Emergency Operations Center	Robert Nash (FEMA) Odis Spencer (FEMA) Ron Shaw (FEMA)	EOC Management <ol style="list-style-type: none"> 1. Activate EOC (1a1, 1e1) 2. Provide EOC Connectivity (1d1) 3. Direct EOC Operations (1c1, 2a1, 2b2, 2c1) 4. Support & Coordinate Response (3a1, 3b1, 3c1, 3c2, 3d1, 3d2) *3a1 and 3b1 for Waterway Warning*
Traffic Control Points (interview)		Emergency Public Information & Warning <ol style="list-style-type: none"> 1. Issue Emergency Warnings (5a1, 5b1) 2. Provide Public Inquiry Control (5b1)
Waterway Warning		Emergency Public Safety & Security Response <ol style="list-style-type: none"> 1. Activate Public Safety & Security Response (1d1) 2. Control Traffic, Crowd & Scene (3d1, 3d2)
		Emergency Public Information & Warnings <ol style="list-style-type: none"> 1. Issue Public Information, Alert/Warnings & Notifications (5a3)

Appendix D: Exercise Locations

Locations	Locations
SEOC: 3041 Sidco Dr. Nashville, TN 37204	CECC: 1101 Market St. Chattanooga, TN 37402
RMCC: TEMA-East Region 803 Concord St. Knoxville, TN 37919	LP-1: WIVK (LP-1) 4711 Kingston Pike Knoxville, TN 37919
FCC: TEMA-East Region 803 Concord St. Knoxville, TN 37919	Joint Information Center (JIC): 1101 Market St. Chattanooga, TN 37402
Staging Area for Field Monitoring Teams and Mobile Laboratory: TEMA-East Region 803 Concord St. Knoxville, TN 37919	Meigs County EOC 14816 Hwy. 58 South Decatur, TN 37322
Rhea County EOC 8860 Back Valley Rd. Evansville, TN 37322	McMinn County EOC 1107 S. Congress Pkwy. Athens, TN 37303

This Page is Intentionally Blank

Appendix E: Extent of Play Agreement

EXTENT OF PLAY AGREEMENT

WATTS BAR NUCLEAR STATION

FULL PARTICIPATION RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

October 19, 2011

All selected activities will be demonstrated fully in accordance with respective plans with the below listed exceptions. It is requested that any issue or discrepancy arising during exercise play be allowed correction immediately, at all player locations, if it isn't disruptive to exercise play and if it is mutually agreeable to both the controller and evaluator.

CAPABILITY: Emergency Operations Management

Activity 1: Activate EOC

Definition: In response to activation, perform incident notifications, recall essential personnel, and stand-up EOC systems to provide a fully staffed and operational EOC.

- 1.1 ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.
(Sub-element 1.a, Mobilization, Criterion 1.a.1: NUREG-0654, A.4. D.3, 4, E.1, 2, H.4)
 - SEOC, Meigs, McMinn and Rhea Counties
 - TEMA Operations will receive the emergency notification from TVA, verify the notification, contact, alert, and mobilize key personnel in a timely manner. Notification to adjacent states will also be demonstrated at the State Emergency Operations Center (SEOC), through the Operations section in accordance with the appropriate notification checklist as contained in the Watts Bar MJRERP. Facilities will be considered operational at the START OF EXERCISE (STARTEX) with assigned personnel at the SEOC, Field Coordination Center (FCC), Radiological Monitoring Control Center (RMCC) (to include Field Monitoring Teams), Central Emergency Control Center (CECC)
 - Risk County (McMinn, Meigs and Rhea) Emergency Operations Centers (EOCs); already pre-positioned and in-place no later than 8:00 AM Eastern/7:00 AM Central
 - SEOC, CECC, and Risk Counties (McMinn, Meigs and Rhea) EOCs assigned personnel will remain on duty until END OF EXERCISE (ENDEX). Release of personnel will be phased and in accordance with performance measures and training objectives, determined as met per senior leadership, by facility location
 - The SEOC DACO, and Risk County EMA Directors will discuss with evaluators agency capabilities/procedures to alert and mobilize staffs

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

- 1.2 Equipment, maps, displays, dosimeters, potassium iodide (KI), other supplies are sufficient to support emergency operations. (Sub-element 1.e., Equipment and Supplies to Support Operations, Criterion 1.e.1: NUREG-0654, H., J.10.a.b.e.f.j.k, 11, K.3.a).

