

# Hatch Nuclear Plant Exercise— October 14, 2009

Final Report - Radiological Emergency Preparedness Program

*February 2, 2010*

*FEMA Region IV*





# FEMA

## **Final Exercise Report Hatch Nuclear Plant**

Licensee: **Southern Nuclear Operating Company**  
Exercise Date: **October 14, 2009**  
Report Date: **February 2, 2010**

---

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

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

---

Cover photograph accreditation: *Hatch Nuclear Plant, 2001* courtesy of *Southern Nuclear Operating Company, Inc.*

# TABLE OF CONTENTS

	Page
TABLE OF CONTENTS .....	iii
I. EXECUTIVE SUMMARY .....	1
II. INTRODUCTION .....	2
III. EXERCISE OVERVIEW .....	4
A. Plume Pathway Emergency Planning Zone Description .....	4
B. Exercise Participants .....	4
C. Exercise Timeline .....	4
IV. EXERCISE EVALUATION AND RESULTS .....	6
A. Summary Results of Exercise Evaluation - Table 2 .....	6
B. Status of Jurisdictions Evaluated .....	6
1. STATE OF GEORGIA .....	10
1.1 State Operations Center .....	10
1.2 Emergency News Center .....	10
1.3 Dose Assessment .....	13
1.4 Emergency Operations Facility .....	13
1.5 River Clearing .....	14
2. RISK JURISDICTIONS .....	14
2.1 APPLING COUNTY .....	14
2.1.1 Emergency Operations Center .....	14
2.1.2 Traffic Control Points .....	15
2.1.3 Back-up Route Alerting .....	15
2.1.4 Schools .....	16
2.1.5 Medical Service Drill – Appling Health Care System .....	16

2.2	JEFF DAVIS COUNTY .....	17
2.2.1	Emergency Operations Center .....	17
2.2.2	Traffic Control Points .....	17
2.2.3	Back-up Route Alerting .....	18
2.2.4	Reception and Congregate Care Center .....	18
2.2.5	Emergency Worker and Vehicle Decontamination .....	19
2.3	TATTNALL COUNTY .....	19
2.3.1	Emergency Operations Center .....	19
2.3.2	Traffic Control Points .....	20
2.3.3	Back-up Route Alerting .....	20
2.4	TOOMBS COUNTY .....	21
2.4.1	Emergency Operations Center .....	21
2.4.2	Traffic Control Points .....	23
2.4.3	Back-up Route Alerting .....	23
2.4.4	Schools .....	24
3.	SUMMARY OF AREAS REQUIRING CORRECTIVE ACTION .....	25
3.1	2009 ARCAs .....	25
3.1.1	31-09-5.b.1-A-01 State of Georgia ENC .....	25
3.1.2	31-09-3.c.1-A-02 Toombs County EOC .....	27

**List of Appendices**

APPENDIX 1 - ACRONYMS AND ABBREVIATIONS .....	30
APPENDIX 2 - EXERCISE EVALUATORS .....	32
APPENDIX 3 - EXERCISE CRITERIA AND EXTENT-OF-PLAY AGREEMENT .....	34
APPENDIX 4 - EXERCISE SCENARIO .....	57
APPENDIX 5 - RECOMMENDATIONS .....	128

**List of Tables**

Table 1 - Exercise Timeline .....	5
Table 2 - Summary of Exercise Evaluation .....	9

## 1. EXECUTIVE SUMMARY

On October 14, 2009, the Federal Emergency Management Agency (FEMA), Region IV, conducted a partial participation plume pathway emergency planning zone (EPZ) exercise for the Edwin I. Hatch Nuclear Plant (HNP). A medical drill was conducted Out of Sequence (OOS) earlier in the year, on August 13, 2009 by Appling County Emergency Medical Service (EMS) and the Appling Health Care System. Jeff Davis County demonstrated emergency worker decontamination and the reception and temporary care of evacuees OOS on October 15<sup>th</sup>, 2009.

The purpose of this exercise and drills was to assess the level of State and local preparedness in responding to a radiological incident at a nuclear power plant. The 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 exercise at this site was conducted on August 22, 2007. The qualifying emergency preparedness exercise for the Hatch Nuclear Plant was conducted on October 8 and 9, 1980.

FEMA would like to acknowledge the contributions and efforts of the many representatives of the State of Georgia, the Counties of Appling, Jeff Davis, Tattnall and Toombs, and volunteers who participated in this exercise. Responsibilities of protecting the public health and safety is the full-time job of some of the participants and additional assigned responsibility or voluntary for others, it demands discipline, professional and personal commitment and is indicative of the commitment they have to their communities.

The State and local organizations demonstrated knowledge of their emergency response plans and procedures and appropriately implemented them. No Deficiencies were identified during this exercise, however, two Areas Requiring Corrective Action (ARCA) were identified. The ARCA's concerned the understaffing of the Emergency News Center (ENC) that affected the State's ability to provide timely and accurate information to the public, and the inability of the Toombs County EOC staff to adequately implement the protective action decision for the protection of its special needs populations.

## 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.

FEMA 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 offsite emergency planning and in the review and evaluation of radiological emergency response plans (RERP) 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 NRC pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, September 14, 1993);
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
  - Department of Agriculture,
  - Department of Commerce,
  - Department of Energy,
  - Department of Health and Human Services,
  - Department of the Interior,
  - Department of Transportation,
  - Environmental Protection Agency,
  - Food and Drug Administration and
  - Nuclear Regulatory Commission.

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 Edwin I. Hatch Nuclear Plant (HNP) to FEMA Region IV by the State of Georgia and involved local jurisdictions occurred on January 23, 1980. Formal approval of the RERP was granted by FEMA on May 5, 1981, under Title 44 CFR 350.

A partial participation plume pathway exercise was conducted on October 14, 2009 by FEMA Region IV to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during the plume phase of a radiological emergency involving HNP. The purpose of this report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

A demonstration of a Medical Services Drill by Appling County EMS and Appling County Health Care Systems was conducted on August 13, 2009 at the Appling Hospital in Baxley, Georgia. On October 15<sup>th</sup>, 2009, Jeff Davis County demonstrated emergency worker decontamination at the Jeff Davis County Recreation Complex and evacuee monitoring and decontamination and congregate care of evacuees at the Jeff Davis County High School.

The findings presented are based on the evaluations of the Federal evaluator team, with final determinations being made by the FEMA 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 Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA- "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 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 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' response 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 October 14, 2009 exercise to test the offsite emergency response capabilities in the area surrounding HNP.

#### **A. Plume Pathway Emergency Planning Zone Description**

The Edwin I. Hatch Nuclear Plant is located on the Altamaha River approximately ten miles north of Baxley, Georgia. The plume exposure pathway EPZ includes portions of Appling, Jeff Davis, Tattnall and Toombs Counties.

The land use within the 10-mile EPZ is primarily agricultural with a relatively low population density. The population of the 10-mile EPZ is estimated to be 8,394. Although there are no major parks, recreational areas, or transportation facilities in the EPZ, the Altamaha River is a principal waterway that is suitable for navigation and recreation. There are 16 evacuation zones in the EPZ.

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

The following agencies, organizations, and units of government participated in the Hatch Nuclear Plant exercise on October 14, 2009.

##### **STATE OF GEORGIA**

Department of Natural Resources  
Bureau of Radiation Control  
Georgia Emergency Management Agency

##### **PARTICIPATING JURISDICTIONS**

Appling County  
Jeff Davis County  
Tattnall County  
Toombs County

##### **PRIVATE AND VOLUNTEER ORGANIZATIONS**

Southeastern Chapter of the American Red Cross

#### **C. Exercise Timeline**

Table 1, on the following page, presents the time at which key events and activities occurred during the HNP exercise on October 14, 2009. Included are actual times notifications were made to the participating jurisdictions/functional entities.

