



**FEMA**

February 23, 2010

Luis A. Reyes  
Regional Administrator - RII  
Nuclear Regulatory Commission  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, Georgia 30303

Dear Mr. Reyes:

Enclosed is a copy of the final exercise report for the November 4, 2009, partial participation plume exposure pathway exercise of the offsite radiological emergency plans site specific to the Browns Ferry Nuclear Power Plant. This report addresses the evaluation of the plans and preparedness for the State of Alabama and Lauderdale, Lawrence, Limestone and Morgan Counties within the 10-mile Emergency Planning Zone (EPZ) and Madison County, a host county. In addition to State and County personnel, many volunteers, and numerous elected officials also participated in this exercise.

This exercise was an opportunity to use the Homeland Security Exercise Evaluation Program (HSEEP) process for the design observation and reporting aspects. This required additional work and planning on the part of the State and local communities. We wish to commend all the personnel who assisted in the pilot HSEEP evaluation process, many lessons learned will be integrated into the REP program.

The Federal Emergency Management Agency Region IV staff prepared the final exercise report. Copies of this report will be forwarded to the State of Alabama, FEMA and NRC Headquarters by my staff.

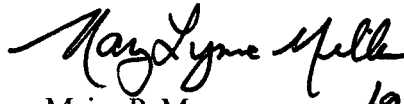
No Deficiencies or Areas Requiring Corrective Actions (ARCA) were identified during this exercise.

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Based on the results of the November 4, 2009 exercise, and FEMA's review of Alabama's Annual Letters of Certification for 2008 and 2009, the offsite radiological emergency response plans and preparedness for the State of Alabama and the affected local jurisdictions site-specific to the Browns Ferry Nuclear Power Plant can be implemented and are adequate to provide a reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. Therefore, the Title 44 CFR, Part 350, approval of the State of Alabama's offsite radiological emergency response plans and preparedness site-specific to the Browns Ferry Nuclear Power Plant granted on July 6, 1990, will remain in effect.

Should you have any questions, please contact Conrad Burnside at 770/220-5486.

Sincerely,

  
Major P. May  
Regional Administrator

Enclosure

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# Browns Ferry Nuclear Power Plant Exercise—November 4, 2009

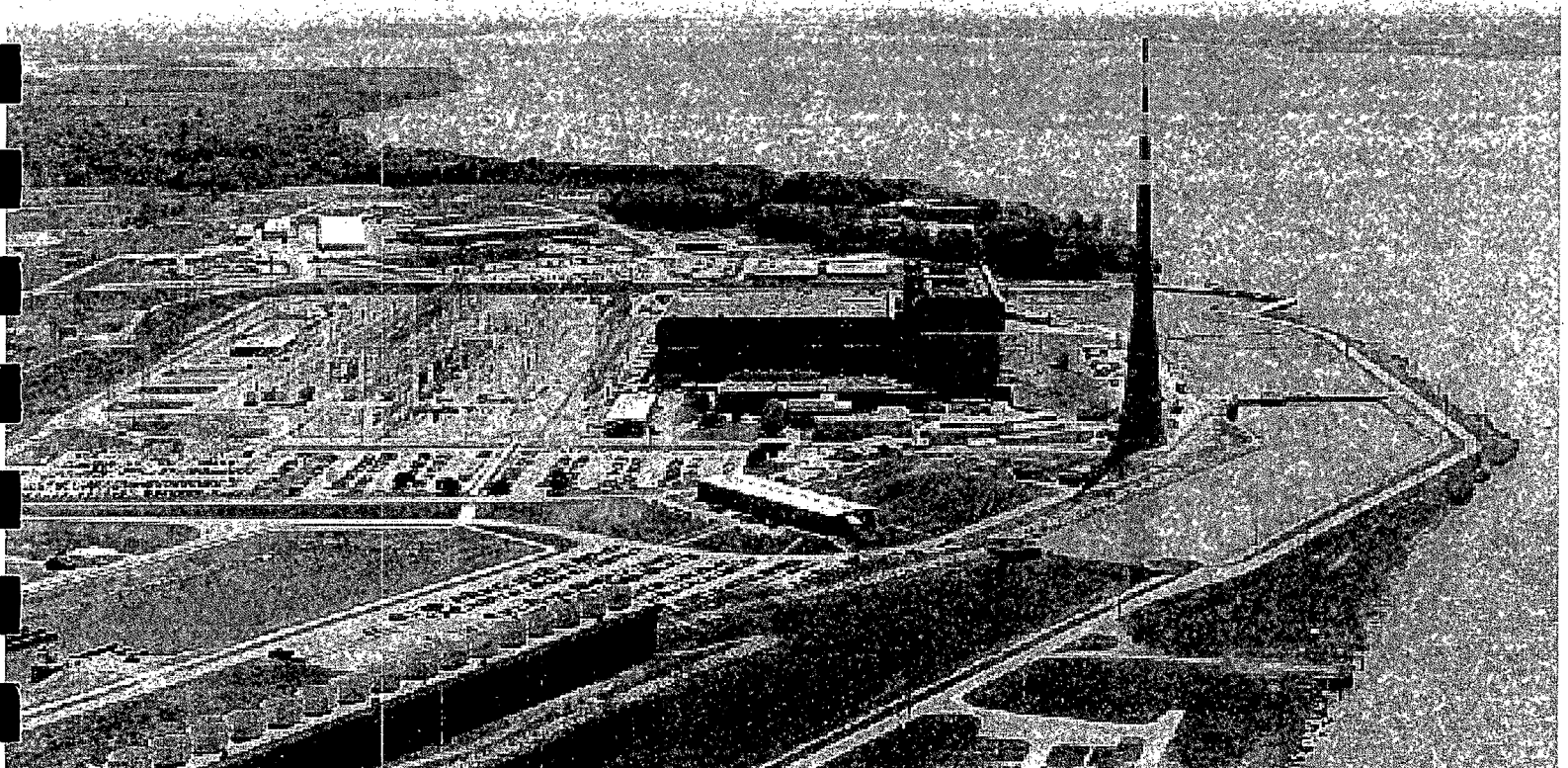
Final Report - Radiological Emergency Preparedness  
Program

*February 23, 2010*



**FEMA**

*FEMA Region IV*





# FEMA

## **Final Exercise Report**

### **Browns Ferry Nuclear Power Plant**

Licensee: **Tennessee Valley Authority**

Exercise Date: **November 4, 2009**

Report Date: **February 23, 2010**

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**U.S. DEPARTMENT OF HOMELAND SECURITY  
FEDERAL EMERGENCY MANAGEMENT AGENCY  
REGION IV**

**3003 Chamblee Tucker Road  
Atlanta, Georgia 30341**

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Cover photograph accreditation: *Browns Ferry Plant, 2005, courtesy of Tennessee Valley Authority.*

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## 1. EXECUTIVE SUMMARY

On November 4, 2009, exercise was conducted for the plume exposure emergency planning zone (EPZ) around the Browns Ferry Nuclear Power Plant (BFNPP) by the Federal Emergency Management Agency (FEMA) Region IV. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. 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 previous evaluated exercise at this site was conducted on July 25, 2007. The qualifying emergency preparedness exercises were conducted on September 10, 1981 and November 4, 1987.

FEMA wishes to acknowledge the efforts of the many individuals from the State of Alabama, and Lauderdale, Lawrence, Limestone, Madison and Morgan Counties, who participated in this exercise. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities.

This exercise was an opportunity to use the Homeland Security Exercise Evaluation Program (HSEEP) process for design observation and reporting aspects. This required additional work and planning on the part of the State and local community.

FEMA wishes to recognize the special contribution volunteers made to the success of this exercise and their commitment to protect the health and safety of the public in their communities. Cooperation and teamwork of all the participants was evident during this exercise.

This report contains the evaluation of the biennial exercise and supporting out-of-sequence activities conducted during the week of September 21, 2009. The out of-sequence activities included: traffic control points (TCP), emergency worker decontamination (EWD), protective action for schools, reception and congregate care and distribution of potassium iodide (KI) to the public, and the storage and distribution for dosimetry, to include documentation of current calibration.

The State and local organizations demonstrated knowledge of their emergency response plans and procedures and implemented them. No deficiencies or areas requiring corrective action (ARCA) were identified during this exercise or out-of-sequence activities.

## II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to Title 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

Title 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in off-site emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
  - Department of Agriculture (USDA)
  - Department of Commerce (DOC)
  - Department of Energy (DOE)
  - Department of Health and Human Services (DHHS)
  - Department of the Interior (DOI)
  - Department of Transportation (DOT)
  - Environmental Protection Agency (EPA)
  - Food and Drug Administration (FDA)
  - Nuclear Regulatory Commission (NRC)

Representatives of these agencies serve on the FEMA Region IV Regional Assistance Committee (RAC) which is chaired by FEMA.



Formal submission of the RERPs for the Browns Ferry Nuclear Power Plant (BFNPP) to FEMA Region IV by the State of Alabama and involved local jurisdictions occurred on August 30, 1982. A revised plan was submitted to FEMA on February 10, 1989. Formal approval of the RERP was granted by FEMA on July 6, 1990, under 44 CFR 350.

A REP exercise was conducted on November 4, 2009 and supporting out-of-sequence activities were conducted during the week of September 21, 2009. A medical services drill (MS-1) was conducted at Decatur General Hospital, Decatur on September 10, 2009. The out-of-sequence activities included: traffic control points (TCP), emergency worker decontamination (EWD), protective actions for schools, reception and congregate care, the storage and availability for distribution of Potassium Iodide (KI) to the public, and the storage and distribution for dosimetry, to include documentation of current calibration. FEMA Region IV assessed the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the BFNPP. The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the Region IV RAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of RERPs and Preparedness in Support of Nuclear Power Plants," November 1980;
- Radiological Emergency Preparedness: Interim REP Program Manual, August 2002

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise criteria at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the ORO's efforts to resolve them.

### **III. EXERCISE OVERVIEW**

Contained in this section are data and basic information relevant to the November 4, 2009, exercise to test the offsite emergency response capabilities in the area surrounding the BFNPP.

#### **A. Plume Exposure Pathway EPZ Description**

The BFNPP is located approximately 10 miles northwest of the City of Decatur, Alabama, on the bank of the Tennessee River. Parts of the Counties of Lauderdale, Lawrence, Limestone and Morgan are within the 10-mile EPZ. Although the EPZ is largely rural and agricultural in use, parts of the EPZ are a mix of industrial, business and residential use. The population of the 10-mile EPZ is approximately 40,100.

#### **B. Exercise Participants**

The following agencies, organizations, and units of government participated in the BFNPP exercise on November 4, 2009.

##### **STATE OF ALABAMA**

- Department of Agriculture and Industries
- Department of Conservation
- Department of Environmental Management
- Department of Human Resources
- Department of Public Health
- Department of Public Safety
- Department of Transportation
- Emergency Management Agency
- Forestry Commission
- Governor's Office
- National Guard

##### **RISK JURISDICTIONS**

- Lauderdale County
- Lawrence County
- Limestone County
- Morgan County

##### **SUPPORT JURISDICTION**

- Madison County

## **PRIVATE/VOLUNTEER ORGANIZATIONS**

American Red Cross  
Decatur Amateur Radio Club  
Radio Amateur Civil Emergency Service  
Salvation Army

### **C. Exercise Timeline**

Table 1, on the following page, presents the time at which key events and activities occurred during the BFNPP exercise on November 4, 2009. Included are times notifications were made or actions taken by the participating jurisdictions/functional entities.