- SEOC, Meigs, McMinn and Rhea Counties
- The SEOC, Meigs, McMinn and Rhea Counties EOCs will be set up in accordance with established plans and procedures.

Activity 2: Provide Connectivity

Definition: Upon notification, initiate interoperable system operations, in addition to maintaining, managing, and assuring protection of the interoperable communications systems until the SEOC is ordered to be deactivated.

- 2.1 At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.
(Sub element 1.d, Communications, Criterion 1.d.1: NUREG-0654, F. 2.)

- SEOC, Meigs, McMinn and Rhea Counties
- The SEOC will demonstrate primary and alternate communications systems.
- The Risk County (McMinn, Meigs and Rhea) EOCs will demonstrate primary and alternate communications systems
- Communications capability will include telephone, NAWAS MNET voice over IP, 800 MHz radio, WEBEOC and email

Activity 3: Direct EOC Operations

Definition: Following activation of the SEOC system, staff and organize the SEOC in accordance with the comprehensive emergency management plan (CEMP) – TVA MJRERP and the requisite policies, procedures, and directives.

- 3.1 Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.
(Sub-element 1.c.1, Direction and Control, Criterion 1.c.1: NUREG-0654, A.1.d, 2.a.b.)
- SEOC, Meigs, McMinn and Rhea Counties

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

-
- The Direction and Control Officer (DACO) at the SEOC will assume primary responsibility for direction and control working in concert with the FCC, JIC, and Risk County (McMinn, Meigs and Rhea) EOC Directors. The state will discuss the DACO's role at the FEMA (REP)/State briefing
- 3.2 OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (Sub-element 2.a., Emergency Worker Exposure Control, Criterion 2.a.1: NUREG-0654, K.4.)
- SEOC, Meigs, McMinn and Rhea Counties
 - Demonstration will be accomplished by staff in the SEOC and Risk County (McMinn, Meigs and Rhea) EOCs
- 3.3 A decision-making process involved consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (Sub-element 2.b., Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency, Criterion 2.b.2: NUREG, J.9, 10.M.)
- SEOC, Meigs, McMinn and Rhea Counties
 - Demonstration will be accomplished by staff in the SEOC. The Chief Medical Officer for the Tennessee Department of Health, after consultation with DRH, will make all decisions concerning the administration of KI to emergency workers, institutionalized persons, and the general public. When a decision is made, instructions will be coordinated with the Risk Counties (McMinn, Meigs and Rhea) EOCs
- 3.4 Protective action decisions are made, as appropriate, for special population groups. (Sub-element 2.c., Protective Action Decisions Consideration for the Protection of Special Populations, Criterion 2.c.1: NUREG-0654, J.9, 10.c.d.e.g).
- Meigs, McMinn and Rhea Counties
 - Decisions will be coordinated through affected Risk County (McMinn, Meigs and Rhea) EOCs for understanding and implementation. Lists of the special needs as well as the resources necessary and available for evacuation are maintained by local EMA Directors and when requested, will be provided to the evaluator.

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Organizational procedures for executing protective actions will be discussed with evaluators. Contact with the Public School System will be actual (See Criterion 3.c.2.)

Activity 4: Support and Coordinate Response

Definition: Once requested, provide resource, technical, and policy support to the Incident Command by coordinating the actions of off-site agencies, organizations, and jurisdictions, implementing MAAs, and requesting higher-level assistance.

- 4.1 The OROs issue appropriate dosimeters and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, Criterion 3.a.1: NUREG-0654, K.3).