**Table 1: Exercise Timeline**

**DATE AND SITE:** October 14, 2009 – Hatch Nuclear Plant

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken						
		SOC	ENC	DOSE ASSESSMENT	APPLING COUNTY	JEFF DAVIS COUNTY	TATTNALL COUNTY	TOOMBS COUNTY
<b>Unusual Event</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Alert</b>	0821	0826	0910	0826	0826	0827	0828	0827
<b>Site Area Emergency</b>	0938	0945	1009	0945	1007	0945	0944	0946
<b>General Emergency</b>	1024	1035	1042	1035	1043	1045	1039	1043
<b>Simulated Rad. Release Started</b>	1024	1035	1042	1021	1043	1045	1039	1043
<b>Simulated Rad. Release Terminated</b>	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
<b>Facility Declared Operational</b>		0919	0914	0855	0845	0913	0923	0845
<b>Declaration of State Emergency</b>		1000	N/A			1114		1158
<b>Declaration of Local Emergency</b>		N/A	N/A	N/A	0900	1120	1019	1230
<b>Exercise Terminated</b>		1238	1235	1238	1245	1243	1235	1247
<b>Early Precautionary Actions:</b> Agriculture Advisory , Flight Restrictions, and River Clearing		1008	1036	1019	1047	0927	N/A	N/A
Traffic Control Points and City and County State of Emergency		N/A	N/A	N/A	0900	N/A	N/A	N/A
Relocated Schools		N/A	N/A	N/A	0953	N/A	N/A	N/A
<b>1<sup>st</sup> Protective Action Decision</b> Evacuate Zones: A, C5		1049	1045	N/A	1045	1045	1039	1046
<b>1<sup>st</sup> Tone Alert Radio Activation</b>		1115	N/A	N/A	1115	1115	1115	1115
<b>2<sup>nd</sup> Protective Action Decision</b> Evacuate Zones: F10, G10		1147	N/A	N/A	1158	1142	1151	1200
<b>2<sup>nd</sup> Tone Alert Radio Activation</b>		1147	N/A	N/A	N/A	1147	N/A	N/A
<b>3<sup>rd</sup> Protective Action Decision</b> Evacuate Zones: A, B5, C5, D5, E5, E10, F10, G10		1200	N/A	N/A	1224	1227	1218	1223
<b>3<sup>rd</sup> Tone Alert Radio Activation</b>		1242	N/A	N/A	1242	1242	1242	1242
<b>KI Administration Decision:</b> Distribute KI		1204	N/A	1204	1220	1225	1223	1212

## 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 October 14, 2009, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the HNP.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise criteria contained in the Interim REP Program 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 in Table 2, presents the status of all exercise criteria scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criteria are listed by number. The demonstration status of those criteria 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)

### B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in an 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 criterion under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise criterion under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises that 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 criterion 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 Program Manual as "...an observed or identified inadequacy of 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 Program 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 combination corresponding to the criterion number in the Evaluation Area Methodology.
- **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.

**Table 2: Summary of Exercise Evaluation**

**DATE AND SITE:** October 14, 2009 – Hatch Nuclear Plant

<b>ELEMENT/Sub-Element</b>	<b>SOC</b>	<b>DOSE</b>	<b>* EOF</b>	<b>ENC</b>	<b>Appling</b>	<b>Jeff Davis</b>	<b>Tattnall</b>	<b>Toombs</b>
<b>1. EMERGENCY OPERATIONS MANAGEMENT</b>								
1.a.1. Mobilization	M	M	NE	M	M	M	M	M
1.b.1. Facilities	M							
1.c.1. Direction and Control	M	M	NE	M	M	M	M	M
1.d.1. Communications Equipment	M	M	NE	M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	NE	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 Based on Available Info		M	NE					
2.b.2. Rad Assessment and PADs for the General Public					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			M	M	M	M
3.c.1. Implementation of PADs for Special Populations					M	M	M	A
3.c.2. Implementation of PADs for Schools					M			M
3.d.1. Implementation of Traffic and Access Control					M	M	M	M
3.d.2. Impediments to Evacuation and Traffic and Access Control					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								
4.a.2. Plume Phase Field Measurement & Analysis Management								
4.a.3. Plume Phase Field Measurements & Analysis Procedures								
4.b.1. Post Plume Field Measurement & Analysis								
4.c.1. Laboratory Operations								
<b>5. EMERGENCY NOTIFICATION &amp; PUBLIC INFO</b>								
5.a.1. Activation of Prompt Alert and Notification					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 & Instructions for the Public & the Media				A	M	M	M	M
<b>6. SUPPORT OPERATIONS/FACILITIES</b>								
6.a.1. Monitoring & Decon of Evacuees & EWs & Registration of Evacuees						M		
6.b.1. Monitoring & Decon of Emergency Worker Equipment						M		
6.c.1. Temporary Care of Evacuees						M		
6.d.1. Transport & Treatment of Contaminated Injured Individuals					M			

**LEGEND: M = Met D = Deficiency A = ARCA NE = Not Evaluated**

\* FEMA did not evaluate the EOF due to illness of the scheduled evaluator

# 1. STATE OF GEORGIA

## 1.1 State Operations Center

The Georgia State Operations Center (SOC) is located in the basement of the Georgia Emergency Management Agency (GEMA) offices in Atlanta, Georgia. The SOC has sufficient space and equipment to support a response to an accident at the Hatch Nuclear Plant (HNP). Based on recent flooding and a potential for floods the day of the exercise, GEMA officials discussed their options in order to run dual operations. In addition to GEMA representatives, the Department of Agriculture and the Department of Natural Resources (DNR), Environmental Protection Division (EPD) sent representatives in response to the simulated accident. All personnel were well trained, capable and performed their tasks well. The Governors Authorized Representative (GAR) and the Chief of Operations effectively managed the response to the event. The command group discussed the situation at the plant and protective action recommendations (PAR) prior to decision making conference calls with the counties. Once concurrence was reached on a decision the Chief of Operations contacted the National Weather Service (NWS) Station in Jacksonville, Florida, and had them broadcast (simulated) appropriate messages for the public within the HNP 10-mile emergency planning zone (EPZ). He then had the messages faxed to the Counties.

- a. **MET:** Criteria 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.b.1, 5.a.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

## 1.2 Emergency News Center

GEMA Public Information Officer (PIO) and one other person who staffed the public inquiry function were the only State people dispatched to the Emergency News Center (ENC). Only Toombs County sent a representative to the ENC although plans say that each risk county will send a representative. The lack of sufficient staff impeded the State's ability to effectively keep the media informed of actions taken in response to the simulated events at HNP.

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

c. **AREAS REQUIRING CORRECTIVE ACTION:** 5.b.1

**ARCA No.:** 31-09-5.b.1-A-01

**Condition:** The State of Georgia and Appling, Jeff Davis and Tattnall Counties did not provide sufficient staff to the ENC to effectively run the ENC operations.

Three media briefings were held during the exercise. They occurred at 0945; briefing on Alert ECL and no actions required by public; 1031, briefing on SAE, precautionary actions and no actions required by general public and at 1127, General Emergency ECL, Evacuation of zones A and C5 and agricultural advisory for the EPZ. The exercise terminated at 1235. Although a tone alert message concerning the expanded protective actions (Evacuation of A, B5, C5, D5, E5, E10, F10, and G10) had been broadcast (simulated), the exercise terminated before any media briefing had been conducted to explain the expanded protective actions.

**Possible Cause:** GEMA decided to remotely conduct its operations out of the State Operations Center in Atlanta and not establish a Forward Emergency Operations Center, which had been co-located with the ENC in Vidalia, in the past. The State of Georgia sent two (2) people to the ENC, one was the GEMA spokesperson and the other staffed the public inquiry lines. This was also the second exercise where Appling, Jeff Davis and Tattnall Counties did not send representatives to the ENC.