# Table 1: Exercise Timeline

DATE AND SITE: November 4, 2009 – Browns Ferry Nuclear Power Plant

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken									
		SEOC	SFO	SRMAC	STATE RCA	JIC	LAUDERDALE COUNTY	LAWRENCE COUNTY	LIMESTONE COUNTY	MORGAN COUNTY	MADISON COUNTY
Alert	0823	0845	0845	0840	0829		0845	0845	0846	0845	0845
Site Area Emergency	0939	0954	0950	0941	1004	0958	0951	0950	0952	0951	0951
General Emergency	1116	1128	1124	1116	1122	1118	1127	1127	1128	1128	1127
Simulated Rad. Release Started	1140			1140	1212		1231	1231	1231	1231	1231
Simulated Rad. Release Terminated	1235			1235			Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		0852	0925	0927	0800	0950	0907	0857	0942	0908	0917
Declaration of State of Emergency State		1030				1051					
Local						1218	1042	1000	0957	1030	
Exercise Terminated		1244	1245	1310	1305	1303	1242	1243	1243	1243	1243
Early Precautionary Actions River Clearance						1011	0950	0957	0959	0950	
Early School Evacuated		1019				1011			0955	1030	
Schools/Day Care Relocated						1041		1015	0955	1000	
Special Needs								0951	0955	0953	
1 <sup>st</sup> Protective Action Decision Health Orders 1 & 2 1) Public Warning 2) Restrict Access within 2-Mile Radius		1008	1008			1003	1007	1006	1007	1007	1007
1 <sup>st</sup> Protective Action Coordination		1006	1135				1005	1005	1006	1005	1005
1 <sup>st</sup> Siren Activation & Tone Alert		1011	1200			1020	1011	1011	1011	1011	1011
1 <sup>st</sup> EAS Message		1011					1011	1011	1011	1011	1011
2 <sup>nd</sup> Protective Action Decision Health Order 3 3) Evacuate Zones: A2, A5, B2, F2, G2		1137				1136	1135	1135	1132	1135	1135
2 <sup>nd</sup> Protective Action Coordination		1154					1150	1153	1155	1155	1154
2 <sup>nd</sup> Siren Activation		1200	1226				1200	1200	1200	1200	1200
2 <sup>nd</sup> EAS Message		1200	1235				1200	1200	1200	1200	1200
3 <sup>rd</sup> Protective Action Decisions Health Order 4 4) Shelter-In-Place Zones: A10, B10, C10, K10		1223				1231	1223	1222	1223	1222	1223
3 <sup>rd</sup> Protective Action Coordination		1227								1227	1227
3 <sup>rd</sup> Siren Activation		1235							1235	1236	1235
3 <sup>rd</sup> EAS Message		1235							1235	1236	1235

## **IV. EXERCISE EVALUATION AND RESULTS**

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the November 4, 2009, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the BFNPP.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in the Interim REP Manual dated August 2002. Detailed information on the exercise criteria and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

### **A. Summary Results of Exercise Evaluation - Table 2**

The matrix presented in Table 2, on the following page presents the status of all exercise criteria which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status of those objectives is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)

## Table 2. Summary Results of Exercise Evaluation

**DATE AND SITE:** November 4, 2009 – Browns Ferry Nuclear Power Plant

ELEMENT/Sub-Element	State	JIC	SRMAC	EOF	Lauderdale County	Lawrence County	Limestone County	Morgan County	Madison County
<b>1. EMERGENCY OPERATIONS MANAGEMENT</b>									
1.a.1. Mobilization	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
1.d.1. Communications Equipment	M	M	M		M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	M		M	M	M	M	M
<b>2. PROTECTIVE ACTION DECISION MAKING</b>									
2.a.1. Emergency Worker Exposure Control			M		M	M	M	M	
2.b.1. Rad Assessment & PARs & PADs Based on Available Info			M						
2.b.2. Rad Assessment and PARs and PADs for the General Public	M		M		M	M	M	M	M
2.c.1. Protective Action Decisions for Special Populations					M	M	M	M	
2.d.1. Rad Assessment & Decision Making for Ingestion Exposure									
2.e.1. Rad Assessment & Decision Making for Relocation, Re-entry & Return									
<b>3. PROTECTIVE ACTION IMPLEMENTATION</b>									
3.a.1. Implementation of Emergency Worker Control			M		M	M	M	M	
3.b.1. Implementation of KI Decisions			M						
3.c.1. Implementation of PADs for Special Populations					M	M	M	M	
3.c.2. Implementation of PADs for Schools					M	M	M	M	
3.d.1. Implementation of Traffic and Access Control	M*				M	M	M	M	M
3.d.2. Impediments to Evacuation and Traffic and Access Control					M	M	M	M	M
3.e.1. Implementation of Ingestion Decisions Using Adequate Info									
3.e.2. Implementation of IP Decisions Showing Strategies and Instructional Materials									
3.f.1. Implementation of Relocation, Re-entry and Return Decisions									
<b>4. FIELD MEASUREMENT and ANALYSIS</b>									
4.a.1. Plume Phase Field Measurement & Analysis Equipment			M						
4.a.2. Plume Phase Field Measurement & Analysis Management			M						
4.a.3. Plume Phase Field Measurements & Analysis Procedures			M						
4.b.1. Post Plume Field Measurement & Analysis									
4.b.2. Laboratory Operations									
<b>5. EMERGENCY NOTIFICATION &amp; PUBLIC INFO</b>									
5.a.1. Activation of Prompt Alert and Notification					M	M	M	M	M
5.a.2. Activation of Prompt Alert & Notification 15-Minute (Fast Breaker)									
5.a.3. Activation of Prompt Alert & Notification Backup Alert & Notification					M	M	M	M	
5.b.1. Emergency Info and Instructions for the Public and the Media	M	M			M	M	M	M	
<b>6. SUPPORT OPERATIONS/FACILITIES</b>									
6.a.1. Monitoring & Decon of Evacuees & EWs & Registration of Evacuees						M	M	M	
6.b.1. Monitoring & Decon of Emergency Worker Equipment						M		M	
6.c.1. Temporary Care of Evacuees						M	M	M	
6.d.1. Transport & Treatment of Contaminated Injured Individuals									

**LEGEND:** M = Met

A = ARCA

D = Deficiency

\* River Clearance

## B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to criterion demonstration status.

- **Met** - Listing of the demonstrated exercise criteria under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise criteria under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise criteria under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise criteria which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues which are discussed in this report.

- A **Deficiency** is defined in the Interim REP Manual as "...an observed or identified inadequacy organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- An **ARCA** is defined in the Interim REP Manual as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** – A two digit number corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - The last two digits of the year the exercise was conducted.
- **Criterion Number** – A numerical, alpha numerical designation corresponding to the criterion number in the Interim REP Manual.
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.



## **1. STATE OF ALABAMA**

### **1.1 State Emergency Operations Center**

The State Emergency Operations Center (SEOC) provided logistical and communications support to the State Radiological Monitoring Assessment Center (SRMAC), the Counties, and other State agencies involved in the response to the accident at Browns Ferry Nuclear Power Plant (BFNPP). The SEOC staff conducted operations according to their Standard Operating Guide (SOG) and had sufficient staff on hand to perform the mission of coordinating State-level emergency response. The facility was well equipped and had sufficient space, including an expanded main floor, to support representatives from all the Emergency Support Functions (ESF) identified in the SOG. Public Information personnel reviewed all media releases before they were distributed from the Joint Information Center (JIC).

- a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **1.2 State Field Office**

The Alabama Emergency Management Agency (AEMA) SRMAC liaison and the AEMA administrative representative successfully accomplished their mission of supporting the SRMAC by transmitting Health Orders made by the SRMAC staff to the SEOC and the five counties for implementation and coordination, and responding to requests from the affected counties.

- a. **MET:** Criteria 1.d.1, 2.b.2 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE

- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.3 State Radiological Monitoring Assessment Center - Montgomery**

The Alabama Office of Radiation Control (ORC) personnel staffed the SRMAC in Montgomery, Alabama. The SRMAC capabilities included dose assessment using RASCAL 3.0.5, Field Monitoring Team (FMT) direction and control, press release development, and making protective action recommendations (PAR). SRMAC staff was knowledgeable of their roles, established operations quickly and effectively, and conducted timely alert and notification of emergency response personnel. The SRMAC Team Leader provided timely and routine staff briefings, providing event and plant status in a clear and understandable manner, including the use of plant schematics. Equipment, supplies, and communications systems were adequate to support SRMAC capabilities.

- a. **MET: Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2 and 4.a.2**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.4 State Radiological Monitoring Assessment Center - Decatur**

The SRMAC, co-located with the Morgan County Emergency Management Agency, in the Morgan County Courthouse, Decatur, Alabama, is an adequate facility from which all participating response organizations can effectively manage ongoing emergency operations.

Communications, coordination, and the flow of technical information between the utility operator and State officials, and with the AEMA, were outstanding. The State staff successfully performed independent accident analyses, which included radiological dose assessment, provided direction and control for the State and local government radiological FMTs, and developed and ordered the implementation of appropriate protective actions consistent with the preservation of public health and safety.

All of the State officials deployed to the SRMAC were well trained, followed applicable procedures, and performed their respective responsibilities in a professional and efficient manner.

- a. **MET: Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2 and 4.a.2**

- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **1.5 State Field Monitoring Team**

The Alabama Department of Public Health, ORC deployed two radiological FMTs for the exercise. Two additional county teams participated for training purposes but were not evaluated. Both State FMTs successfully demonstrated their capability to conduct radiological field monitoring. The FMTs were directed to appropriate locations where they obtained and recorded ambient waist and ground level radiation measurements and collected radioiodine and particulate samples; air samples were counted and results reported to the SRMAC for use in characterizing the release. Field team members properly controlled their radiation exposure and were knowledgeable of radiation exposure limits, to include seek relief and turn-around values. Team members demonstrated understanding regarding the use of Potassium Iodide (KI) for protection of the thyroid. All FMT members were experienced professionals who efficiently carried out their monitoring and sampling responsibilities.

- a. **MET: Criteria 3.a.1, 3.b.1, 4.a.1, 4.a.2 and 4.a.3**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **1.6 State River Clearance**

River clearance activities and support were successfully demonstrated by the Alabama Department of Conservation, State Marine Police (SMP). Multiple SMP boats were dispatched and directed by a SMP Supervisor located at the Limestone County Emergency Operations Center (EOC). The SMP boats provided support for controlling river traffic at the 10-mile Emergency Planning Zone (EPZ) and supporting the counties in alerting boaters on the waterway of the simulated emergency. Members of the SMP demonstrated a good knowledge of the use of individual dosimetry, KI and protective

action guidelines (PAG) affecting emergency workers. SMP personnel were knowledgeable of their river clearance and control duties and acted in a professional manner at all times.

- a. **MET:** Criterion 3.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **1.7 Joint Information Center**

There were three news media briefings conducted by the Tennessee Valley Authority (TVA) JIC Director. During the exercise briefing information provided was timely, useful, accurate, and consistent with information being released from other sources and updated regularly including protective measures that individuals and communities could take. Prior to each scheduled media briefing, the Director held a pre-briefing strategy meeting with Public Information Officers (PIO) from the AEMA, the Nuclear Regulatory Commission (NRC), the TVA and the Counties of Lawrence, Lauderdale, Limestone and Morgan to prioritize information delivery. Media briefings were concise, properly managed and all unanswered media questions were addressed in subsequent briefings.

- a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **2. RISK JURISDICTIONS**

### **2.1 LAUDERDALE COUNTY**

#### **2.1.1 Emergency Operations Center**

The Lauderdale County Emergency Management Director (EMD) demonstrated excellent direction and effective operational control in the EOC with decisive leadership. The supporting EOC staff performed superb organizational procedures and time management capabilities. The supporting agency staffs, representing various county agencies, clearly understood their responsibilities, followed their plans and performed their assigned functions in a coordinated and timely manner.