- Meigs, McMinn and Rhea Counties
- Determination of Emergency Worker (EW) exposure control will be done by interview with the evaluators (as pertains to direction and control.) EWs with assignments in the 10-mile EPZ and those involved in radiological monitoring and/or decontamination are issued EW dosimetry kits. Two (2) EWs in each of the Risk Counties (McMinn, Meigs and Rhea) EOCs will be available to evaluators for interview as to knowledge of recording dosimetry readings and actions to be taken when certain thresholds are reached, especially if the established turn-back value (2.5 R [5 R TEDE]) is met or exceeds exposure limits

- 4.2 KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not general public) is maintained.

(Sub-element 3.b., Implementation of KI Decision, Criterion 3.b.1: NUREG-0654, E.7., J., 10.e.f.).

- Meigs, McMinn and Rhea Counties
- Demonstration by staff in the SEOC will be based on projected exposure. The Chief Medical Officer for the Tennessee Department of Health is located at the SEOC. After consultation with DRH, the Chief Medical Officer will make all decisions concerning the administration of KI to emergency workers, institutionalized persons and the general public. EWs receive KI in an EW kit upon issue. When a decision is made, instructions will be relayed through the Risk Counties (McMinn, Meigs and Rhea) EOCs and, if the general population is included, distribution of KI to shelters will be simulated. The Chief Medical

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Officer and other staff in the SEOC/ Risk Counties (McMinn, Meigs and Rhea) EOCs will be available for procedural discussions with evaluators

- 4.3 Protective action decisions are implemented for special populations other than schools within areas subject to protective actions.
(Sub-element 3.c., Implementation of Protective Actions for Special Populations, Criterion 3.c.1: NUREG-0654, E.7., J.9., 10.c. d.e.g.)
- Meigs, McMinn and Rhea Counties
 - Demonstration of this process by staff in the SEOC, FCC and Risk Counties (McMinn, Meigs and Rhea) EOCs will be based on projected contamination exposure levels. Decisions will be coordinated through affected Risk Counties (McMinn, Meigs and Rhea) EOCs for understanding and implementation. Implementation of protective actions will be simulated, however procedural discussions between staff in the SEOC/ Risk Counties (McMinn, Meigs and Rhea) EOCs will be discussed with the evaluators. Risk Counties (McMinn, Meigs and Rhea) EOCs will provide the FEMA Evaluator with a list of transportation dependent individuals (special needs cards) and a list of transportation providers
- 4.4 OROs/School officials decide upon and implement protective actions for schools.
(Sub-element 3.c., Implementation of Protective Actions for Special Populations, Criterion 3.c.2: NUREG-0654, J.10.d. g.)
- Meigs, McMinn and Rhea Counties
 - Actual calls will be made to school officials for evaluation purposes. A list of endangered schools and telephone numbers will be provided by the Risk Counties (McMinn, Meigs and Rhea) EOC Directors
- 4.5 Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (Sub-element 3.d., Implementation of Traffic and Access Control, Criterion 3.d.1: NUREG-0654, J.10.g, j., k.)
- Meigs, McMinn and Rhea Counties
 - Deployment of traffic and access control personnel will be simulated. However, EWs tasked with performing such duties will be interviewed in the parking lot at each of the Risk Counties (McMinn, Meigs and Rhea) EOCs. When a roadblock or access point would be established, the EWs will be dispatched to the EOC rather than the location in the field. Interviews will cover all aspects of TCPs. EWs will be equipped with everything needed to establish and maintain traffic

and access control points. Real time communications will be conducted with the Risk Counties (McMinn, Meigs and Rhea) EOCs

- 4.6 Impediments to evacuation are identified and resolved.
(Sub-element 3.d., Criterion 3.d.2: Implementation of Traffic and Access Control, NUREG-0654, J.10.k)
- Meigs, McMinn and Rhea Counties
 - Impediments will be discussed. Staff personnel at the Risk Counties (McMinn, Meigs and Rhea) EOCs will be available to discuss procedures with the evaluators.