The State experienced for a couple of weeks prior to the exercise, severe flooding that included Northwest Georgia and the Atlanta metropolitan area, for which a Federal Disaster was declared and ongoing disaster response operations they were being conducted, with the potential for additional flooding existing on the day of the exercise.

No State news releases prior to General Emergency (GE) mentioned the school relocations, although students were moved in some cases prior to GE; messages did not mention river clearances or flight restrictions, or the ongoing evacuation of special needs populations. Although the GEMA PIO referred to the Hatch calendar/brochure in the first media briefing, and the SNC spokesperson closed every briefing with a reminder of pertinent SNC emergency information numbers, at no time were County or State emergency information numbers mentioned in news releases or media briefings.

**Reference:** NUREG-0654/FEMA-REP-1, Rev. 1: G. 4; State of Georgia GA REP-Basic Plan, and the risk counties' August 2009 REP plans.

**Effect:** The lack of adequate staffing of the ENC by State and local jurisdictions impeded the timely provision of critical information to the media for broadcast to

the public. Briefings were held on an approximately one-hour schedule that did not always lend itself to the rapid dissemination for information. Events also transpired after the last media briefing and prior to the end of the exercise that included an increase in the areas being evacuated.

### **Recommendations:**

- Provide additional personnel to support the GEMA spokesperson at the ENC.
- The Risk Counties should provide at a minimum a liaison to the ENC who can provide county specific information to the GEMA spokesperson for inclusion in media briefings or provide their own spokespersons as called for in plans or the State and Counties should revise emergency information procedures. Revise county plans and procedures as appropriate
- The risk counties should develop county specific draft media releases so that they can be developed as an incident at HNP changes and decisions are made by county officials.

### **Schedule of Corrective Actions:**

Demonstration of corrections will be conducted during the 2011 Plant Hatch exercise. The recommendations for county participation in the corrective actions will preclude correction at a site other than Plant Hatch. Corrective actions are addressed in three sections based upon the recommendations.

### **Support for GEMA spokesperson**

- Review and update all draft press releases to minimize changes and rewrites.
- Ensure all county protective actions are included in the State and Local press releases.
- Add additional support staff at the ENC and SOC for Public Affairs activities.
- Refine SOPs for Public Affairs activities.

### **County ENC Participation**

- Encourage the counties that support Plant Hatch to provide liaisons to the news center.
- Provide on-going training (GEMA Basic PIO course, REP specific PIO training by GEMA) for those liaisons.

### **County specific draft media releases**

Our position is that a coordinated state/local press release including all risk county protective actions provides a coherent single message to the public. The

corrective actions listed below will ensure that all necessary information is provided in this single state/local press release.

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

### 1.3 Dose Assessment

The State of Georgia DNRs EPD dose assessment staff mobilized at the SOC in Atlanta, Georgia. The Radiation Emergency Coordinator (REC) provided direction and control for the SOC dose assessment function. In accordance with the extent of play (EOP), a controller in the SOC provided field monitoring team (FMT) data to the dose assessment staff. The REC and his staff routinely monitored and evaluated plant, radiological, meteorological, and field data. Dose projections were performed and routinely compared with projections from utility counterparts. The REC worked closely with the utility Technical Liaison and the dose assessment staff in making protective action recommendations (PAR), as well as the potassium iodide (KI) decision for emergency workers. The REC informed the GAR and affected Counties of the KI decision for emergency workers, and presented PARs for their concurrence. The REC was proactive in requesting assistance through the Department of Energy for Federal radiological support. Professional conduct, competence and dedication were apparent in the execution of dose assessment staff responsibilities.

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

### 1.4 Emergency Operations Facility

Due to an illness of the scheduled evaluator and staffing conflicts as a result of it, the Emergency Operations Facility (EOF) was not evaluated during this exercise. However, liaisons provided to the EOF were able to keep the State adequately informed of events and developments at the plant.

## 1.5 River Clearing

A Ranger from State of Georgia DNR was interviewed as a member of the Appling County Emergency Operations Center (EOC) and acted as well for and responded to events affecting Toombs County. He explained the process of being notified, reporting to EOC(s), obtaining dosimetry, and reporting to the local boat landing(s) in preparation for river clearing. His knowledge of plans and procedures was thorough and conveyed a clear in-depth understanding of his responsibilities and those of peers performing like responsibilities in the other designated Counties. His description of river clearing procedures was consistent with those listed in the State and County Emergency Plans and Procedures.

- a. **MET:** Criterion 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. RISK JURISDICTIONS

### 2.1 APPLING COUNTY

#### 2.1.1 Emergency Operations Center

The EOC was well organized and efficient, was activated in a timely manner, and in accordance with plans. The Emergency Management Director effectively guided operations in response to a simulated incident at HNP. He was forward thinking, proactive and decisive. Staff included representatives from the City and County Commission, Mayors Office, GEMA and SNC Liaison who were active participants for the duration of the exercise and contributed to a successful operation. The primary support staff was capable, confident and professional in carrying out their assigned responsibilities and demonstrated exceptional grasp of County plans, policies and procedures. Their performance is indicative of the leadership, dedication and commitment of all to the protection and safety of the citizens of Appling County.

- 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.b.1, 3.c.1, 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 Traffic Control Points

Traffic Control Points (TCP) were demonstrated through interview by the Appling County Sheriff's Department (ACSD). The Deputies interviewed were very knowledgeable of their mission, were cognizant of exposure limits and were able to articulate steps they would take to minimize radiation exposure. They were familiar with the issued dosimetry and with the purpose and process of ingestion of KI. They demonstrated the ability to efficiently set up and maintain a TCP and had adequate communications equipment to obtain the necessary resources to quickly remove any impediments to the free flow of evacuee traffic. The ACSD had in place mutual aid agreements with surrounding jurisdictions to furnish additional officers should the need arise.

- 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

### 2.1.3 Back-up Route Alerting

The County's Emergency Management Agency Director (EMD) was interviewed. He described the actions for activating back up notification through route alerting to the public. His description of actions to take was consistent with those in the County emergency plan. His knowledge of County concepts and procedures coupled with access to reference materials and employment of resources to ensure actions being taken are accurate, can provide comfort to the citizens of Appling County that the County EMA can adequately protect them in the event of a radiological incident.

- a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.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**

#### **2.1.4 Schools**

The Director of Transportation for the County School District was interviewed. He explained the process of being notified, reporting to the EOC and directing the school bus drivers and the principals who later will become the facility managers. His description of the actions taken in the event of relocation or evacuation was consistent with those steps in the County emergency plan.

- 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**

#### **2.1.5 Medical Service Drill (MS1) – Appling Healthcare System**

The transportation and treatment of contaminated injured personnel was successfully demonstrated on August 13, 2009 by the County Emergency Medical Services (EMS) and Appling Health Care System. Procedures were in place for EMS and Hospital personnel that ensured each followed proper procedures. Each emphasized the philosophy that urgent medical care took priority over patient monitoring and decontamination and addressed either in its' appropriate priority. All personnel were knowledgeable, competent and performed their duties in a professional manner. Contamination and exposure control were effectively managed from transportation of patient throughout treatment.

- a. **MET: Criteria 1.e.1, 3.a.1 and 6.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 JEFF DAVIS COUNTY

### 2.2.1 Emergency Operations Center

The EMA Director displayed excellent direction and control of the County EOC throughout all phases of the exercise. EOC staff members were highly proficient in the performance of their duties and were proactive in their planning and implementation of County emergency response actions. The EOC was activated in accordance with the County plan, and the EOC staff reported for duty in a timely manner. The initial and subsequent briefings given by the EMA Director and the Operations Officer kept the staff informed of changes in plant conditions and necessary actions to respond to those changes. The EOC staff was guided by both established procedures as well as their professional experiences in dealing with previous County emergencies. All personnel in the EOC performed professionally and displayed excellent teamwork. The EMA Director and his staff 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.b.1, 3.c.1, 3.d.1, 3.d.2, 5.a.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

### 2.2.2 Traffic Control Points

The Jeff Davis County Sheriff and Hazlehurst Police Chief were interviewed. They clearly conveyed through discussion, the process by which the County would establish, support and maintain TCPs and clear impediments. These discussions indicated that Sheriff's Deputies and the City Police Officers are well trained in their areas assigned, able to establish TCP's in a timely manner, and are fully prepared to assist evacuees from the 10-mile EPZ should an incident require it.