- a. **MET:** 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.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

#### **2.1.2 River Clearance and Access Control**

The Lauderdale County Emergency Management Agency (EMA) Search and Rescue Team successfully demonstrated their capabilities and equipment to perform those functions necessary to evacuate the Elk River and its tributaries in their jurisdiction and to assist the SMP in establishing access control on the Tennessee River. One well equipped EMA rescue boat was staged at Alert at the Elk Creek and State Route 72 boat launch ramp. At the direction of the EOC it was launched at 0955 during the Site Area Emergency (SAE) to accomplish clearance of the Lauderdale County portion of the Elk River in the 10-mile EPZ. The pre-established message from their Standard Operating Procedure (SOP) was simulated to be broadcast over loudspeaker to 21 boaters and those on shore by the two person crew.

- a. **MET:** Criterion 3.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **2.1.3 Traffic Control Points**

Lauderdale County successfully demonstrated this activity at the EOC-level during the exercise on Nov. 4, 2009 by discussion with law enforcement and EMA representatives. This "Field-level" demonstration was conducted out of sequence on September 23, 2009. They demonstrated knowledge of the location of all points in the County (Three in Sector I, and one in Sector J), the manner of directing them to be established, and the management of the locations. They also indicated a thorough knowledge of the manner in which to remove impediments by using patrol units, using resources of the County Roads Department, or tow trucks to clear impediments to traffic, and other services such as providing emergency gasoline to stranded vehicles.

- a. **MET: Criteria 1.d.1, 1.e.1, 3.a.1 and 3.d.2**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **2.2 LAWRENCE COUNTY**

### **2.2.1 Emergency Operations Center**

The Lawrence County EMD demonstrated capable direction and control of the EOC. The EMD's decisions were concise and timely; the community well being was always the top consideration. The Lawrence County Deputy Director and County TVA planner were instrumental in coordinating areas of concern with EOC Operations and Public Information. The EMD provided effective coordination with affected counties, AEMA, ORC, and TVA. The EOC staff, mostly composed of volunteers, was very knowledgeable, well trained and eager to demonstrate their abilities. Community support is evident and overwhelming. Lawrence County Executive leaders dynamically engaged in the decision making process and remained in the EOC to support the EMD as needed.

- a. **MET:** 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.c.1, 3.c.2, 3.d.1, 5.a.1, 5.a.3 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **2.2.2 Protective Actions for Schools**

The School Superintendent and Transportation Supervisor demonstrated excellent knowledge of the procedures required for the East Lawrence Elementary, East Lawrence Middle, and East Lawrence High Schools to respond to a radiological emergency. Both officials demonstrated proficiency in describing the complex notification and relocation process to safely transport students, staff and faculty to the County Coliseum. There is annual training at the beginning of each school year for teachers, bus drivers, and other key personnel to prepare for this requirement. The Superintendent's office will notify parents of students being relocated using the School Cast Message System, thus providing status to parents on where to pick up their children. Overall, the School District is well-prepared in the event of an emergency.

- a. **MET:** Criterion 3.c.2
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **2.2.3 Traffic Control Points**

Three law enforcement officers from the County Sheriff's Office demonstrated their ability to establish traffic control points (TCP). The officers accurately and thoroughly described notification, dispatch, and equipment issue procedures. Their knowledge of operating high and low range self reading dosimeters, wearing Thermoluminescent Dosimetry (TLD), completing recording forms, and reporting dosimetry readings was a direct reflection of an effective training program. The officers also knew that upon

completion of duties, they would report to the Moulton Recreation Center (if necessary) for decontamination procedures and recovery of equipment. In the event of a radiological emergency the Sheriff's Office is prepared to establish TCPs and maintain operational command and control over the deployed officers as necessary.

- a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1 and 3.d.2
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

#### **2.2.4 River Clearance and Access Control**

In response to directions from the EOC and in coordination with the SMP, the Lawrence County Rescue Squad implemented river clearing activities at the SAE classification level. In accordance with the Extent of Play agreement for this exercise, a pre-stage boat crew launched at Mallard Creek and followed all appropriate plans and procedures to notify boaters along the river to a point near the mouth of the Elk River (Mile Marker 282). At this location, the Lawrence County Rescue Squad cooperated with the SMP to establish a blockade to control access into the EPZ. The Rescue Squad has the equipment to provide for timely notification and members are adequately trained in the required plans and procedures to provide for the safety of emergency workers and the general public.

- a. **MET:** Criterion 3.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

#### **2.2.5 Reception Center**

The firefighters of the Moulton Fire Department successfully demonstrated their proficiency in monitoring and decontaminating evacuees, emergency workers, and



emergency equipment at the Moulton Recreation Center. The firefighters had an excellent layout of the processing paths necessary to process both personnel and equipment to prevent cross-contamination. Their operation of the monitoring equipment was detailed and correct. Upon verification that the individual was free of contamination, the individuals were directed to an evacuee registration area for registration, along with a hand stamp to provide verification of the absence of radiological contamination. The hand stamp would be necessary to access a congregate care location. If necessary, maps were available to direct evacuees to one of the nearby congregate care facilities.

- a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **2.2.6 Congregate Care Center**

The Moulton Church of Christ is one of the congregate care facilities, and was demonstrated. American Red Cross (ARC) staff members were interviewed there, and explained how any person entering the facility would have to provide verification that they had processed through the reception center at the Moulton Recreation Center. A staff member successfully demonstrated the procedures for entry and tracking purposes, and described how the initial arrivals would be provided bedding and limited feeding. Internet WiFi capability was also available for communication purposes for staff and evacuees, to include access to the Red Cross Safe and Well registration system. The staff was very knowledgeable of facility operations and providing assistance in the event of activation.

- a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **2.3 LIMESTONE COUNTY**

### **2.3.1 Emergency Operations Center**

The EMD Director displayed excellent direction and control of the EOC. He consistently provided sound guidance throughout the exercise. The EOC staff consisted of well-trained and professional agency representatives who readily demonstrated a clear understanding of their jobs; they were proactive in preparing for eventual contingencies. The initial and subsequent briefings given by the EMD kept the staff informed of changes in plant conditions and necessary county actions to respond to those changes. The Operations Officer kept the staff focused on necessary actions to complete, and the PIO excelled at prompt Emergency Alert System (EAS) message releases. The presence of the County Commissioner and the City of Athens Mayor greatly expedited the key decision-making process and the rapid release of local emergency declarations. All personnel in the EOC were fully prepared to carry out their responsibilities to effectively coordinate response actions in the event of a radiological emergency.

- a. **MET:** 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.c.1, 3.c.2, 3.d.1, 5.a.1, 5.a.3 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **2.3.2 Protective Actions for Schools**

The emergency procedures developed in the County School District were discussed in an interview by the principals of Brook Hill Elementary, Athens Intermediate, and the Clements County Schools. All principals were well versed in directing the students and staff in all emergency situations. The principals discussed the different actions that could be taken in case of a situation at the BFNPP. The principals and staff have annual training on the emergency plan and copies of the plans are located in each classroom for easy access and review by the teachers. Parents are provided emergency information through school handbooks and school meetings. The district uses emergency alert systems for getting information out to parents. These systems can issue pre-scripted messages or special messages. The School District is prepared to safeguard students, staff and faculty.

- a. **MET:** Criterion 3.c.2

- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **2.3.3 River Clearance and Access Control**

Limestone County successfully demonstrated river traffic and access control and emergency worker exposure control capabilities during the BFNPP exercise. All responders were knowledgeable and professional in the execution of their assigned emergency duties.

- a. **MET: Criterion 3.d.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **2.3.4 Reception and Congregate Care Center**

County emergency workers responsible for setting up and operating the vehicle and personnel monitoring and decontamination stations successfully demonstrated monitoring techniques and equipment operations. The emergency workers described their wear of protective clothing consisting of tyvek suits, hoods, boots, and gloves. All workers were aware of contamination limits and personal protective measures.

The staff of the Department of Human Services and the ARC personnel effectively registered and processed evacuees and provided assistance to citizens requiring shelter. The overall reception and congregate care center demonstration was professionally conducted with personnel displaying exceptional knowledge and adherence to procedures.

- a. **MET: Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1**
- b. **DEFICIENCY: NONE**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **2.3.5 Traffic Control Points**

Traffic and access control is handled by the County Sheriff's Office and can be supplemented by the Athens Police if needed. This was discussed in sequence with the exercise on November 4, 2009. At 1007 the EOC received Health Order #1 over the hot line to restrict access for two miles around the BFNPP. The Sheriff's liaison stated they would set up three traffic control points (simulated) at Shaw and Poplar Point Road, Browns Ferry and Lawngate Road and Nuclear Plant and Cowford Road, which would be manned by two deputies. At 1210, following receipt of the evacuation order he stated they would set up road blocks (simulated) at Snake Road and Ripley Road, Snake Road and Shaw Road, and Snake Road and Seven Mile Post Road. The Sheriff's Liaison was interviewed concerning impediments to evacuation. He stated they would try to remove the impediment first using their vehicle or call for a wrecker to come and remove the impediment. If that failed they would route the traffic around the impediment using other roads. He was knowledgeable concerning location of reception centers, and location of monitoring and decontamination centers. He also had a map showing where all TCPs were located.

- a. **MET: Criteria 1.d.1, 1.e.1, 3.a.1 and 3.d.2**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **2.4 MORGAN COUNTY**

### **2.4.1 Emergency Operations Center**

The County TVA emergency planner/Deputy EMD acted as the EMD due to an official absence of the EMD and proved to be fully capable of managing emergency response operations in the EOC. The EMD effectively guided operations in response to a

simulated incident at the BFNPP. Upon arrival, the registration desk was set up with sign in rosters and exercise badges to control access to the EOC. The EOC was well organized and efficient. It was activated in a timely manner and in accordance with County plans. There was a desk guide for each position; this is also beneficial and designed specifically to enable almost anyone to step into the job with little explanation. The facility is laid out in a very functional manner with all key and support agencies grouped to work well together, as demonstrated. Staff members were well versed in their responsibilities and proactive in carrying them out. Every member was aware of his role and executed it with enthusiasm. The EMD kept the staff abreast of current conditions on and offsite as they occurred and used frequent staff briefings and conference calls to coordinate internal and external operations. There was excellent coordination between the special needs agencies during the process of determining who needed assistance and what kind of assistance was needed well in advance of triggers designated in the plans, also evident by the mutual aid support plans and agreements for with other counties. The PIO and Utility liaisons were especially helpful, useful and beneficial in keeping the EMD and staff aware of conditions in and around the plant and the community that allowed the staff to better coordinate their efforts to protect the public. It should also be noted that the City Mayor and County Commission were present during the activation and most of the exercise in the morning, and made periodic appearances spreading time between their official duties and the exercise, which they acknowledge as part of their responsibility to be involved.

Specific kudos to the TVA Planner for his use of the Morgan County 911 Road Map Index. This unique ability to quickly identify special needs persons and equipment for evacuations are thorough and a real asset. Special recognition is given to all volunteers for their support in the EOC, as the EMD stated, they were critical to the success of their operations. Notably, the Radio Amateur Civil Engineering Services (RACES), ARC, Salvation Army and others who shared their experience and knowledge.

Additionally, the County capitalized on this opportunity to allow peers from the Farley Nuclear Plant (Dothan/Houston County) by sharing key personnel during an exercise or actual event to serve as the Deputy Director and Operations Officer during the exercise along side the acting EMD, noted that this is in compliance with Mutual support agreements between Houston County and Morgan County EMA.

- a. **MET:** 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.c.1, 5.a.1, 5.a.3 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCA's - RESOLVED:** NONE

- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **2.4.2 Traffic Control Points**

Decatur City Police Department personnel were interviewed and demonstrated knowledge of establishing and operating Traffic and Access Control Points (TCP/ACP) and impediments to evacuation. Officers interviewed demonstrated good knowledge of their duties and the established locations of county TCPs. They successfully described operation of self-reading and permanent reading dosimeters and the use of KI. They were also fully aware of local procedures and how to obtain the equipment to clear impediments and how to re-route traffic if needed to facilitate evacuation as necessary.