CAPABILITY: Emergency Public Information and Warning

Activity 1: Activate Emergency Public Information, Alert/Warning, and Notification Plans

Definition: Activate key personnel, facilities, and procedures.

- 1.1 ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (Sub-element 1.a, Mobilization, Criterion 1.a.1: NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)
- JIC
 - The Joint Information Center (JIC) personnel including the State/ Risk Counties (McMinn, Meigs and Rhea) and TVA, will be pre-positioned and in place no later than 9:00 AM Eastern/8:00 AM Central. All JIC assigned personnel will remain on duty until END OF EXERCISE (ENDEX). Release of personnel will be phased and in accordance with performance measures and training objectives, determined as met per senior leadership, by facility location.
 - The TEMA JIC Co-Director will discuss with evaluators agency capabilities/procedures to alert and mobilize staffs.
- 1.2 At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.
(Sub element 1.d, Communications, Criterion 1.d.1: NUREG-0654, F. 2.)
- JIC, LP-1
 - The JIC will demonstrate primary and alternate communications systems.

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

- Communications capability will include telephone, NAWAS MNET voice over IP, 800 MHz radio, WEBEOC and email
 - The SEOC is linked with both the primary and alternate EAS stations (LP-1) as well as the NOAA Weather Radio station by individual dedicated telephone lines.
- 1.3 Equipment, maps, displays, dosimeters, potassium iodide (KI), other supplies are sufficient to support emergency operations. (Sub-element 1.e., Equipment and Supplies to Support Operations, Criterion 1.e.1: NUREG-0654, H., J.10.a.b.e.f.j.k, 11, K.3.a).
- JIC, LP-1
 - The JIC will be set up in accordance with established plans and procedures.
 - LP1 will be set up in accordance with established plans and procedures.

Activity 2: Manage Emergency Public Information and Warnings

Definition: In response to need for public notification, provide overall management and coordination of Emergency Public Information and Warning capability.

- 2.1 Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (Sub-element 1.c.1, Direction and Control, Criterion 1.c.1: NUREG-0654, A.1.d, 2.a.b.)
- JIC
 - The TVA and TEMA Co-Directors will assume primary responsibility for joint information coordination, for State, Local Jurisdictions and TVA. They will discuss their procedures and demonstrate one voice for public information through press releases from at the TVA/State briefings.
- 2.2 The OROs issue appropriate dosimeters and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, Criterion 3.a.1: NUREG-0654, K.3).
- Meigs County (ONLY)
 - Determination of Emergency Worker (EW) exposure control will be done by interview with the evaluators (as pertains to direction and control.) EWs with assignments in the 10-mile EPZ and those involved in radiological monitoring

and/or decontamination are issued EW dosimetry kits. Two (2) EWs in each of the Risk County (McMinn, Meigs and Rhea) EOCs will be available to evaluators for interview as to knowledge of recording dosimetry readings and actions to be taken when certain thresholds are reached, especially if the established turn-back value (2.5 R [5 R TEDE]) is met or exceeds exposure limits.

Activity 3: Issue Emergency Warnings

Definition: Upon receiving Protective Action Decisions, issue emergency public warnings through established warning systems.

3.1 Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized off-site emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by FEMA REP guidance.

(Sub-element 5.a., Activation of the Prompt Alert and Notification System, Criterion 5.a.1: 10 CFR Part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)

- SEOC, LP-1, Meigs, McMinn and Rhea Counties
- The Emergency Alert System (EAS) will be activated simultaneously with the initial activation (silent test) of the Watts Bar Prompt Notification System (PNS) sirens with the simulated broadcast of a test message (EAS Message #1). After the initial activation of the PNS sirens and broadcast of the special test message, subsequent PNS activations and contact with the LP-1 EAS control station will be simulated. Should there be a difference between the State and TVA System Status Monitors (SSMs) or if siren failure/s is/are indicated, backup route alerting for the affected coverage areas will be simulated; except for Meigs County demonstrating a FEMA/TEMA selected route. Risk County law enforcement personnel will be available to discuss the routes and procedures that would be utilized in an actual emergency situation.