- a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 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

### **2.2.3 Back-up Route Alerting**

The County Sheriff successfully conveyed through interview and discussion at the EOC, the process of which the County would complete back up route alerting in the event of a failure with the tone-alert radio. He stated that deputies have area maps and instructions which explain how to conduct and complete back up route alerting, and estimated that following procedures would take no more than 30 to 45 minutes to complete assigned back up route alerting of any given location within the County, which is in accordance with the County Plans.

- a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.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

### **2.2.4 Reception and Congregate Care Center**

On October 15, 2009, the American Red Cross (ARC), Jeff Davis County Schools, the Department of Family and Children Services (DFACS) and the Jeff Davis County Health Department used the new Jeff Davis High School gymnasium and locker rooms to set up and serve as a reception center/emergency worker decontamination facility to accommodate evacuees and emergency workers in the event of a release of radioactivity from HNP. Documents dated September 15, 2009, are on hand that demonstrate the County has entered into a Shelter Agreement with the American Red Cross to establish and manage shelters. Student volunteers from the school system participated as evacuees. This facility is large enough to accommodate the estimated 150 evacuees that would be expected (20% of the population) in Jeff Davis County. There was sufficient equipment,

maps, displays, dosimetry, and other supplies to support operations of a Reception and Congregate Care Center (RCCC) and the issue and use of appropriate dosimetry in accordance with procedures was successfully demonstrated.

- 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

## **2.2.5 Emergency Worker and Vehicle Decontamination**

The Hazlehurst -Jeff Davis County unified Fire Department successfully demonstrated techniques and procedures in the demonstration of emergency worker and vehicle monitoring and decontamination OOS on October 15, 2009 at the County recreation center. The area was clearly laid out, there was ample signage, personnel were deliberate in the accomplishment of their tasks and all was performed in accordance with their plans and procedures. Emergency Medical Services did not participate in the exercise, but provided real world assistance on site.

- a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1, 6.b.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 TATTNALL COUNTY**

### **2.3.1 Emergency Operations Center**

The County EMA successfully demonstrated its' ability to respond, conduct and support emergency operations during an incident at HNP. Mobilization of the EOC staff was conducted promptly and in an efficient manner upon notification. The EMA Director

conducted staff briefings on a regular basis to maintain situational awareness among all support agencies. The EOC staff was knowledgeable of the County plans and procedures and were prepared to coordinate resources to protect the health and safety of the public.

- 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.b.1, 3.c.1, 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

### **2.3.2 Traffic Control Points**

County Sheriff's Deputies were interviewed. It was clear that they understood the importance of assisting in the movement of evacuees from the protected zone if an evacuation was ordered in response to an incident at HNP. They were aware of County plans and procedures, local roads and the locations of the seven (7) TCPs within the county, and knowledgeable in the use of dosimetry, exposure control expectations and KI requirements.

- 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

### **2.3.3 Back-up Route Alerting**

The County EMA Director through interview, displayed thorough knowledge of the processes involved in performing backup route alerting. The County has in place, plans, procedures and personnel identified that would facilitate the notification of residents of the one protected zone in their county in the event of a primary alert and notification system failure. In addition to dispatching personnel in vehicles to make appropriate

announcements, the County would also call each home to ensure that residents received the emergency information. This is in accordance with plans and procedures.

- a. **MET:** Criterion 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 TOOMBS COUNTY

### 2.4.1 Emergency Operations Center

The County Emergency Management Director (EMD), the new Operations Officer and staff effectively handled emergency response activities in response to incidents at HNP. The EMD provided direction and control of the Emergency Operations Center (EOC) through out the exercise. He observed each situation thoroughly, not rushing to judgment; all while keeping the safety of the community in the forefront. The Operations Officer, while consulting with the EMD and other staff, effectively disseminated information to the EOC Staff in a timely manner through routine briefings, enhanced by technical information from the Nuclear Power Plant Emergency Notification Forms being thoroughly explained to the EOC Staff by the HNP EOC representative. The ability to fully understand every detail of plant emergency operations is an immense advantage to any County. County level support was evident and commendable, as five of the six County executive leaders were present for more than 50% of the exercise. The leaders were thoroughly engaged in exercise activities to include finalizing protective action decisions (PAD) with the EMD.

- 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.b.1, 3.d.1, 3.d.2, 5.a.1, 5.a.3 and 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** 3.c.1

**Issue No.:** 31-09-3.c.1-A-02

**Condition:** Numbers, names and addresses of Special Needs Population were not available in the Toombs County EOC.

**Possible Cause:** A “Special Needs Card” is included in the annual Emergency Information Calendar. The return address on these cards is directed to Plant Hatch. It appears that the information has not been shared with the County.

**Reference:** NUREG 0654, J.10.c and NUREG 0654, J.10.d; J.10.c; Means of notifying all segments of the transient and resident population; J.10.d; Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement.

**Effect:** With no names, addresses or needs of special populations (hearing impaired, bed confinement, etc.), the Health Department, Red Cross and Family and Children’s Services representatives as well as EMS, Lyons and Vidalia Fire Departments did not and could not plan for evacuation of these individuals during a radioactive release.

None of the five agencies interviewed knew the number or locations of people who would require assistance during an evacuation and guesses ranged between 25 and 200. The EMS and Lyons Fire Departments are members of the Mutual Aid Compact and as such, have access to multiple municipalities for mutual aid. However, with no idea of the number of personnel who needed help to evacuate, planning and coordination for mutual aid was not/could not be done.

Without the information, planning fire and rescue could not evacuate the individuals. The Health Department, Red Cross and Family and Children’s Services were not aware of and could not accommodate special needs in an evacuation shelter.

**Recommendation:** Confidentiality of this information is required; however, the utility and county services must work out a methodology to ensure the information is available to the EOC staff in advance of an incident to adequately address relocation or evacuation of special needs residents. Additionally, that information or procedure must be available in the EOC at all times, regardless of and despite who staffs the EOC.

**Schedule of Corrective Actions:**

The County EMD has clarified procedures for acquiring and providing access to special needs information and protecting its’ sensitivity. Procedures are in place that facilitates communication between responsible agencies to manage and assist in the maintenance and accuracy of the Special Needs residents register within the county, and will be enhanced through training that will ensure access to the register regardless of who is on staff or off duty. The correction will be demonstrated during the 2011 Plant Hatch Exercise.

- d. **NOT DEMONSTRATED:** 5.a.3 and 5.b.1

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

### 2.4.2 Traffic Control Points

The EMA Director and the Operations Officer and worked well with the Sheriff's department and Lyons and Vidalia Police Department's in the coordination and establishment of effective TCPs. Additionally, it was apparent that the Public Works Department is comfortable supporting the law enforcement agencies as a normal every day activity. Law enforcement personnel were well aware of methods to overcome traffic impediments and of their resources for additional officers and equipment if they were needed.

- a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 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

An interview on back up route alerting procedures for Toombs County was conducted at the County EOC with a County Sherriff's Office Captain and Deputy. The Captain was knowledgeable of the management process for back up route alerting including recalling Deputies and assigning individual routes for each to accomplish. He knew the message he was required to provide was "This zone is being evacuated. Turn on your radio for further information." The Deputy displayed good understanding of the back up route alerting process and the radiological concerns including dosimetry usage, reporting parameters and turn-back values. He also understood how and when to ingest KI.