- a. **MET: Criteria 3.d.1 and 3.d.2**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **2.4.3 Back-up Route Alerting**

The Decatur Police Department successfully demonstrated back-up route alerting and emergency worker exposure control capabilities during the BFNPP Exercise. All responders were knowledgeable and professional in the execution of their assigned emergency duties.

- a. **MET: Criteria 3.d.1 and 5.a.3**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

#### **2.4.4 River Clearance and Access Control**

The County Rescue Squad adequately demonstrated an ability to support a coordinated river clearance with the SMP during the BFNPP exercise. Four dedicated volunteers participated and effectively monitored exposure and communicated with offsite organizations throughout the exercise. The Rescue Squad approached boats on the river and instructed them (simulated) to go to Decatur Harbor east of the railroad bridge in accordance with procedures. They also coordinated with SMP to conduct acute shoreline and inlet surveys and notifications where it could not reach. There is reasonable assurance that the County Rescue Squad, with all boats activated, and in coordination with the SMP could clear the river and assure public safety in a reasonable amount of time.

- a. **MET: Criterion 3.d.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

#### **2.4.5 Reception Center**

Evacuees were registered, monitored and decontaminated, as necessary, at the gymnasium of Morgan County High School. All evacuees were first checked for contamination by passing through portal monitors. Those found contaminated were directed through a decontamination process that was conducted in accordance with existing procedures, using properly calibrated monitoring equipment. The reception center was staffed by members from Morgan County Fire Rescue and Alabama Department of Public Health personnel. Seven simulated evacuees were processed and all observed practices were professional and carried out in a timely manner.

- a. **MET: Criterion 6.a.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**

- f. **PRIOR ARCAs - UNRESOLVED: NONE**

#### **2.4.6 Congregate Care Center**

The temporary care of evacuees was demonstrated, out-of-sequence (OOS) at the Town Hall at Priceville, Alabama. The Morgan-Lawrence County Chapter, ARC provided a walkthrough of this fine, new congregate care center in the basement of the Town Hall. The Assistant Director, ARC described shelter operations and used a diagram showing the location of essential services, such as registration, food, medical, social services, sleeping, restrooms, and recreation in this spacious facility. Personnel were knowledgeable of ARC planning guidelines (ARC-3031).

- a. **MET: Criterion 6.c.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

#### **2.4.7 Emergency Worker Monitoring and Decontamination**

Monitoring and decontamination of emergency worker equipment was demonstrated out-of-sequence at Priceville High School where a decontamination site was set-up in the gymnasium parking lot. The site featured adequate radiological monitoring equipment, signage, barriers, and fire apparatus to effectively accomplish the task. Personnel from the Priceville Fire Rescue Department prepared for and performed effective vehicle decontamination that featured two pumper vehicles dispensing high pressure water toward a contaminated vehicle passing between them. They effectively monitored and decontaminated one vehicle until clean. Personnel were knowledgeable of radiation monitoring, equipment, and procedures.

- a. **MET: Criteria 1.a.1, 3.a.1, 3.b.1 and 6.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**



- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **3. SUPPORT JURISDICTION**

#### **3.1 MADISON COUNTY**

##### **3.1.1 Emergency Operations Center**

The County EMA successfully demonstrated their ability to coordinate activation of the Prompt Notification System and the EAS within the EPZ. They were prepared to direct traffic and receive evacuees if the resources were exhausted in Limestone or Morgan Counties. The EOC is well equipped to perform these functions in an efficient and effective manner. Checklists and displays were utilized throughout the exercise to ensure appropriate actions were taken to support the response.

- a. **MET: Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 3.d.1 and 5.a.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

##### **3.1.2 Traffic Control Points**

On September 23, 2009 at 1300 two officers from the Huntsville Police Department and one from the Madison (City) Police Department were interviewed at the Madison County EOC regarding the implementation of TCPs. The officers advised that the initial notification would be dispatched from the 9-1-1 center and the shift commander would be the primary contact point and coordinate needed activities from the EOC. Issuance of standard dosimetry of a high and low range self reading dosimeter and a TLD would be determined by a risk analysis of projected exposure. Primary communication would be patrol vehicle and handheld two way radios with secondary through cellular telephones. Additional communications are available through vehicle mounted mobile computer terminals and patch capabilities through the ACU-1000. Route and traffic direction can be enhanced by additional cones and barriers with additional assistance through the City of Huntsville Traffic Control and Alabama Department of Transportation (DOT). In the event of roadway impediments of disabled vehicles or light materials they could be shoved or pulled from the roadway by using patrol vehicles, or if necessary wreckers would be dispatched. In the event of large objects or road debris, Public Works or Alabama DOT would be requested to move the materials.

- a. **MET:** Criteria 3.a.1 and 3.d.2
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **3.1.3 Reception and Congregate Care Center**

On September 23, 2009 the staff of the County EMA demonstrated the operation procedures for the new reception centers located at the Dublin Park Recreation Center and the Thomas Elmore Center. Madison County plans would expect evacuees to have been radiologically screened and provide documentation prior to entering the facility. If no documentation was provided, the evacuee would be directed to return to an out of county radiological screening location. If evacuation situation required on site screening, the emergency management staff discussed the procedures. On arrival at the facility an evacuee would be required to walk through a portal monitor manned by Madison County EMA staff member or an appropriately trained augmentee, and if found to be radiologically contaminated would be directed to a locker room for further point monitoring and decontamination if necessary. Upon being determined not to be radiologically contaminated, the individual would go to the initial reception desk which would be staffed by Alabama Department of Human Resources for completion of an Emergency Registration and Evacuation Record and original copies would be retained by the agency and a goldenrod copy would be given to the evacuee prior to meeting with an ARC worker for determination of immediate shelter needs and directions to a congregate care facility or other necessary support agencies or facilities. A spread sheet was available that showed congregate care facilities operated by the ARC with capacities in excess of 4000, which would be opened as necessary on coordination with information received from Limestone and Morgan Counties. On site security would be provided by an officer from the Madison Police Department.

- a. **MET:** Criterion 6.a.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## APPENDIX 1

### ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations, which may have been used in this report.

AEMA	Alabama Emergency Management Agency
ADEM	Alabama Department of Environmental Management
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
BFNPP	Browns Ferry Nuclear Power Plant
CCC	Congregate Care Center
CFR	Code of Federal Regulations
DHR	Department of Human Resources
DHHS	Department of Health and Human Services
DOT	Department of Transportation
DRD	Direct-Reading Dosimeter
EAS	Emergency Alert System
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
GE	General Emergency
HO	Health Order
JIC	Joint Information Center
KI	Potassium Iodide
NRC	U.S. 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>

ORO	Offsite Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PIO	Public Information Officer
PNS	Public Notification System
RAC	Regional Assistance Committee
RCA	Radiation Control Agency
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RFMT	Radiological Field Monitoring Team
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SFO	State Field Office
SOG	Standard Operating Guides
SRMAC	State Radiological Monitoring and Assessment Center
TCP	Traffic Control Point
TVA	Tennessee Valley Authority
USDA	U.S. Department of Agriculture

## APPENDIX 2

### EXERCISE EVALUATORS

The following is a list of the personnel who evaluated the BFNPP exercise on November 4, 2009. The organization represented by each evaluator is indicated by the following abbreviations:

FEMA	- Federal Emergency Management Agency
EPA	- Environmental Protection Agency
ICF	- ICF Consulting, Incorporated
NRC	- Nuclear Regulatory Commission

**Kevin Keyes**

**RAC Chairman  
(Acting)**

**Randall L. Hecht**

**Section Chief/  
Southern Tier**

#### EVALUATION SITE

#### EVALUATOR

#### ORGANIZATION

Lead Evaluator

Jon W. Sandberg

FEMA

#### **STATE OF ALABAMA - Director: Mr. Brock Long**

State Emergency Operations Center

Kevin Keyes

FEMA

John Fill

FEMA

Lloyd Genrette

EPA

State Field Office

Ernie Boaze

ICF

SRMAC (Decatur)

Robert Trojanowski

NRC

SRMAC (Montgomery)

Brad McRee

ICF

Joint Information Center

Obhie Robinson

FEMA

Don Carlton

FEMA

P. J. Neid

ICF

Radiological FMT #1

Marcy Campbell

ICF

Radiological FMT #2

Joe Keller

ICF

River Clearance

Alan Bevan

ICF

## **LAUDERDALE COUNTY**

Emergency Operations Center	Jon Sandberg Bill Vocke Henry Christiansen	FEMA ICF ICF
Traffic Control Points	Henry Christiansen	ICF
River Clearance and Access Control	Gary Bolender	ICF

## **LAWRENCE COUNTY**

Emergency Operations Center	Gerald McLemore Lorenzo Lewis Bill O'Brien	FEMA FEMA ICF
Traffic Control Points	Michael Dolder	FEMA
River Clearance and Access Control	Joe Inman	ICF
Congregate Care Center	Obhie Robinson	FEMA

## **LIMESTONE COUNTY**

Emergency Operations Center	Michael Dolder Roy Smith Al Lookabaugh	FEMA ICF ICF
Protective Actions for Schools	Joseph Harworth	FEMA
Traffic Control Points	Al Lookabaugh	ICF
River Clearance and Access Control	Joe Inman	ICF
Reception Center	Michael Dolder	FEMA
Congregate Care Center	Michael Dolder	FEMA

## MORGAN COUNTY

Emergency Operations Center	Odis Spencer Helen LaForge Bud Iannazzo	FEMA FEMA ICF
Protective Actions for Schools	Lorenzo Lewis	FEMA
Traffic Control Points	Jon Sandberg	FEMA
Backup Route Alerting	Nick Lowe Joe Inman Gary Bolender	ICF ICF ICF
River Clearance and Access Control	Nick Lowe	ICF
Reception Center	Obhie Robinson	FEMA
Congregate Care Center	Obhie Robinson	FEMA
Emergency Worker Decontamination	Obhie Robinson	FEMA

## MADISON COUNTY

Emergency Operations Center	Matthew Bradley Robert Gantt	FEMA ICF
Traffic Control Points	Jon Sandberg	FEMA
Reception Center	Jon Sandberg	FEMA

## **APPENDIX 3**

### **EXERCISE CRITERIA AND EXTENT-OF-PLAY AGREEMENT**

This appendix lists the exercise criteria which were scheduled for demonstration in the BFNPP exercise on November 4, 2009, and the extent-of-play agreement approved by FEMA Region IV.

#### **A. Exercise Criteria**

On the following pages are the specific REP criteria scheduled for demonstration during this exercise.

#### **B. Extent-of-Play Agreement**

The extent-of-play agreement on the following pages was submitted by the State of Alabama, and was approved by FEMA Region IV in preparation for the BFNPP exercise on November 4, 2009. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise objective listed in Subsection A of this appendix.



# **ALABAMA DEPARTMENT OF PUBLIC HEALTH, OFFICE OF RADIATION CONTROL**

## **EVALUATION AREA: 1: EMERGENCY OPERATIONS MANAGEMENT**

### **Sub-element 1.a – Mobilization**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4,D.3,4,E.1,2,H.4)**

#### **EXTENT OF PLAY:**

ORC (Alabama Office of Radiation Control):

The Office of Radiation Control will simulate alerting, notifying and mobilizing emergency personnel. Personnel will be pre-positioned at the RSA Tower, Suite 700 emergency room at 201 Monroe Street, Montgomery, AL, and at the Decatur SRMAC room in Morgan County EMA Office, basement of the Morgan County Courthouse, 302 Lee Street, Decatur, AL. Personnel will also be pre-positioned at the Joint Information Center at the Calhoun Community College, U.S. Highway 31 North, Tanner, AL and the field teams will be pre-positioned at the Morgan County Health Department Parking lot, 510 Cherry Street NE, Decatur, AL. Radiation Control will demonstrate the ability to receive notification from the licensee and verify the notification. The facilities will demonstrate activation in a timely manner, scenario dependent.