3.2 Backup alert and notification of the public is completed within 45 minutes following the detection by HBR SEP of a failure of the primary alert and notification system.

(Sub-element 5.a., Activation of the Prompt Alert and Notification System, Criterion 5.a.3: NUREG-0654, E.6, Appendix 3.B.2.c)

- Meigs, McMinn and Rhea Counties
- One (1) law enforcement officer will discuss with the evaluators procedures for back up route alerting (one (1) law enforcement officer will discuss TCPs under Criterion 3.d.1.) Only Meigs County will deploy (actual demonstration) a law enforcement officer with a FEMA evaluator to travel along a pre-designated evacuation route affected by Siren # (FEMA/TEMA selected).

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

-
- Waterway Warning will be demonstrated by Rhea County. One (1) boat (Fire and Rescue) will demonstrate the task. The FEMA evaluator will meet the Rhea County EM at the RCEOC, then will deploy to the boat ramp/dock. Real time communications will be conducted with the EOC.
- 3.3 OROs provide accurate emergency information and instructions to the public and the news media. (The responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay).
(Sub-element 5.b., Emergency Information and Instructions for the Public and the Media, Criterion 5.b.1: NUREG-0654, E.5, 7, G.3.a, G.4, a., b., c.)
- SEOC, JIC, and Meigs, McMinn and Rhea Counties
 - Press Releases will not be issued without the approval of the affected risk county authority.
 - Emergency instructions/information will originate from the SEOC prior to JIC activation; after activation, information will be disseminated from the JIC while emergency instructions will continue to be disseminated from the SEOC via the EAS.

Activity 4: Provide Public Inquiry Control

Definition: Upon activation of the JIS, track inquiries for rumors.

- 4.1 OROs provide accurate emergency information and instructions to the public and the news media.
(Sub-element 5.b., Emergency Information and Instructions for the Public and the Media, Criterion 5.b.1: NUREG-0654, E.5, 7, G.3.a, G.4, a., b., c.)
- SEOC, JIC, and Meigs, McMinn and Rhea Counties
 - Rumor Control will be coordinated from the State with the JIC and disseminated to the Counties.

CAPABILITY: Public Safety and Security Response

Activity 1: Activate Public Safety/Security Response

Definition: Upon notification, mobilize and deploy to begin operations.

- 1.1 At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.

(Sub element 1.d, Communications, Criterion 1.d.1: NUREG-0654, F. 2.)

- Meigs, McMinn and Rhea Counties
- The Risk County McMinn, Meigs and Rhea) EOCs will demonstrate primary and alternate communications systems.

Activity 2: Command/Control Public Safety/Security Response

Definition: In response to a notification for security assets, establish the management and coordination of the Public Safety and Security Response, from activation through to demobilization.

- 2.1 The OROs issue appropriate dosimeters and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, Criterion 3.a.1: NUREG-0654, K.3).

- Meigs, McMinn and Rhea Counties
- Determination of Emergency Worker (EW) exposure control will be done by interview with the evaluators (as pertains to direction and control.) EWs with assignments in the 10-mile EPZ and those involved in radiological monitoring and/or decontamination are issued EW dosimetry kits. Two (2) EWs in each of the Risk County (McMinn, Meigs and Rhea) EOCs will be available to evaluators for interview as to knowledge of recording dosimetry readings and actions to be taken when certain thresholds are reached, especially if the established turn-back value (2.5 R [5 R TEDE]) is met or exceeds exposure limits.

- 2.2 KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not general public) is maintained.

(Sub-element 3.b., Implementation of KI Decision, Criterion 3.b.1: NUREG-

0654, E.7., J., 10.e.f.).