- a. **MET:** Criterion 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 Schools**

The County Schools Superintendent successfully demonstrated protection of students and staff of the Toombs County Central School through interview and by his actions in the County EOC. He was knowledgeable of the notification procedures for the evacuated school and the receiving school, and ensured that the evacuation was carried out effectively, safely and in accordance with procedures.

- 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**

### 3. SUMMARY OF AREAS REQUIRING CORRECTIVE ACTION

#### 3.1 2009 ARCAs

##### 3.1.1 31-09-5.b.1-A-01 State of Georgia ENC

**Condition:** The State of Georgia and Appling, Jeff Davis and Tattnall Counties did not provide sufficient staff to the ENC to effectively run the ENC operations.

Three media briefings were held during the exercise. They occurred at 0945; briefing on Alert ECL and no actions required by public; 1031, briefing on SAE, precautionary actions and no actions required by general public and at 1127, General Emergency ECL, Evacuation of zones A and C5 and agricultural advisory for the EPZ. The exercise was terminated at 1235. Although a tone alert message concerning the expanded protective actions (Evacuation of A, B5, C5, D5, E5, E10, F10, and G10 had been broadcast (simulated), the exercise terminated before any media briefing had been conducted to explain the expanded protective actions.

**Possible Cause:** GEMA decided to conduct its operations out of the State Operations Center and not establish a Forward Emergency Operations Center, which has(d) been co-located with the ENC, in the past. The State of Georgia sent two (2) people to the ENC, one was the GEMA spokesperson and the other staffed the public inquiry lines. This was also the second exercise where Appling, Jeff Davis and Tattnall Counties did not send representatives to the ENC.

The State had previously experienced for a couple of weeks prior to the exercise, severe flooding in Northwest Georgia, which included the Atlanta metropolitan area for which a Federal Disaster was declared and were conducting ongoing disaster recovery operations with potential additional flooding existing on the day of the exercise.

No State news releases prior to General Emergency (GE) mentioned the school relocations, although students were moved in some cases prior to GE; messages did not mention river clearances or flight restrictions, or the ongoing evacuation of special needs populations. Although the GEMA PIO referred to the Hatch calendar/brochure in the first media briefing, and the SNC spokesperson closed every briefing with a reminder of pertinent SNC emergency information numbers, at no time were County or State emergency information numbers mentioned in news releases or media briefings.

**Reference:** NUREG-0654/FEMA-REP-1, Rev. 1: G. 4; State of Georgia GA REP-Basic Plan, and the risk counties' August 2009 REP plans.

**Effect:** The lack of adequate staffing of the ENC by State and local jurisdictions impeded the timely provision of critical information to the media for broadcast to the public. Briefings were held on an approximately one-hour schedule that did not always lend itself to the rapid dissemination for information. Events also transpired after the last media briefing and prior to the end of the exercise that included an increase in the areas being evacuated.

**Recommendations:** Provide additional personnel to support the GEMA spokesperson at the ENC.

The Risk Counties should provide at a minimum a liaison to the ENC who can provide county specific information to the GEMA spokesperson for inclusion in media briefings or provide their own spokespersons as called for in plans or the State and Counties should revise emergency information procedures. Revise county plans and procedures as appropriate.

The risk counties should develop county specific draft media releases so that they can be developed as an incident at HNP changes and decisions are made by county officials.

#### **Schedule of Corrective Actions:**

The recommendations for county participation in the corrective actions will preclude correction at a site other than Plant Hatch. Demonstration of the corrections will be conducted during the 2011 Plant Hatch exercise.

#### **Support for GEMA spokesperson**

- Review and update all draft press releases to minimize changes and rewrites.
- Ensure all county protective actions are included in the State and Local press releases.
- Add additional support staff at the ENC and SOC for Public Affairs activities.
- Refine SOPs for Public Affairs activities.

#### **County ENC Participation**

- Encourage the counties that support Plant Hatch to provide liaisons to the news center.
- Provide on-going training (GEMA Basic PIO course, REP specific PIO training by GEMA) for those liaisons.

#### **County specific draft media releases**

Our position is that a coordinated state/local press release including all risk county protective actions provides a coherent single message to the public. The corrective actions listed below will ensure that all necessary information is provided in this single state/local press release.

**3.1.2 31-09-3.c.1-A-02  
Toombs County  
EOC**

**Condition:** Numbers, names and addresses of Special Needs Population were not available in the Toombs County EOC.

**Possible Cause:** A “Special Needs Card” is included in the annual Emergency Information Calendar. The return address on these cards is directed to Plant Hatch. It appears that the information has not been shared with the County.

**Reference:** NUREG 0654, J.10.c and NUREG 0654, J.10.d; J.10.c; Means of notifying all segments of the transient and resident population; J.10.d; Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement.

**Effect:** With no names, addresses or needs of special populations (hearing impaired, bed confinement, etc.), the Health Department, Red Cross and Family and Children’s Services representatives as well as EMS, Lyons and Vidalia Fire Departments did not and could not plan for evacuation of these individuals during a radioactive release.

None of the five agencies interviewed knew the number or locations of people who would require assistance during an evacuation and guesses ranged between 25 and 200. The EMS and Lyons Fire Departments are members of the Mutual Aid Compact and as such, have access to multiple municipalities for mutual aid. However, with no idea of the number of personnel who needed help to evacuate, planning and coordination for mutual aid was not/could not be done.

Without the information, planning fire and rescue could not evacuate the individuals. The Health Department, Red Cross and Family and Children’s Services were not

aware of and could not accommodate special needs in an evacuation shelter.

**Recommendation:** Confidentiality of this information is required; however, the utility and county services must work out a methodology to ensure the information is available to the EOC staff in advance of an incident to adequately address relocation or evacuation of special needs residents. Additionally, that information or procedure must be available in the EOC at all times, regardless of and despite who staffs the EOC.

**Schedule of Corrective Actions:**

The County EMD has clarified procedures for acquiring and providing access to special needs information and protecting its' sensitivity. Procedures are in place that facilitates communication between responsible agencies to manage and assist in the maintenance and accuracy of the Special Needs residents register within the county, and will be enhanced through training that will ensure familiarity and access to the register regardless of who is on staff or off duty. The correction will be demonstrated during the 2011 Plant Hatch Exercise.

## APPENDIX 1

### ACRONYMS AND ABBREVIATIONS

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

ACSD	Appling County Sheriff's Department
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CFR	Code of Federal Regulations
DFACS	Department of Family and Children Services
DHHS	Department of Health and Human Services
DNR	Department of Natural Resources
DOT	Department of Transportation
EMA	Emergency Management Agency
EMD	Emergency Management Director
EMS	Emergency Medical Services
ENC	Emergency News Center
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Extent of Play
EPD	Environmental Protection Division
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
FEOC	Forward Emergency Operations Center
FMT	Field Monitoring Team
FR	Federal Register
GAR	Governor's Authorized Representative
GE	General Emergency
GEMA	Georgia Emergency Management Agency
GM	Guidance Memorandum
HNP	(Edwin I.) Hatch Nuclear Plant
KI	Potassium Iodide
MS-1	Medical Services Drill
NRC	Nuclear Regulatory Commission

NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980</i>
NP	Nuclear Plant
NWS	National Weather Service
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PID	Public Information Director
PIO	Public Information Officer
RAC	Regional Assistance Committee
RCCC	Reception and Congregate Care Center
REC	Radiation Emergency Coordinator
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
SAE	Site Area Emergency
SOC	State Operations Center
TAR	Tone Alert Radio
TCP	Traffic Control Point
VRU	Voice Response Unit

## APPENDIX 2

### EXERCISE EVALUATORS

Following is a list of personnel who evaluated the Hatch Nuclear Plant exercise on October 14, 2009. The organizations represented are indicated by the following abbreviations:

FEMA - Federal Emergency Management Agency  
ICF - ICF Consulting, Inc.