### **Sub-element 1.c - Direction and Control**

**Criterion 1.c.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. (NUREG-0654,A.1.d.,2.a.,b.)**

#### **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate direction and control from the Montgomery Emergency Room and from the SRMAC Room of the Morgan County Courthouse, Decatur, AL.

### **Sub-Element 1.d - Communications Equipment**

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

## **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate communication capabilities at the appropriate locations (Montgomery Emergency Room, the Decatur SRMAC and the JIC), and between governmental agencies, to include issuance of Public Health Orders.

### **Sub-element 1.e - Equipment and Supplies to Support Operations**

**Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.**  
(NUREG-0654, H., J., 10a.b.c.e.f.j.k., 11, K.3.a.)

## **EXTENT OF PLAY**

ORC: Radiation Control will have available equipment, maps, and displays that would be necessary to support emergency operations at the Montgomery Emergency Room, Decatur SRMAC, and JIC, scenario dependent. Dosimetry and KI will be available for field teams, as needed.

## **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

### **Sub-element 2.a - Emergency Worker Exposure Control**

**Criterion 2.a.1: OROs use a decision making process, considering relevant factors and appropriate coordination, to ensure 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.**(NUREG-0654, K.4.)

## **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate emergency worker exposure control decision-making, for the State Radiological Monitoring Field Teams only.

### **Sub-element 2.b - Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency**

**Criterion 2.b.1: Appropriate protective action recommendations are based On available information on plant conditions, field monitoring, data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.** (NUREG-0654, I.8., 10., 11. and Supplement 3.)

## **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate radiological assessment for the plume phase of the emergency.

**Criterion 2.b.2: A decision-making process involving 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). (NUREG-0654, J.9., 10.m)

#### **EXTENT OF PLAY(amended)**

ORC: Radiation Control will demonstrate the decision-making process to make protective action decisions for the general public. (original)

(Amended) Coordination of protective actions, once made, with the State of Alabama EMA and Browns Ferry Counties will be demonstrated.

### **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

#### **Sub-element 3.a - Implementation of Emergency Worker Exposure Control**

**Criterion 3.a.1: The OROs issue appropriate dosimetry 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. (NUREG-0654, K.3.)**

#### **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate the implementation of emergency worker exposure control, for State Radiological Monitoring Field Teams only.

#### **Sub-element 3.b - Implementation of KI Decision**

**Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made appropriate record keeping of the administration of KI to emergency workers and institutionalized individuals is maintained. (NUREG-0654, E.7., J.10.e.,f.)**

#### **EXTENT OF PLAY**

ORC: Radiation Control will demonstrate the implementation of KI to the State Radiological Monitoring Field Teams only.

### **EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS**

#### **Sub-element 4.a - Plume Phase Field Measurements and Analyses**

**Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9., 11)**

### **EXTENT OF PLAY**

ORC: Four teams will be dispatched into the field. Two field teams will be evaluated and two field teams will be for training purposes. Field teams will be pre-positioned at the Morgan County Health Department parking lot, 510 Cherry Street NE, Decatur, AL. Fields teams will demonstrate taking an air sample prior to being deployed into the field. The air samples will be demonstrated in the parking lot of the Morgan County Health Department parking lot. Field teams will use booties and gloves for contamination control for the air sampling demonstration only and simulate using them thereafter.

**Criterion 4.a.2: Field measurement teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a)**

### **EXTENT OF PLAY**

ORC: Four teams will be dispatched into the field. Two field teams will be evaluated and two field teams will be for training purposes. Field teams will simulate using booties and gloves for contamination control. Field teams will have previously demonstrated using booties and gloves during the air sampling demonstration.

**Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulates samples are collected. Teams will move to an appropriate low background location to determine whether significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11.)**

### **EXTENT OF PLAY**

ORC: Four teams will be dispatched into the field. Two field teams will be evaluated and two field teams will be for training purposes. Radioiodine sample procedures will be demonstrated in the parking lot of the Morgan County Health Department before being deployed into the field. Due the compression of the scenario, radioiodine sampling will be simulated in the field during the exercise. Field teams are instructed to complete the air sample calculation sheet in the field during the exercise, scenario dependent.

## **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

### **Sub-element 5.b - Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4.a., b., c.)**

### **EXTENT OF PLAY**

ORC: The coordination process will be demonstrated. Actual message distribution to the public and media will simulated.

## **EVALUATION AREA 6: SUPPORT OPERATIONS/ FACILITIES**

## **Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals**

**Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2., H.10., K.5.a.b., L.1., 4.)**

### **EXTENT OF PLAY**

ORC: Medical Services (MS-1) Drill will demonstrated out of sequence on September 10, 2009. Parties involved are Decatur General Hospital and Decatur EMS.

## **ALABAMA EMA**

### **EVALUATION AREA: 1: EMERGENCY OPERATIONS MANAGEMENT**

#### **Sub-element 1.a - Mobilization**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4,D.3,4,E.1,2,H.4)**

### **EXTENT OF PLAY:**

AEMA (Alabama Emergency Management Agency):

State EMA staff will be pre-positioned at the State Emergency Operations Center, located at 5898 County Rd. 41, Clanton, AL, at the Decatur SRMAC room in Morgan County EMA Office, basement of the Morgan County Courthouse, 302 Lee Street, Decatur, AL., Joint Information Center (JIC) at the Calhoun Community College, U.S. Highway 31 North, Tanner, AL and at each of the REP County EOCs.

#### **Sub-element 1.c - Direction and Control**

**Criterion 1.c.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. (NUREG-0654,A.1.d.,2.a.,b.)**

### **EXTENT OF PLAY**

In accordance with the Alabama Radiological Emergency Preparedness (REP) Plan and the BFNPP Standard Operating Guide (SOG), direction and control will be demonstrated by AEMA, *scenario dependent*. The SEOC will be activated. All requirements and activities to support the plans will be performed; actions required by the EMCs will be coordinated through the SEOC Branch Directors.

### **Sub-Element 1.d - Communications Equipment**

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

#### **EXTENT OF PLAY (amended)**

The Alabama Emergency Management Agency will demonstrate communication capabilities at appropriate locations (SEOC, and JIC), and between governmental agencies, *scenario dependent*. Primary communications will be through the TVA hotline and secondary will be through Southern Link radios/fixed line telephones/e-mail/facsimile machines. (original)

(Amended) Communications systems will be demonstrated, scenario dependent on November 4, 2009. The TVA Hotline is the primary means of communications. Telephones and fax machines will serve as secondary communications. Southern Linc radios may also be used.

### **Sub-element 1.e - Equipment and Supplies to Support Operations**

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J., 10a.b.c.e.f.j.k.,11,K.3.a.)

#### **EXTENT OF PLAY**

AEMA will have available equipment, maps, and displays that would be necessary to support emergency operations at the SEOC, and JIC, *scenario dependent*. Dosimetry and KI are not applicable.

### **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

**Criterion 2.b.2:** A decision-making process involving 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). (NUREG-0654, J.9., 10.m)

#### **EXTENT OF PLAY**

Coordination only. The ORC is responsible for issuing the PADs. However after a PAD is issued, AEMA reserves the right to review and/or recommend the PAD be changed due to any mitigating circumstances (road conditions, weather conditions, etc.), *scenario dependent*.

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

### **Sub-element 3.d - Implementation of Traffic and Access Control**

**Criterion 3.d.1: Appropriate traffic and access control is established.**

**Accurate instructions are provided to traffic and access control personnel.**

**(NUREG-0654, J.10.g, j., k.)**

### **EXTENT OF PLAY (amended addition)**

AEMA: AEMA will simulate contacting applicable rail and air traffic authorities, *scenario dependent* at the Alabama SEOC.

(Amended addition) Each county is in command and control of their own boat. There is no overall lead agency. Fish and Wildlife will report back to the county they are assisting in the river clearance.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved.**

**(NUREG-0654, J.10., k.)**

### **EXTENT OF PLAY**

AEMA; AEMA will demonstrate coordination of state resources assistance as needed by the County at the SEOC, *scenario dependent*.

## **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

### **Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)**

### **EXTENT OF PLAY**

AEMA; Reference Browns Ferry Nuclear Power Plant (BFNPP) Standard Operating Guide (SOG), Attachment 5 Activation of Browns Ferry PNS SEOC will monitor TVA counties' coordination and PNS/EAS activation.

### **Sub-element 5.b - Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4.a., b., c.)**

### **EXTENT OF PLAY**

Actual message distribution to the public and media will simulated, *scenario dependent*.

# LAWRENCE COUNTY EMA

## EVALUATION AREA: 1: EMERGENCY OPERATIONS MANAGEMENT

### Sub-element 1.a – Mobilization

**Criterion 1.a.1:** OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)

### EXTENT OF PLAY:

On November 4, 2009, EMA Staff consisting of the EMA Director, Deputy Director and Planner will be pre-positioned at 8:00 a.m. at the Lawrence County EOC located at 555 Walnut Street Moulton, AL 35650. Some of the EOC Support Staff will also be pre-positioned at 8:00 a.m. at the Lawrence County EOC. Additional EOC staff will be alerted, notified and mobilized according to the Browns Ferry Notification List.

### Sub-element 1.c - Direction and Control

**Criterion 1.c.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. (NUREG-0654, A.1.d., 2.a., b.)

### EXTENT OF PLAY

EMA will demonstrate direction and control in the EOC *scenario dependent* on November 4, 2009.

### Sub-element 1.d - Communications Equipment

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

### EXTENT OF PLAY

Communications systems will be demonstrated, *scenario dependent* on November 4, 2009. The TVA Hotline is the primary means of communications. Telephones and fax machines will serve as secondary communications. Southern Linc radios will be used for unofficial communications only.

### Sub-element 1.e - Equipment and Supplies to Support Operations

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J., 10a.b.c.e.f.j.k., 11, K.3.a.)



## **EXTENT OF PLAY**

An adequate supply of thermo luminescent dosimeters (TLD's) and dosimetry will be available for the emergency workers. This will be discussed at the Lawrence County EOC *out of sequence on September 22, 2009 at 8:00 am. Discussion of KI will be out of sequence on September 22, 2009 at the Lawrence County EOC.*

## **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

### **Sub-element 2.a - Emergency Worker Exposure Control**

**Criterion 2.a.1:** OROs use a decision making process, considering relevant factors and appropriate coordination, to ensure 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. (NUREG-0654, K.4.)

## **EXTENT OF PLAY**

This will be discussed during the exercise, *scenario dependent* on November 4, 2009.

**Criterion 2.b.2:** A decision-making process involving 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). (NUREG-0654, J.9., 10.m)

## **EXTENT OF PLAY**

Coordination only, *scenario dependent*.

### **Sub-element 2.c - Protective Action Decisions Consideration for the Protection of Special Populations**

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for Special Population groups. (NUREG-0654, J.9., 10.c.d.e.g)

## **EXTENT OF PLAY**

This will be demonstrated by discussion at the Lawrence County EOC, *scenario dependant* on November 4, 2009.

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

### **Sub-element 3.a - Implementation of Emergency Worker Exposure Control**

**Criterion 3.a.1:** The OROs issue appropriate dosimetry 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. (NUREG-0654, K.3.)**

#### **EXTENT OF PLAY**

Emergency workers will demonstrate exposure control out of sequence on September 22, 2009 at 8:30 am, at the Lawrence County EOC located at 555 Walnut Street Moulton, AL 35650.

The Lawrence County Rescue Squad will be pre-issued dosimetry prior to the exercise on November 4, 2009. Demonstration of emergency worker exposure control will not be demonstrated at this time, since it was accomplished during the out of sequence.

#### **Sub-element 3.b - Implementation of KI Decision**

**Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made appropriate record keeping of the administration of KI to emergency workers and institutionalized individuals is maintained. (NUREG-0654, E.7., J.10.e., f.)**

#### **EXTENT OF PLAY**

The distribution of KI will be simulated during the November 4, 2009 exercise, (scenario dependent).