- Meigs, McMinn and Rhea Counties
- Demonstration by staff in the SEOC will be based on projected exposure. The Chief Medical Officer for the Tennessee Department of Health is located at the SEOC. After consultation with DRH, the Chief Medical Officer will make all decisions concerning the administration of KI to emergency workers, institutionalized persons and the general public. EWs receive KI in an EW kit upon issue. When a decision is made, instructions will be relayed through the Risk County (McMinn, Meigs and Rhea) EOCs and, if the general population is included, distribution of KI to shelters will be simulated. The Chief Medical Officer and other staff in the SEOC/ Risk County (McMinn, Meigs and Rhea) EOCs will be available for procedural discussions with evaluators.

Activity 3: Control Traffic, Crowd, and Scene

Definition: Direct/redirect traffic and pedestrians out of the affected area(s). Assess, coordinate, and establish force protection and perimeter zones, maintain a visible and effective security presence to deter criminal conduct and maintain law and order.

- 3.1 Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (Sub-element 3.d., Implementation of Traffic and Access Control, Criterion 3.d.1: NUREG-0654, J.10.g, j., k.).
 - Meigs, McMinn and Rhea Counties
 - Deployment of traffic and access control personnel will be simulated. However, EWs tasked with performing such duties will be interviewed in the parking lot at each of the Risk County (McMinn, Meigs and Rhea) EOCs. When a roadblock or access point would be established, the EWs will be dispatched to the EOC rather than the location in the field. Interviews will cover all aspects of TCPs. EWs will be equipped with everything needed to establish and maintain traffic and access control points. Real time communications will be conducted with the EOCs.
- 3.2 Impediments to evacuation are identified and resolved. (Sub-element 3.d., Implementation of Traffic and Access Control, Criterion 3.d.2: NUREG-0654, J.10.k)
 - Meigs, McMinn and Rhea Counties
 - Impediments will be discussed. Staff personnel at the Risk County (McMinn, Meigs and Rhea) EOCs will be available to discuss procedures with the evaluators.

CAPABILITY: HAZMAT (Radiological) Response and Decontamination

Activity 1: Site Management and Control

Definition: In response to activation, mobilize and arrive at the incident scene and initiate response operations to manage and secure the physical layout of the incident.

- 1.1 ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (Sub-element 1.a, Mobilization, Criterion 1.a.1: NUREG-0654, A.4. D.3, 4, E.1, 2, H.4)
 - SEOC (Dose), RMCC and FCC
 - TEMA Operations will receive the emergency notification from TVA, verify the notification, contact, alert, and mobilize key personnel in a timely manner. Notification to adjacent states will also be demonstrated at the State Emergency Operations Center (SEOC), through the Operations section in accordance with the appropriate notification checklist as contained in the Watts Bar MJRERP. Facilities will be considered operational at the START OF EXERCISE (STARTEX) with assigned personnel at the SEOC, Field Coordination Center (FCC), Radiological Monitoring Control Center (RMCC) (to include Field Monitoring Teams), Central Emergency Control Center (CECC).
 - The State/local and TVA, will be pre-positioned and in place no later than 9:00 AM Eastern/8:00 AM Central. SEOC, FCC, RMCC, CECC, assigned personnel will remain on duty until END OF EXERCISE (ENDEX). Release of personnel will be phased and in accordance with performance measures and training objectives, determined as met per senior leadership, by facility location.
 - The SEOC DACO, FCC Director and RMCC Coordinator, will discuss with evaluators agency capabilities/procedures to alert and mobilize staffs.
- 1.2 Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (Sub-element 1.c.1, Direction and Control, Criterion 1.c.1: NUREG-0654, A.1.d, 2.a.b.)
 - SEOC (Dose), RMCC and FCC
 - The Direction and Control Officer (DACO) at the SEOC will assume primary responsibility for direction and control working in concert with the FCC, JIC, and Risk County EOC Directors. The State will discuss the SEOC (Dose) Assessment Supervisor, RMCC-RMC Coordinator and FCC Director's role at the FEMA (REP)/State briefing.
- 1.3 At least two communications systems are available, at least one operates properly,

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.