**Conrad S. Burnside**

**RAC Chairman**

**Lawrence A. Robertson**

**Section Chief/  
Central Tier**

**Kevin Keyes**

**Southern Tier**

#### **EVALUATION SITE**

#### **EVALUATOR**

#### **ORGANIZATION**

Lead Evaluator

Odis Spencer

FEMA

#### **STATE OF GEORGIA – Director: Charles D. English**

State Operations Center

Lawrence Robertson  
Ron Shaw

FEMA  
FEMA

Emergency News Center

Bill Larrabee  
Rosemary Samsel

ICF  
ICF

Dose Assessment

Brad McRee

ICF

Emergency Operations Facility  
(Birmingham)

\* Not Evaluated

River Clearing

Doc Burriss  
Obhie Robinson

ICF  
FEMA

#### **APPLING COUNTY**

Emergency Operations Center

Odis Spencer  
Mark Dalton

FEMA  
ICF

Traffic Control Points

Mark Dalton

ICF

Back Up Route Alerting

Doc Burriss

ICF

Schools	Doc Burriss	ICF
Medical Service Drill (MS-1)	Joe Harworth JT Ackermann Ron Shaw	FEMA FEMA FEMA

**JEFF DAVIS COUNTY**

Emergency Operations Center	Mike Dolder JT Ackermann	FEMA FEMA
Traffic Control Points	JT Ackermann	FEMA
Back Up Route Alerting	JT Ackermann	FEMA
Reception & Congregate Care	Marynette Herndon Ron Shaw	ICF FEMA
Emergency Worker Decontamination	Alan Bevan JT Ackermann	ICF FEMA

**TATTNALL COUNTY**

Emergency Operations Center	Matthew Bradley Alan Bevan	FEMA ICF
Traffic Control Points	Alan Bevan	ICF
Back Up Route Alerting	Alan Bevan	ICF

**TOOMBS COUNTY**

Emergency Operations Center	Gerald Mclemore Marynette Herndon	FEMA ICF
Traffic Control Points	Marynette Herndon	ICF
Back Up Route Alerting	Obhie Robinson	FEMA
Schools	Obhie Robinson	FEMA

## **APPENDIX 3**

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

This appendix lists the exercise criteria scheduled for demonstration at the Hatch Nuclear Plant exercise on October 14, 2009, and the extent-of-play agreement approved by FEMA Region IV.

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

Following are the specific REP criteria scheduled for demonstration during this exercise.

# **PLANT EDWIN I. HATCH**



## **EXTENT OF PLAY**

**October 14, 2009**

Other than the exceptions described in this **Extent of Play Agreement**, exercise activities demonstrated for evaluation will be based on the Georgia Radiological Emergency Base Plan, the respective site-specific plan (Annex A), local county plans and appropriate Standard Operating Procedures.

It is requested that any issue or discrepancy arising during exercise play be allowed correction immediately, at all player locations, if it isn't disruptive to exercise play and if it is mutually agreeable to both the controller and evaluator.

## 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

Responsible OROs should demonstrate the capability to receive notification of an emergency situation from the licensee, verify the notification, and contact, alert, and mobilize key emergency personnel in a timely manner. Responsible OROs should demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. Activation of facilities should be completed in accordance with the plan and/or procedures. Pre-positioning of emergency personnel is appropriate, in accordance with the extent-of-play agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. Further, pre-positioning of staff for out-of-sequence demonstrations is appropriate in accordance with the extent-of-play agreement.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** State personnel will operate out of the State Operations Center (SOC) in Atlanta with the following exceptions: Public Information Officer (ENC-Vidalia), Rumor Control Liaison (ENC-Vidalia), Southern Nuclear Emergency Operations Facility Liaison(s) (EOF-Birmingham), Environmental Protection Division (EPD) County Liaisons (Appling and Toombs), and GEMA Field Coordinators (county EOCs) will be prepositioned near their assigned locations. Notification will occur through standard processes.

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** will use normal call in procedures to their EOC as the scenario dictates

### *Sub-Element 1.b—Facilities*

**Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H.3)**

## **Extent of Play**

Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible OROs should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are: adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations).

Facilities must be set up based on the ORO's plans and procedures and demonstrated as they would be used in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable for all jurisdictions

### ***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; A.2.a, b)**

## **Extent of Play**

Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate OROs, and ensuring completion of requirements and requests.

All activities associated with direction and control must be performed based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise noted above or indicated in the extent-of-play agreement.

**State of Georgia:** Direction and Control will occur through the SOC in Atlanta.

**Appling County:** Direction and Control will occur through the Appling County Emergency Operations Center.

**Jeff Davis County:** Direction and Control will occur through the Jeff Davis County Emergency Operations Center.

**Tattnall County:** Direction and Control will occur through the Tattnall County Emergency Operations Center.

**Toombs County:** Direction and Control will occur through the Toombs County Emergency Operations Center.

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

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

**Extent of Play**

OROs will demonstrate that a primary and at least one backup system are fully functional at the beginning of an exercise. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed. Communications equipment and procedures for facilities and field units should be used as needed for the transmission and receipt of exercise messages. All facilities and field teams should have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible OROs should demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. OROs should ensure that a coordinated communication link for fixed and mobile medical support facilities exists. The specific communications capabilities of OROs should be commensurate with that specified in the response plan and/or procedures. Exercise scenarios could require the failure of a communications system and the use of an alternate system, as negotiated in the extent-of-play agreement.

All activities associated with the management of communications capabilities must be demonstrated based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise noted above or in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

***Sub-Element 1.e—Equipment and Supplies to Support Operation***

**Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H.7, 10; J.10.a, b, e, J.11; K.3.a)**

**Extent of Play**

Equipment within the facility (facilities) should be sufficient and consistent with the role assigned to that facility in the ORO's plans and/or procedures in support of emergency operations. Use of maps and displays is encouraged.

All instruments, should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer's recommendations. A label indicating such calibration should be on each instrument or calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument. The above considerations should

be included in 4.a.1 for field team equipment; 4.c.1 for radiological laboratory equipment (does not apply to analytical equipment); reception center and emergency worker facilities' equipment under 6.a.1; and ambulance and medical facilities' equipment under 6.d.1.

Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers should be available for issuance to all categories of emergency workers that could be deployed from that facility. Appropriate direct-reading dosimetry should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans and procedures.

Dosimetry should be inspected for electrical leakage at least annually and replaced, if necessary. This leakage testing will be verified during the exercise, through documentation submitted in the Annual Letter of Certification, and/or through a staff assistance visit. Responsible OROs should demonstrate the capability to maintain inventories of KI sufficient for use by emergency workers, as indicated on rosters; where stipulated by the plan and/or procedures.

Quantities of dosimetry and KI available and storage location(s) will be confirmed by physical inspection at storage location(s) or through documentation of current inventory submitted during the exercise, provided in the Annual Letter of Certification submission, and/or verified during a Staff Assistance Visit. Available supplies of KI should be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter from a certified private or State laboratory indicating that the KI supply remains potent, in accordance with U.S. Pharmacopoeia standards.

At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc.) should be available or their availability described.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** These items will be evaluated during the SAV and will not be evaluated during the drill. All dosimeters and radiation detection instruments are commercially procured.

Practice or simulated TLDs and KI furnished to the emergency workers will be simulated for State and County emergency workers as necessary. The general public is not administered KI.

## **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, J.10.e, f)**

**Extent of Play**

OROs authorized to send emergency workers into the plume exposure pathway EPZ should demonstrate a capability to meet the criterion based on their emergency plans and procedures.

If necessary, the state OROs should demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of preauthorized levels and to the number of emergency workers receiving radiation dose above pre-authorized levels. As appropriate, OROs should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure, based on the ORO's plan and/or procedures or projected thyroid dose compared with the established Protective Action Guides (PAGs) for KI administration.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

***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 onsite and offsite environmental conditions. (NUREG-0654, I.8, 10 and Supplement 3)**

**Extent of Play**

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the ORO should demonstrate the capability to use appropriate means, described in the plan and/or procedures, to develop protective action recommendations (PAR) for decision-makers based on available information and recommendations from the licensee and field monitoring data, if available.