#### **Sub-element 3.c.1 - Implementation of Protective Actions for Special Populations**

**Criterion 3.c.1: Protective action decisions are implemented for Special Populations other than schools within areas subject to protective actions. (NUREG-0654, E.7., J.9., 10.c.d.e.g.)**

#### **EXTENT OF PLAY**

This will be discussed by interview at the Lawrence Co. EOC during the out of sequence on September 22, 2009, at 9:00am, with the Lawrence Co. Commission on Aging/Public Transportation.

**Criterion 3.c.2: OROs/School officials decide to implement protective actions for schools. (NUREG-0654, J.10.c.d., g.)**

#### **EXTENT OF PLAY**

This will be discussed by interview at the Lawrence County EOC during out of sequence on September 22, 2009. With a representative from the Lawrence County School Board of Education. Implementation of protective actions for schools will be simulated during the November 4, 2009 exercise at 9:30am. The following schools that will be discussed:  
East Lawrence Elementary  
East Lawrence Middle School  
East Lawrence High School

#### **Sub-element 3.d - Implementation of Traffic and Access Control**

**Criterion 3.d.1: Appropriate traffic and access control is established.**

**Accurate instructions are provided to traffic and access control personnel.  
(NUREG- 0654, J.10.g, j., k.)**

#### **EXTENT OF PLAY**

The Lawrence County Sheriff's Office will discuss traffic and access control during out of sequence on September 22, 2009 at the Lawrence County EOC. Traffic Control and access control will be simulated during the November 4, 2009 exercise, (scenario dependent).

River Traffic and Access Control will be demonstrated scenario dependent on November 4, 2009. The Lawrence Co. Rescue Squad will be pre-staged at 239 County Rd. 442, Hillsboro, AL 35643. The River and Access Control will remain in Site Area Emergency regardless of the scenario.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved.  
(NUREG-0654, J.10., k.)**

#### **EXTENT OF PLAY**

The Lawrence County Sheriff's Office will discuss impediments to evacuation during the out of sequence on September 22, 2009 at 10:30am, at the Lawrence County EOC. Actual demonstrations will not be preformed.

### **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

#### **Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)**

#### **EXTENT OF PLAY**

Siren activation will be simulated during the exercise for all PNS activations on November 4, 2009 scenario dependent.

EAS message distribution will be simulated to the local EAS stations scenario dependent.

#### **Sub-element 5.a.3 - Activation of the Prompt Alert and Notification System Backup Alert and Notification**

**Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E.6., Appendix 3.b.2.c)**

#### **EXTENT OF PLAY**

Back up alert and notification to the public will be discussed during the exercise, scenario dependent.

#### **Sub-element 5.b - Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4.a., b., c.)**

#### **EXTENT OF PLAY**

Actual message will be developed, however distribution to the public and media will be simulated scenario dependent.

### **EVALUATION AREA 6: SUPPORT OPERATIONS/ FACILITIES**

#### **Sub-element 6.a - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees**

**Criterion 6.a.1: The reception center/emergency worker facility appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654. J.10.h.; K.5.b)**

#### **EXTENT OF PLAY**

Monitoring, decontamination and registration of evacuees will be demonstrated during out of sequence on September 22, 2009 at 11:00am, at the Reception Center located at the Moulton Recreation Center 13550 Court Street Moulton, AI 35650.

Activation of the Reception Center will be simulated, *scenario dependent*, during the November 4, 2009 exercise.

#### **Sub-element 6.b - Monitoring and Decontamination of Emergency Worker Equipment**

**Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles. (NUREG-0654, K.5.b)**

## **EXTENT OF PLAY**

This element will be demonstrated, Out-of-Sequence on September 22, 2009 at 11:00am, at the Reception Center at Moulton Recreation Center, located at 13550 Court Street Moulton, AL 35650. Activation of the Reception Center will be simulated, *scenario dependent*, during the November 4, 2009 exercise.

### **Sub-element 6.c - Temporary Care of Evacuees**

**Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparation Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)**

## **EXTENT OF PLAY**

This element will be demonstrated during the out of sequence on September 22, 2009 11:00am, at with the Lawrence/Morgan Chapter of the American Red Cross.

There will be a walk through of congregate care facility at the Moulton Church of Christ 597 Main Street Moulton, AL out of sequence on September 22, 2009.

Activation of Mass Care Shelters will be simulated during the November 4, 2009 exercise scenario dependent.

## **LAUDERDALE COUNTY EMA**

### **EVALUATION AREA: 1: EMERGENCY OPERATIONS MANAGEMENT**

#### **Sub-element 1.a - Mobilization**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4,E.1, 2,H.4)**

## **EXTENT OF PLAY**

Lauderdale County EMA: The Florence/Lauderdale EMA Staff will be pre-positioned at 8:00 a.m. at which normal duty hours begin. The Florence-Lauderdale EMA Emergency Operations Center (EOC) is located at 110 W. College Street Florence, Alabama in the basement of City Hall. The Florence-Lauderdale EMA Staff is comprised of a Director, Deputy Director, Planner, Assistant, and a Secretary. A few administrative volunteers will also be pre-positioned with the Florence-Lauderdale County EMA staff. A call list

will be utilized to ensure all required personnel are alerted, notified, and mobilized the day of the exercise.

#### **Sub-element 1.c - Direction and Control**

**Criterion 1.c.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. (NUREG-0654, A.1.d.2.a.b.)**

#### **EXTENT OF PLAY**

Lauderdale County EMA – The Florence-Lauderdale EMA will demonstrate direction and control from the Lauderdale County EOC during the exercise on November 4, 2009. The Lauderdale County EOC is located at 110 W. College Street Rm B-25 City Hall, Florence, AL. Scenario Dependent.

#### **Sub-Element 1.d - Communications Equipment**

**Criterion 1.d.1: At least two communications systems are available, at least one operates properly, and communications links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1.2.)**

#### **EXTENT OF PLAY (amended)**

Lauderdale County EMA: The Lauderdale County EMA will discuss communications capabilities from the Lauderdale County EOC during the exercise on November 4, 2009. Some of the equipment will be used during the exercise in the EOC and Communications Room. Scenario Dependant. (original)

(Amended) Communications systems will be demonstrated, scenario dependent on November 4, 2009. The TVA Hotline is the primary means of communications. Land line phone is secondary along with EMITS, cell phones, Southern Linc, RF UHF and VHF radio systems.

#### **Sub-element 1.e- Equipment and Supplies to Support Operations**

**Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J., 10a.b.c.e.f.j.k.11,K.3.a.)**

#### **EXTENT OF PLAY (amended)**

Lauderdale County EMA: Equipment, maps, displays, and dosimetry will be discussed during the Staff Assistance Visit or Out of Sequence on September 23, 2009 at the EMA Emergency Operations Center starting at 9:00 am. The EMA Field Operations Building located at 702 Oak Street in Florence, Alabama houses field equipment including TLDs, dosimetry, and monitoring instruments and these units can be viewed or discussed during the Out of Sequence on September 23, 2009. Discussion of KI will be performed

during the Out of Sequence on September 23, 2009, with an Alabama Department of Public Health official at the County EOC. (original)

(Amended)EOC Equipment Maps displays etc. will be in place and in use on November 4, 2009 during the exercise scenario dependent.

## **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

### **Sub-element 2.a-Emergency Worker Exposure Control**

**Criterion 2.a.1: OROs use a decision making process, considering relevant factors and appropriate coordination, to ensure 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.(NUREG-0654,K.4.)**

#### **EXTENT OF PLAY**

Lauderdale County EMA: This will be discussed during the exercise scenario dependent.

**Criterion 2.b.2: A decision-making process involving 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). (NUREG-0654, J.9., 10.m)**

#### **EXTENT OF PLAY**

Lauderdale County EMA: Coordinates only. The ORC is responsible for issuing the PAD's. However after a PAD is issued, the county EMA reserves the right to review and/or recommend the PAD be changed due to any mitigating circumstances (road conditions, weather conditions, etc.) Scenario dependent.

### **Sub-element 2.c-Protective Action Decisions Consideration for the Protection of Special Populations**

**Criterion 2.c.1: Protective action decisions are made, as appropriate, for Special population groups. (NUREG-0654, J.9., 10.c.d.e.g)**

#### **EXTENT OF PLAY**

Lauderdale County EMA – Will demonstrate from the EOC and can have discussion during Out of Sequence on September 23, 2009 at 0900. (scenario dependent).

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

### **Sub-element 3.a- Implementation of Emergency Worker Exposure Control**

**Criterion 3.a.1: The OROs issue appropriate dosimetry 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. (NUREG-0654, K.3.)**

#### **EXTENT OF PLAY (original)**

Lauderdale County EMA: Emergency worker exposure control will be discussed Out of Sequence on September 23, 2009 at the County EOC with either Rogersville PD or Lauderdale Co. Sheriff's Office (if available) and Lauderdale Co. EMA Search & Rescue. Exposure control equipment will be pre-distributed for out of sequence having simulated the issuance procedures (ie: River Rescue Evacuation unit and Traffic control units) when units are instructed to discuss their areas.

(Amended additional information) The street address for assembly / launch point for river clearance and craft personnel is 19900 Hwy 72. It is the Elk River boat launch at the Elk River and Highway 72.

### **Sub-element 3.b- Implementation of KI Decision**

**Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made appropriate record keeping of the administration of KI to emergency workers and institutionalized individuals is maintained. (NUREG-0654, E.7., J.10.e.,f.)**

#### **EXTENT OF PLAY**

Lauderdale County EMA: Discussed out of sequence on September 23, 2009 with a member of the Department of Public Health. KI to the public will not be demonstrated, and emergency workers issuance will be discussed at the EOC.

### **Sub-element 3.d- Implementation of Traffic and Access Control**

**Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG- 0654, J.10.g, j., k.)**

#### **EXTENT OF PLAY (Amended additional information)**

Lauderdale County EMA: County EMA will discuss this criterion Out of Sequence on September 23, 2009 with applicable personnel in our EOC or communications room. Traffic Control and Access will be simulated the day of the exercise (if needed). Lauderdale County Sheriff's department, Lauderdale County Road Department, Alabama DPS, and Rogersville PD (if available) will participate.



River Traffic and Access Control will be demonstrated on November 4, 2009 during the exercise, scenario dependent. The River Access demonstration will remain at Site Area Emergency regardless of the scenario..

(Amended additional information) The street address for assembly / launch point for river clearance and craft personnel is 19900 Hwy 72. It is the Elk River boat launch at the Elk River and Highway 72.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved.**  
(NUREG-0654, J.10. k.)

#### **EXTENT OF PLAY**

Lauderdale County EMA: County EMA will discuss this criterion Out of Sequence on September 23, 2009 with applicable personnel in our EOC or communications room. Lauderdale County Sheriff's department, Lauderdale County Road Department, Alabama DPS, and Rogersville PD (if available) will participate. Actual demonstrations will not be performed.

### **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

#### **Sub-element 5.a- Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)**

#### **EXTENT OF PLAY**

Lauderdale County EMA: Siren activation will be simulated for the initial PNS activation and for any and all subsequent messages. EAS message distribution to applicable EAS stations will be provided to applicable stations. Reading of the message will be simulated at the County EOC. Siren activation is coordinated through Madison County EMA.

#### **Sub-element 5.b.1- Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4, a., b., c.)**

#### **EXTENT OF PLAY**

Lauderdale County EMA: Actual message distribution to the public and media will be simulated, scenario dependent.