(Sub element 1.d, Communications, Criterion 1.d.1: NUREG-0654, F. 2.)

- SEOC (Dose), FCC/RMCC and Field Teams
- The SEOC, FCC/RMCC and Field Teams will demonstrate primary and alternate communications systems. The communications network between the DRH field teams and RMCC and the RMCC and SEOC/CECC will be evaluated at the RMCC

- 1.4 Equipment, dosimeters, potassium iodide (KI), other supplies are sufficient to support emergency operations.
(Sub-element 1.e, Equipment and Supplies to Support Operations, Criterion 1.e.1: NUREG-0654, H., J.10.a.b.e.f.j.k, 11, K.3.a).

- SEOC (Dose), FCC/RMCC and Field Teams
- The SEOC (Dose), FCC, RMCC and Field Teams will be set up in accordance with established plans and procedures. KI will be simulated.

Activity 2: Hazard Assessment Risk Evaluation

Description: Assess the hazards present, evaluate the level of risk to both responders and the public, and develop an Incident Action Plan (IAP) to address the response problem.

- 2.1 OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.
(Sub-element 2.a., Emergency Worker Exposure Control, Criterion 2.a.1: NUREG-0654, K.4.)

- SEOC (Dose), FCC/RMCC
- Demonstration will be accomplished by staff in the SEOC and FCC/RMCC.

- 2.2 Appropriate protective action recommendations are based on available information including: plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.
(Sub-element 2.b., Radiological Assessment and Protective Action

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Recommendations and Decisions for the Plume Phase of the Emergency,
Criterion 2.b.1: NUREG-0654, I.8., 10, and Supplement 3.)

- SEOC (Dose), FCC/RMCC
 - Demonstration will be accomplished by staff in the SEOC, RMCC, CECC and Division of Radiological Health (DRH) personnel at the SEOC. This will be done in concert with TVA in the CECC, will perform dose assessment and independently validate dose projections. Radiological data for the field teams will be inserted by Controller injects and sent to the SEOC via the RMCC. Projections will be based on plant data provided by TVA and field radiation measurements.
- 2.3 A decision-making process involved consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (Sub-element 2.b., Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency, Criterion 2.b.2: NUREG, J.9, 10.M.)
- SEOC (Dose), FCC/RMCC
 - Demonstration will be accomplished by staff in the SEOC. The Chief Medical Officer for the Tennessee Department of Health, after consultation with DRH, will make all decisions concerning the administration of KI to emergency workers, institutionalized persons, and the general public. When a decision is made, instructions will be coordinated with the local EOCs.
- 2.4 The OROs issue appropriate dosimeters and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, Criterion 3.a.1: NUREG-0654, K.3).
- Field Teams
 - Determination of Emergency Worker (EW) exposure control will be done by interview with the evaluators (as pertains to direction and control.)
- 2.5 KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not general public) is maintained.

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

(Sub-element 3.b., Implementation of KI Decision, Criterion 3.b.1: NUREG-0654, E.7., J., 10.e.f.).

- Field Teams
 - Demonstration by staff in the SEOC will be based on projected exposure. The Chief Medical Officer for the Tennessee Department of Health is located at the SEOC. After consultation with DRH, the Chief Medical Officer will make all decisions concerning the administration of KI to emergency workers. The Chief Medical Officer and other staff in the SEOC/Local EOCs will be available for procedural discussions with evaluators.
- 2.6 The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates.
(Sub-Element 4.a., Plume Phase Field Measurements and Analyses, Criterion 4.a.1: NUREG-0654, H.10; I.7, 8, 9)
- Field Teams
 - Five (5) Field Teams, four (4) to be evaluated and one (1) in training, will utilize appropriate instrumentation and guidelines as established in DRH Standard Operating Procedures.
- 2.7 Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure.
(Sub-Element 4.a., Plume Phase Field Measurements and Analyses, Criterion 4.a.2: NUREG-0654, H.12; I.8, 11; J.10.a)
- SEOC (Dose), FCC/RMCC
 - Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. All field teams will be under the direction of the RMCC.
- 2.8 Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media.
(Sub-Element 4.a., Plume Phase Field Measurements and Analyses, Criterion 4.a.3: NUREG-0654, I.9)
- Field Teams