When release and meteorological data are provided by the licensee, the ORO also considers these data. The ORO should demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs appropriate to the scenario. In all cases, calculation of projected dose should be demonstrated. Projected doses should be related to quantities and units of the PAG to which they will be compared. PARs should be promptly transmitted to decision-makers in a prearranged format.

Differences greater than a factor of 10 between projected doses by the licensee and the ORO should be discussed with the licensee with respect to the input data and assumptions used, the use of different models, or other possible reasons. Resolution of these differences should be incorporated into the PAR if timely and appropriate. The ORO should demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** This function will be performed at the GEMA SOC in Atlanta. Field measurement data will be obtained from a simulation cell or controller.

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not Applicable

**Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PAD) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9, 10.f, m)**

### **Extent of Play**

Offsite Response Organizations (OROs) should have the capability to make both initial and subsequent PADs. They should demonstrate the capability to make initial PADs in a timely manner appropriate to the situation, based on notification from the licensee, assessment of plant status and releases, and PARs from the utility and ORO staff.

The dose assessment personnel may provide additional PARs based on the subsequent dose projections, field monitoring data, or information on plant conditions. The decision makers should demonstrate the capability to change protective actions as appropriate based on these projections.

If the ORO has determined that KI will be used as a protective measure for the general public under offsite plans, then the ORO should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement sheltering and evacuation. This decision should be based on the ORO's plan and/or procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision making process should involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision-making, OROs should communicate and coordinate PADs with affected OROs. OROs should demonstrate the capability to communicate the contents of decisions to the affected jurisdictions.

All decision-making activities by ORO personnel must be performed based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

***Sub-Element 2.c—Protective Action Decisions for Protection of Special Populations***  
**Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9, J.10.d, e)**

**Extent of Play**

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for situations where there is a high-risk environment where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, examples of factors that should be considered are: weather conditions, shelter availability, availability of transportation assets, risk of evacuation vs. risk from the avoided dose, and precautionary school evacuations. In situations where an institutionalized population cannot be evacuated, the administration of KI should be considered by the OROs. Applicable OROs should demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Contacts with public school systems/districts must be actual.

In accordance with plans and/or procedures, OROs and/or officials of public school systems/districts should demonstrate the capability to make prompt decisions on protective actions for students. Officials should demonstrate that the decision making process for protective actions considers (that is, either accepts automatically or gives heavy weight to) protective action recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for protective actions for that ECL, and the location of students at the time (for example, whether the students are still at home, en route to the school, or at the school).

All decision-making activities associated with protective actions, including consideration of available resources, for special population groups must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not Applicable

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

***Sub-Element 2.d—Radiological Assessment and decision-Making for the Ingestion Pathway***

**Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO's planning criteria. (NUREG-0654, J.9, J.11)**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

***Sub-Element 2.e—Radiological assessment and Decision-Making Concerning Relocation, Re-entry and Return***

**Criterion 2.e.1: Timely relocation, reentry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654, I.10; J.9; M.1)**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

### **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.a, b)**

#### **Extent of Play**

ORO's should demonstrate the capability to provide appropriate direct-reading and permanent record dosimetry, dosimeter chargers, and instructions on the use of dosimetry to emergency workers. For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows individual(s) to read the administrative reporting limits (that are pre-established at a level low enough to consider subsequent calculation of Total Effective Dose Equivalent) and maximum exposure limits (for those emergency workers involved in life saving activities) contained in the ORO's plans and procedures. Each emergency worker should have the basic knowledge of radiation exposure limits as specified in the ORO's plan and/or procedures. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated. During a plume phase exercise, emergency workers should demonstrate the procedures to be followed when administrative exposure limits and turn back values are reached.

The emergency worker should report accumulated exposures during the exercise as indicated in the plans and procedures. ORO's should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require emergency workers to seek authorizations for additional exposure, evaluators should interview at least two emergency workers, to determine their knowledge of whom to contact in the event authorization

is needed and at what exposure levels. Emergency workers may use any available resources (e.g., written procedures and/or coworkers) in providing responses.

Although it is desirable for all emergency workers to each have a direct-reading dosimeter, there may be situations where team members will be in close proximity to each other during the entire mission and adequate control of exposure can be effected for all members of the team by one dosimeter worn by the team leader. Emergency workers who are assigned to low exposure rate areas, e.g., at reception centers, counting laboratories, emergency operations centers, and communications centers, may have individual direct-reading dosimeters or they may be monitored by dosimeters strategically placed in the work area. It should be noted that, even in these situations, each team member must still have their own permanent record dosimetry.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

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

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement

***Sub-Element 3.c—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, J.10.c, d, g)**

**Extent-of-play**

Applicable OROs should demonstrate the capability to alert and notify (for example, provide protective action recommendations and emergency information and instructions) special populations (hospitals, nursing homes, correctional facilities, mobility impaired individuals, transportation dependent, etc.). OROs should demonstrate the capability to provide for the needs of special populations in accordance with the ORO's plans and procedures.

Contact with special populations and reception facilities may be actual or simulated, as agreed to in the Extent-of-play. Some contacts with transportation providers should be actual, as negotiated in the extent-of-play. All actual and simulated contacts should be logged.

All implementing activities associated with protective actions for special populations must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not Applicable

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** Appropriate actions will occur as necessary, actual evacuation will not be demonstrated. All contacts will be simulated.

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

**Extent-of-play**

Public school systems/districts shall demonstrate the ability to implement protective action decisions for students. The demonstration shall be made as follows: At least one school in each affected school system or district, as appropriate, needs to demonstrate the implementation of protective actions. The implementation of canceling the school day, dismissing early, or sheltering should be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process. If accomplished through an interview process, appropriate school personnel including decision-making officials (e.g., superintendent/principal, transportation director/bus dispatcher), and at least one bus driver (and the bus driver's escort, if applicable) should be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plan and/or procedures, should be verified.

Officials of the school system(s) should demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of protective actions for schools.

The provisions of this criterion also apply to any private schools, private kindergartens and day care centers that participate in REP exercises pursuant to the ORO's plans and procedures as negotiated in the extent-of-play agreement.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual.

**State of Georgia:** Not Applicable

**Appling County and Toombs County:** Notification of the schools will be simulated. If evacuation is warranted, based on the scenario, this criterion will be demonstrated by interview of the County EMA director and school system representative in the EOC.

**Jeff Davis County and Tattnall County:** Not Applicable

***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)**

**Extent of Play**

OROs should demonstrate the capability to select, establish, and staff appropriate traffic and access control points, consistent with protective action decisions (for example, evacuating, sheltering, and relocation), in a timely manner. OROs should demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.

Traffic and access control staff should demonstrate accurate knowledge of their roles and responsibilities. This capability may be demonstrated by actual deployment or by interview, in accordance with the extent-of-play agreement.

In instances where OROs lack authority necessary to control access by certain types of traffic (rail, water, and air traffic), they should demonstrate the capability to contact the State or Federal agencies with authority to control access.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not Applicable

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** This criterion will be evaluated by interview of law enforcement officers in the each county EOC. Actual demonstrations will not be performed.