# LIMESTONE COUNTY EMA

## EVALUATION AREA 1 – EMERGENCY OPERATIONS MANAGEMENT

**Criterion 1.a.1:** OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4,D.3,4,E.1,2,H.4)

### EXTENT OF PLAY

On Nov. 4, 2009, EMA Staff, consisting of the EMA Director, Planner and PIO, will be pre-positioned at 8:00 a.m. at the Limestone County EOC, located at 1011 W. Market St., Athens, AL. Some of the EOC Support Staff will also be pre-positioned at 8:00 a.m. at the Limestone County EOC. Additional EOC staff will be alerted, notified and mobilized according to the Browns Ferry Nuclear Plant Notification List.

**Criterion 1.c.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. (NUREG-0654,A.1.d.,2.a.,b.)

### EXTENT OF PLAY

EMA will demonstrate direction and control in the EOC, *scenario dependent*.

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

### EXTENT OF PLAY (original)

Communications systems will be demonstrated, *scenario dependent*. The TVA Hotline is the primary means of communications. Telephones and fax machines will serve as secondary communications. SoutherLinc radios will be used for unofficial communications only.

(Amended) Communications systems will be demonstrated, *scenario dependent* on November 4, 2009. The TVA Hotline is the primary means of communications. Telephones and fax machines will serve as secondary communications. Southern Linc radios may also be used for unofficial communications only.

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J., 10a.b.c.e.f.j.k.,11,K.3.a.)

## **EXTENT OF PLAY**

An adequate supply of thermoluminescent dosimeters (TLDs) and dosimetry will be available for the emergency workers. This will be discussed at the Limestone County EOC *out of sequence* on Sept. 21, 2009 at 4:30pm.

The supply of K.I. will be discussed *out of sequence*, at the Limestone County Health Department, located at 20371 Clyde Mabry Dr., Athens, AL on Sept. 21, 2009.

## **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

**Criterion 2.a.1:** OROs use a decision making process, considering relevant factors and appropriate coordination, to ensure 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. (NUREG-0654, K.4.)

### **EXTENT OF PLAY**

This will be discussed during the exercise, *scenario dependent*.

**Criterion 2.b.2:** A decision-making process involving 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). (NUREG-0654, J.9., 10.m)

### **EXTENT OF PLAY**

This will be discussed during the exercise, *scenario dependent*.

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g)

### **EXTENT OF PLAY**

This will be discussed during the exercise, *scenario dependent*.

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

**Criterion 3.a.1:** The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures.

### **EXTENT OF PLAY**

Emergency workers will demonstrate exposure control, *out of sequence*, on Sept. 21, 2009, at the EOC, at 4:00pm.

The Athens-Limestone Rescue Squad will be pre-issued dosimetry prior to the exercise. Demonstration of emergency worker exposure control will not be demonstrated at this time, since it was accomplished *out of sequence*.

**Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made appropriate record keeping of the administration of KI to emergency workers and institutionalized individuals is maintained. (NUREG-0654, E.7., J.10.e.,f.)**

#### **EXTENT OF PLAY**

Distribution of KI will be simulated and discussed at the Athens-Limestone Rescue Squad building during the exercise, scenario dependant.

**Criterion 3.c.2: OROs/School officials decide to implement protective actions for schools. (NUREG-0654, J.10.c.d.,g.)**

#### **EXTENT OF PLAY**

This will be discussed by interview at the Limestone County EOC, *out of sequence*, with representatives from three schools on Sept. 21, 2009 at 3:00pm.

- 1) Interview with Principal of Clements High School.
- 2) Interview with Principal of Athens Intermediate School.
- 3) Interview with Principal of Brookhill Elementary School.

**Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g, j., k.)**

#### **EXTENT OF PLAY**

The Limestone County Sheriff's Office will discuss traffic and access control, during the exercise, *scenario dependent*.

River Traffic and Access Control will be demonstrated *scenario dependent*. The Rescue Squad will be pre-positioned at the Bay Hill Marina launch site, located at 6049 Bay Village Drive, Athens, AL 35611. River and Access Control will remain in Site Area Emergency regardless of scenario.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)**

#### **EXTENT OF PLAY**

The Limestone County Sheriff's Office will discuss impediments to evacuation during the exercise, *scenario dependent*.

## **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

**Criterion 5.a.1:** Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)

### **EXTENT OF PLAY**

Sirens will be simulated during the exercise for all PNS activations, *scenario dependent*. EAS message distribution will be simulated to the local EAS station, *scenario dependent*.

**Criterion 5.a.3:** Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E.6., Appendix 3.b.2.c)

### **EXTENT OF PLAY**

Backup alert and notification of the public will be discussed during the exercise, *scenario dependent*.

**Criterion 5.b.1:** OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4.a., b., c.)

### **EXTENT OF PLAY**

Actual messages will be developed; however, distribution to the public and media will be simulated, *scenario dependent*.

## **EVALUATION AREA 6: SUPPORT OPERATIONS/ FACILITIES**

**Criterion 6.a.1:** The reception center/emergency worker facility appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654. J.10.h.; K.5.b)

### **EXTENT OF PLAY**

Monitoring, decontamination and registration of evacuees will be demonstrated, *out of sequence*, at the Reception Center at Elkmont High School, located at 25630 Evans St., Elkmont, AL on Sept. 21, 2009 at 12:00pm. Activation of Reception Centers during the exercise will be simulated, *scenario dependent*.

**Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparation Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)**

#### **EXTENT OF PLAY**

This element will be demonstrated, *out of sequence*, at the Reception Center at Elkmont High School on Sept. 21, 2009 at 1:00pm. Activation of Mass Care Shelters during the exercise will be simulated, *scenario dependent*.

## **MADISON COUNTY EMA**

### **EVALUATION AREA: 1: EMERGENCY OPERATIONS MANAGEMENT**

#### **Sub-element 1.a – Mobilization**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4,D.3,4,E.1,2,H.4)**

#### **EXTENT OF PLAY:**

Madison County EMA: EMA Staff will be pre-positioned at the EOC, located 320 Fountain Circle, Huntsville, AL. A call-down list will be utilized.

#### **Sub-element 1.c - Direction and Control**

**Criterion 1.c.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. (NUREG-0654,A.1.d.,2.a.,b.)**

#### **EXTENT OF PLAY**

Madison County EMA: EMA will demonstrate direction and control from the EOC *scenario dependent*.

#### **Sub-Element 1.d - Communications Equipment**

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

## **EXTENT OF PLAY**

Madison County EMA: Communications systems will be demonstrated, *scenario dependent*.

### **Sub-element 1.e - Equipment and Supplies to Support Operations**

**Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.**  
(NUREG-0654, H., J., 10a.b.c.e.f.j.k., 11, K.3.a.)

## **EXTENT OF PLAY**

The Madison County EMA will have available equipment, maps and displays that would be necessary to support emergency operations. These will be viewed at the county EMA *out of sequence* on November 4, 2009. Dosimetry will be available for Radiological Monitors and will be viewed *out of sequence* on September 23, 2009 at 1:00 pm, at the EOC.

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

### **Sub-element 3.d - Implementation of Traffic and Access Control**

**Criterion 3.d.1: Appropriate traffic and access control is established.**  
Accurate instructions are provided to traffic and access control personnel.  
(NUREG-0654, J.10.g, j., k.)

## **EXTENT OF PLAY**

Madison County EMA: County EMA will discuss this criterion *out of sequence* on September 23, 2009 with law enforcement personnel in the EOC. Implementation of traffic and access control will be simulated.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved.**  
(NUREG-0654, J.10., k.)

## **EXTENT OF PLAY**

Madison County EMA: County EMA will discuss this criterion *out of sequence* on September 23, 2009 with law enforcement personnel in the EOC. Actual demonstrations will not be performed.

## **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

### **Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial**

instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)

#### **EXTENT OF PLAY**

Madison County EMA: *Madison County EMA will coordinate on Nov 4, 2009 as necessary ,scenario dependant.*

#### **EVALUATION AREA 6: SUPPORT OPERATIONS/ FACILITIES**

##### **Sub-element 6.a - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees**

**Criterion 6.a.1: The reception center/emergency worker facility appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654. J.10.h.; K.5.b)**

#### **EXTENT OF PLAY**

Madison County EMA; The registration component of this criterion will be demonstrated by AL DHR and American Red Cross, *out of sequence* on September 23, 2009 at the Alabama A&M University T.M. Elmore Gym at 4900 Meridian Street in Huntsville and at the Dublin Park Facility at 8324 Old Madison Pike in Madison. The use of Reception Centers will be simulated, *scenario dependent*, during the November 4, 2009 exercise. Monitoring and Decontamination for Evacuees and Emergency Workers is not applicable.

##### **Sub-element 6.c - Temporary Care of Evacuees**

**Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparation Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)**

#### **EXTENT OF PLAY**

Madison County EMA; This criterion will be discussed by the American Red Cross, *out of sequence* on September 23, 2009 at the Reception Centers. Appropriate shelter information will be provided to the evaluators during the interview. Use of Mass Care facilities will be simulated during the November 4, 2009 exercise.



# **MORGAN COUNTY EMA**

## **EVALUATION AREA 1 – EMERGENCY OPERATIONS MANAGEMENT**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel, and activate facilities in a timely manner. (NUREG-0654, A.4,D.3,4,E.1,2,H.4)**

### **EXTENT OF PLAY**

The Morgan County EMA (MCEMA) staff will be pre-positioned at 8:00 am, at the Morgan County Emergency Operation Center (EOC). The EOC is located in the basement of the Morgan County Courthouse (302 Lee Street Decatur, Alabama. The EMA staff consists of Director, Admin Assistant, TVA Planner, and EMA Planner. Some administrative volunteer support personnel will also be pre-positioned along with the EMA staff. A call list will be utilized to ensure all required personnel are notified.

**Criterion 1.b.1: (AMENDED – WILL NOT BE DEMONSTRATED)**

**Criterion 1.c.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. (NUREG-0654,A.1.d.,2.a.,b.)**

### **EXTENT OF PLAY**

MCEMA will demonstrate direction and control from the Morgan County EOC during the exercise, (scenario dependent).

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

### **EXTENT OF PLAY (Original)**

MCEMA will discuss the communication capabilities from the Morgan County EOC out of sequence the morning of Sept. 24, 2009 at 8:00am. The equipment will be utilized during the exercise, (scenario dependent). The TVA dedicated phone will serve as the primary means of communications. Telephones and FAX machines will also be utilized. Communications between Priceville reception center, at Priceville High School (317 Highway 67 S. Decatur, Al. 35603 ) and the EOC will be demonstrated out-of sequence at 2:00pm, Sept.24, 2009. Telephones will be primary means backed up by ham radio.

**(Amended) The ham radio is the secondary communication system for both the EOC and the reception center.**

**Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J., 10a.b.c.e.f.j.k., 11, K.3.a.)**

#### **EXTENT OF PLAY**

An adequate supply of thermoluminescent dosimeters (TLDs) and dosimetry are available for the emergency workers.

This evaluation area will be discussed out of sequence at the Morgan County EOC the morning of Sept. 24, 2009 at 8:00am

The Morgan County Rescue Squad will demonstrate river access control on Nov. 4 (scenario dependant). They will also demonstrate use of personnel monitoring equipment.

No other events will be demonstrated during the November 4, exercise that will require the use of personnel monitoring devices.

The supply of K I will be available for review and discussion out of sequence at 12:00pm, Sept. 24, 2009, at the Morgan County Health Department (510 Cherry Street N E Decatur, Alabama).

#### **EVALUATION AREA 2: PROTECTIVE ACTION DECISION MAKING**

**Criterion 2.a.1: OROs use a decision making process, considering relevant factors and appropriate coordination, to ensure 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. (NUREG-0654, K.4.)**

#### **EXTENT OF PLAY**

Morgan County EMA has an exposure control system in place to include KI. This will be discussed in the EOC during the exercise November 4, 2009 (scenario dependant).

**Criterion 2.b.2: A decision-making process involving 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). (NUREG-0654, J.9., 10.m)**

#### **EXTENT OF PLAY**

Coordination only, scenario dependant.

**Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g)**

#### **EXTENT OF PLAY**

Decision making will be discussed in the EOC during the exercise November 4, 2009, (scenario dependent).

## **EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

**Criterion 3.a.1:** The OROs issue appropriate dosimetry 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. (NUREG-0654, K.3.)

### **EXTENT OF PLAY**

Emergency worker exposure control will be discussed, (Out of Sequence), the morning of Sept. 24, 2009 at the Morgan County EOC for traffic control. Emergency worker exposure control will be demonstrated out of sequence at the Priceville reception center the afternoon of Sept. 24, 2009 at 2:00pm, at Priceville High School.

The Morgan County Rescue Squad will demonstrate exposure control on November 4 during the river access control. Rescue Squad members will assemble at Decatur Boat harbor (3755 U S Hwy 31 N) and Ingles Harbor (904 Wilson St N W) when notified (scenario dependant) The River Access Control will remain at Site Area Emergency regardless of the scenario.

**Criterion 3.b.1:** KI and appropriate instructions are available should a decision to recommend use of KI be made appropriate record keeping of the administration of KI to emergency workers and institutionalized individuals is maintained. (NUREG-0654, E.7., J.10.e.,f.)

### **EXTENT OF PLAY**

The distribution of KI will be simulated during the Nov. 4 exercise, (scenario dependent)

**Criterion 3.c.2:** OROs/School officials decide to implement protective actions for schools. (NUREG-0654, J.10.c.d.,g.)

### **EXTENT OF PLAY**

This Evaluation Area will be discussed (Out of Sequence), at the following schools: Austin High School (1625 Danville Rd) at 9:00am, Benjamin Davis Elementary (500 Monroe Dr N W) at 10:00am and West Morgan Elementary (642 Old Highway 24) at 11:00am, Sept. 24, 2009. An EMA representative will accompany FEMA evaluators to the schools.

Implementation of protective actions for schools will be simulated during the Nov. 4, 2009 exercise, (scenario dependent).

**Criterion 3.d.1:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG- 0654, J.10.g, j., k.)

### **EXTENT OF PLAY (Amended)**

This criterion will be discussed with applicable personnel from the Decatur City Police Department in the EOC at 8:00 am, Sept. 24, 2009 out of sequence.

The Morgan County Rescue Squad will demonstrate river access control on November 4, 2009 during the exercise (scenario dependant). Rescue Squad members will assemble at Decatur Boat harbor (3755 U S Hwy 31 N) and Ingles Harbor (904 Wilson St N W) when notified (scenario dependant) The River Access Control will remain at Site Area Emergency regardless of the scenario. (Original)

(Amended) The two locations listed will be used for the river access control. Each location will be used for launch sites for the boats on either side of the river. Ingles harbor will be shared with Marine Police.

**Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)**

### **EXTENT OF PLAY**

Representatives from the Decatur City Police Department will discuss applicable procedures (Out of Sequence) at the County EOC at 8:00am, Sept. 24, 2009. Actual demonstrations will not be performed.

## **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message must include the elements required by current FEMA REP guidance. (10 CFR part 50, Appendix E & NUREG-0654, E.1., 4., 5., 6., 7.)**

### **EXTENT OF PLAY**

Sirens will be simulated for all PNS activations (scenario dependent). The initial EAS message will be coordinated with a local radio station and the station NWS office Huntsville. A TEST MESSAGE will be Faxed and/or emailed to a local radio for simulated broadcast. A return confirmation will be requested. The transfer of any subsequent EAS messages offsite will be simulated.

**Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E.6., Appendix 3.b.2.c)**

### **EXTENT OF PLAY**

This criterion will be demonstrated November 3, 2009 at 9:00 am. Morgan County will simulate failure of Siren #97 and run backup routes utilizing the Decatur Police Department. Public alerting will be simulated along the routes.

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4.a., b., c.)**

### **EXTENT OF PLAY**

Message development will be demonstrated at the EOC. Actual message distribution to the public and media will be simulated during the exercise November 4, 2009 (scenario dependent).

### **EVALUATION AREA 6: SUPPORT OPERATIONS/ FACILITIES**

**Criterion 6.a.1: The reception center/emergency worker facility appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h.; K.5.b)**

### **EXTENT OF PLAY**

The Priceville Reception Center will be set up out of sequence the afternoon of Sept. 24, 2009 at 2:00pm, at the Priceville High School. Use of the reception center will be simulated during the November 4, 2009 exercise, (scenario dependent).

**Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles. (NUREG-0654, K.5.b)**

### **EXTENT OF PLAY**

This criterion will be demonstrated (Out of Sequence) at Priceville High School at 3:00pm, Sept. 24, 2009. One vehicle will be decontaminated.

**Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparation Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)**

### **EXTENT OF PLAY**

This criterion will be discussed out of sequence with the Morgan County Red Cross representative(s) at 4:00pm, Sept. 24, 2009. A walk through of their facility (Priceville town hall, 242 Marco Drive, Priceville, AL) will be provided. Use of mass care facilities will be simulated during the November 4 exercise, (scenario dependent).

## **APPENDIX 4**

### **EXERCISE SCENARIO**

This appendix contains a summary of the simulated sequence of events (Exercise Scenario) which was used as the basis for invoking emergency response actions by OROs in the BFNPP exercise on November 4, 2009.

This exercise scenario was submitted by the State of Alabama, Alabama RCA and TVA and approved by FEMA Region IV.

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**INITIAL CONDITIONS:**

Unit 1 is at 100% power with the core at MOL and 307.4 EFPD.

Unit 2 is at 100% power with the core at MOL and 131.6 EFPD.

Unit 3 is at 100% power with the core at EOL and 515.3 EFPD.

Common:

**EVENTS:** Note: Times are in scenario elapsed time and clock time (hr:min). While the Scenario has certain EALs listed which the SED is expected to make declaration of the emergency classifications (ALERT, SAE, GE), it is possible that the SED may declare an emergency based on judgment or some other set of EALs which the Scenario did not expect. If any of these situations arise the Controllers must be ready to evaluate the accuracy and timeliness of any unexpected emergency declarations.

- Prior to 08:00, **Operations Controller** hands out message SM-3 to actual Shift Manager and Simulator Shift Manager. Expected Actions will be to inform site of the drill beginning via PA.

The start time of the Graded Exercise is T=08:00 CST.

- **Simulator Operator** starts all exercise files on the Simulator.
- **Assigned Controller** initiates Controller group page #1 when the exercise begins.

At about ten minutes (T=08:10 CST) into the exercise, a fire occurs in the RHRSW pump room "C" at the Intake Pumping Station.

- **Operations Controller** hands out message SM-4 to Unit 1 Operator participant at the Simulator and in the Control room. Expected action by the Unit 1 Operator at the simulator should be in accordance with the alarm response manual.

At about thirteen minutes (T=08:13 CST) into the exercise, a simulated security officer calls in the fire in the RHRSW pump room "C" at the Intake Pumping Station. Conditions exist for EAL 6.4-A.

- **Fire Operations controller** acts as simulated security officer and reports fire per SM-5 via the 3911 call.
- **Operations Controller** hands out message SM-5 to Unit 1 Operator participant at the Simulator and in the Control room. The expected action is for the site to activate the fire brigade.
- **Assigned Controller** initiates Controller group page #2.

At about twenty eight minutes (T=08:28 CST) into the exercise, an ALERT should be declared based on EAL 6.4-A (Fire or explosion in ANY plant area listed in Table 6.4-A [Intake Pumping Station] affecting safety system performance).

- **Assigned Controller** initiates Controller group page #3 when the ALERT is declared.
- **Operations Controller** should determine with the **Exercise Coordinator** if message SM-6 needs to be issued to the Shift Manager at the Simulator and does so at the time indicated.

At about one hour thirty minutes (T=09:30 CST) into the exercise, 2-LCV-6-4B fails open. About a minute later a hole develops in the Unit 2 Condenser causing a loss of vacuum.

At about one hour forty minutes (T=09:40 CST) into the exercise, when an attempt to trip the reactor is made, an ATWS occurs. Fuel clad failures occur over the next several minutes. Conditions exist for EAL 1.2-S. All control rods will be inserted after the second scram attempt.

At about one hour fifty-five minutes (T=09:55 CST) into the exercise, a SAE should be declared based on EAL 1.2-S (Failure of automatic scram; manual scram, and ARI to bring the reactor subcritical).

- **Assigned Controller** initiates Controller group page #4 when the SAE is declared.
- **Assigned Controller** initiates Controller group page #5 when the Reactor is scrammed.
- **TSC Controller** should determine with the **Exercise Coordinator** if message SM-7 needs to be issued to the SED and does so at the time indicated.

At about three hours ten minutes (T=11:10 CST) into the exercise, the U-2 RCIC steam supply line has a 50% break occur on elevation 519 in the North West Quad. The RCIC steam supply line isolation valves 2-FCV-71-2 and 2-FCV-71-3 fail to close.

- **Assigned Controller** initiates Controller group page #6 when the RCIC steam leak begins.
- **Controllers** hand out message SM-8 to participants on Unit 2 Reactor building elevations 519 and 565.

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At about three hours fifteen minutes (T=11:15 CST) into the exercise, the temperature in the RCIC Turbine area exceeds the maximum safe level of 190 °F. Conditions exist for EAL 3.1-G.

At three hours thirty minutes (T=11:30 CST) into the exercise, a General Emergency should be declared based on EAL 3.1-G (An unisolable Primary System is discharging into Secondary Containment AND Any area [RCIC turbine area] temperature exceeds the Maximum Safe Operating Temperature limit listed in Table 3.1[190 °F] AND Any indication of potential or significant fuel cladding failure exists. Refer to Table 3.1-G/3.2-G[2-RE-90-272A  $\geq$  642 R/hr and 2-RE-90-273A  $\geq$  297 R/hr] with RCS barrier intact inside Primary Containment).

- **Assigned Controller** initiates Controller group page #7 when the General Emergency is declared.
- **TSC Controller** should determine with the **Exercise Coordinator** if message SM-9 needs to be issued to the SED and does so at the time indicated.

Within 15 minutes of the General Emergency being declared the CECC should develop and issue a Protective Action Recommendation (PAR) to the State of Alabama. The expected PAR should be Recommendation #2: Evacuate the listed sectors (2 mile radius and 5 mile down wind) A-2, B-2, F-2, G-2, and A-5. Shelter the remaining 10 mile EPZ. Consider issuance of Potassium Iodide in accordance with the State Plan.

The exercise terminates at about five hours (T=13:00 CST) into the exercise or when all offsite monitoring objectives have been demonstrated.

- **TSC Controller** should determine with the **Exercise Coordinator** when message SM-10 needs to be issued to the SED and does so at that time.
- **Assigned Controller** initiates Controller group page #8 when the exercise is terminated.

#### EXPLANATION OF EVENTS:

Fire occurs in RHRSW "C" room	Provides an OSC task. Provides the reason for the ALERT.
2-LCV-6-4B fails open.	Provides an OSC task.
A hole develops in the U-2 Condenser	Results in loss of Condenser Vacuum which provides A reason to scram the U-2 reactor.
An ATWS occurs.	Provides the SAE and a reason for some fuel clad failures.
Fuel clad failures occur.	Provides an indicator for GE declaration later.
RCIC steam supply line has a 50% break.	Provides an indicator for GE declaration. Results in a release of radioactivity to the environment via SBGTS. Provides an OSC task.
2-FCV-71-2 and 2-FCV-71-3 fail to close.	Prevents Operations from securing the RCIC steam leak Provides OSC tasks.

#### Controllers Group Page events:

- #1 Exercise began on time.
- #2 Fire begins in RHRSW "C" room.
- #3 The ALERT is declared.
- #4 The SAE is declared.
- #5 The U-2 Reactor is SCRAMMED.
- #6 RCIC Steam supply line breaks.
- #7 The GE is declared.
- #8 Drills is terminated-if out with Teams, bring them back.