- Four (4) field-monitoring teams will be evaluated. Each field team will obtain at least one air sample with a minimum sample volume of 10 cubic feet. The particulate filter and absorber media cartridge will be bagged, labeled and transported to a collection point for simulated transport to a laboratory. Field monitoring data will be injected by controllers supporting the exercise, and be transmitted by the teams to the RMCC over the normal communications network (portable hand-held/vehicle mounted radios). Cellular telephones will be utilized for back-up communications.
- The 45th CST will be in training (observer status). The number of teams TBD.

Appendix F: Acronyms

Acronym	Meaning
$\mu\text{C/gm}$	Micro Curies per Gram
AAC	After Action Conference
AAR	After Action Report
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio for Emergency Services
CECC	Central Emergency Coordination Center
CFR	Code of Federal Regulations
DACO	Direction and Control Officer
DEI	Dose Equivalent Iodine
DHS	Department of Homeland Security
DOF	Tennessee Division of Forestry
DRD	Direct Reading Dosimeter
DRH	Department of Radiological Health
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EEG	Exercise Evaluation Guide
EM	Emergency Management
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPZ	Emergency Planning Zone
ERC	Emergency Response Coordinator
ESF	Emergency Support Function
EST	Eastern Standard Time
EWD	Emergency Worker and Vehicle Monitoring and Decontamination
EXPLAN	Exercise Plan
FCC	Field Coordination Center
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FNF	Fixed Nuclear Facility
FOUO	For Official Use Only

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Acronym	Meaning
GE	General Emergency
GIS	Geographic Information System
HAZMAT	Hazardous Materials
HCHD	Hamilton County Health Department
HSEEP	Homeland Security Exercise and Evaluation Program
ICS	Incident Command System
IOF	Initial Operating Facility
IP	Improvement Plan
IPZ	Ingestion Pathway Zone
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LOCA	Loss of Coolant Accident
LP-1	Local Primary -1
MAC	Multi-Agency Coordination
MACC	Multi-Agency Coordination Center
MCC	Mission Control Center
MJRERP	Multi-Jurisdictional Radiological Emergency Response Plan
MOU	Memorandum of Understanding
mR	milliroentgen
mR/h	milliroentgen per hour
NAWAS	National Warning System
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NOUE	Notification of Unusual Event
NRC	Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980</i>
OOS	Out-of-Sequence
ORO	Offsite Response Organization

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Acronym	Meaning
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PIO	Public Information Officer
PNS	Prompt Notification System
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimetry
R	Roentgen
R/h	Roentgen(s) per hour
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RCP	Reactor Coolant Pump
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plan
RMC	Radiological Monitoring Coordinator
RMCC	Radiological Monitoring Coordination Center
RO	Radiological Officer
SAE	Site Area Emergency
SEID	State Emergency Information Director
SEOC	State Emergency Operations Center
SIP	Shelter-in-Place
S-JICD	State JIC Director
SOG	Standard Operating Guide
SOP	Standard Operating Procedure
WBN	Watts Bar Nuclear Power Plant
SRD	Self-Reading Dosimeter
TCL	Target Capabilities List
TCP	Traffic Control Point
TDEC	Tennessee Department of Environment and Conservation
TLD	Thermoluminescent dosimeter
TVA	Tennessee Valley Authority
TVA-JICD	TVA JIC Director
UTL	Universal Task List

Homeland Security Exercise and Evaluation Program (HSEEP)

AAR

2011 Watts Bar Nuclear Plant REP Exercise

Acronym	Meaning
VOAD	Voluntary Organizations Active in Disasters
VSRS	Volunteer State Rescue Service

This Page Intentionally Left Blank