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

**Extent of Play**

OROs should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. Actual dispatch of resources to

deal with impediments, such as wreckers, need not be demonstrated; however, all contacts, actual or simulated, should be logged.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not Applicable

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** This criterion will be evaluated by interview of law enforcement officers in the each county EOC. Actual demonstrations will not be performed. (See 3.d.1)

***Sub-Element 3.e—Implementation of Ingestion Pathway Decisions***

**Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. (NUREG-0654, J.9, 11)**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

**Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, J.9, 11)**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

***Sub-Element 3.f—Implementation of Relocation, Re-entry and Return Decisions***

**Criterion 3.f.1: Decisions regarding controlled Reentry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1, 3)**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

## **4. FIELD MEASUREMENT AND ANALYSIS**

***Sub-Element 4.a—Plume Phase Field Measurements and Analysis***

**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.7, 8, 9)**

**Criterion 4.a.2:** Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, H.12; I.8, 11; J.10.a)

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

#### **Extent of Play**

**State of Georgia:** Criterion 4.a.1, Criterion 4.a.2, and Criterion 4.a.3 will not demonstrated. Field measurement data will be simulated to support dose assessment activities,

#### ***Sub-Element 4.b—Post Plume Phase Field Measurements and Sampling***

**Criterion 4.b.1:** The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision making. (NUREG-0654, I.8; J.11)

**State of Georgia:** Not applicable

#### ***Sub-Element 4.c—Laboratory Operations***

**Criterion 4.c.1:** The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654, C.3; J.11)

**State of Georgia:** Not applicable

## **5. EMERGENCY NOTIFICATION AND 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 to the public must include as a minimum the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E.IV.D and NUREG-0654, E.5, 6, 7)

#### **Extent of Play**

Responsible Offsite Response Organizations (OROs) should demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway EPZ. Following

the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, completion of system activation should be accomplished in a timely manner (will not be subject to specific time requirements) for primary alerting/notification. The initial message should include the elements required by current FEMA REP guidance.

Offsite Response Organizations (OROs) with route alerting as the primary method of alerting and notifying the public should demonstrate the capability to accomplish the primary route alerting, following the decision to activate the alert and notification system, in a timely manner (will not be subject to specific time requirements) in accordance with the ORO's plan and/or procedures. At least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent-of-play. Actual testing of the mobile public address system will be conducted at some agreed-upon location. The initial message should include the elements required by current FEMA REP guidance. For exercise purposes, timely is defined as "the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages *is not* required. The alert signal activation may be simulated. However, the procedures should be demonstrated up to the point of actual activation.

The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with appropriate personnel from the primary notification system.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** In agreement

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable.

**Criterion 5.a.2:**

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs County:** Not applicable

**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**

Offsite Response Organizations (OROs) with FEMA-approved exception areas (identified in the approved Alert and Notification System Design Report) 5–10 miles from the nuclear power plant should demonstrate the capability to accomplish primary alerting and notification of the exception area(s) within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The 45-minute clock will begin when the OROs make the decision to activate the alert and notification system for the first time for a specific emergency situation. The initial message should, at a minimum, include: a statement that an emergency exists at the plant and where to obtain additional information. For exception area alerting, at least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent-of-play. Actual testing of the mobile public address system will be conducted at some agreed-upon location.

Backup alert and notification of the public should be completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. Backup route alerting only needs to be demonstrated and evaluated, in accordance with the ORO's plan and/or procedures and the extent-of-play agreement, if the exercise scenario calls for failure of any portion of the primary system(s), or if any portion of the primary system(s) actually fails to function. If demonstrated, only one route needs to be selected and demonstrated. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent-of-play. Actual testing of the mobile public address system will be conducted at some agreed-upon location.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not applicable

**Appling County, Jeff Davis County, Tattnall County, Toombs County:** In agreement This Evaluation Area will be scenario dependent demonstrated in accordance with the plan by a discussion between the evaluator and the local County EMA Director. River clearance was demonstrated in 2005.

***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.c)**

**Extent of Play**

Subsequent emergency information and instructions should be provided to the public and the media in a timely manner (will not be subject to specific time requirements). For exercise purposes, timely is defined as “the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay.” If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely. The ORO should ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information should contain all necessary and applicable instructions ( for example, evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concerning pets, shelter-in-place instructions, information concerning protective actions for schools and special populations, public inquiry telephone number, etc.) to assist the public in carrying out protective action decisions provided to them. The ORO should also be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. At a minimum, this information must be included in media briefings and/or media releases. OROs should demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas.

The emergency information should be all-inclusive by including previously identified protective action areas that are still valid, as well as new areas. The OROs should demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs should demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plan and/or procedures.

ORO should demonstrate the capability to develop emergency information in a non-English language when required by the plan and/or procedures.

If ingestion pathway measures are exercised, OROs should demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the ORO’s plan and/or procedures.

ORO should demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the situation warrants. The OROs should demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and media releases should be consistent with protective action decisions and other

emergency information provided to the public. Copies of pertinent emergency information (for example,

Emergency Alert System [EAS] messages and media releases) and media information kits should be available for dissemination to the media. OROs should demonstrate that an effective system is in place for dealing with calls to the public inquiry hotline. Hotline staff should demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, should be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases. All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia, Appling County, Jeff Davis County, Tattnall County, Toombs**

**County:** In agreement. Tone alert radios are used for public information. Direct contact to local television and radio stations are used instead of EAS at Plant Hatch in accordance with the plan.

## 6.0 SUPPORT OPERATION/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 has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)**

#### **Extent of Play**

Radiological monitoring, decontamination, and registration facilities for evacuees/emergency workers should be set up and demonstrated as they would be in an actual emergency or as indicated in the extent-of-play agreement. This would include adequate space for evacuees' vehicles. Expected demonstration should include 1/3 of the monitoring teams/portal monitors required to monitor 20% of the population allocated to the facility within 12 hours. Before using monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation.

Staff responsible for the radiological monitoring of evacuees should demonstrate the capability to attain and sustain a monitoring productivity rate per hour needed to monitor the 20% emergency planning zone (EPZ) population planning base within about 12 hours. This monitoring productivity rate per hour is the number of evacuees that can be monitored per hour by the total complement of monitors using an appropriate monitoring procedure. A minimum of six individuals per monitoring station should be monitored, using equipment and procedures specified in the plan and/or procedures, to allow demonstration of monitoring, decontamination, and registration capabilities. The monitoring sequences for the first six simulated evacuees per

monitoring team will be timed by the evaluators in order to determine whether the twelve-hour requirement can be met. Monitoring of emergency workers does not have to meet the twelve-hour requirement. However, appropriate monitoring procedures should be demonstrated for a minimum of two emergency workers. Decontamination of evacuees/emergency workers may be simulated and conducted by interview. The availability of provisions for separately showering should be demonstrated or explained. The staff should demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs and appropriate means (for example, partitions, roped-off areas) to separate clean from potentially contaminated areas.

Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing for individuals whose clothing is contaminated, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any individual found to be contaminated, procedures should be discussed concerning the handling of potential contamination of vehicles and personal belongings.

Monitoring personnel should explain the use of action levels for determining the need for decontamination. They should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up in accordance with the ORO's plans and procedures. Contamination of the individual will be determined by controller inject and not simulated with any low-level radiation source.

The capability to register individuals upon completion of the monitoring and decontamination activities should be demonstrated. The registration activities demonstrated should include the establishment of a registration record for each individual, consisting of the individual's name, address, results of monitoring, and time of decontamination, if any, or as otherwise designated in the plan. Audio recorders, camcorders, or written records are all acceptable means for registration. All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not applicable.

**Appling County, Tattnall County, Toombs County:** Will not demonstrate.

**Jeff Davis County:** Jeff Davis County will be demonstrated out of sequence October 15, 2009. The Reception Center is located at Jeff Davis County High School located at 156 Collins Street, Hazlehurst. Monitoring activities will be by actual demonstration in accordance to the requirements of this criterion. Facilities will be demonstrated by walkthrough and with diagrams, and decontamination activities will be simulated and demonstrated by interview by facility manager.

***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**

The monitoring staff should demonstrate the capability to monitor equipment, including vehicles, for contamination in accordance with the Offsite Response Organization's (ORO's) plans and procedures. Specific attention should be given to equipment, including vehicles, that was in contact with individuals found to be contaminated. The monitoring staff should demonstrate the capability to make decisions on the need for decontamination of equipment, including vehicles, based on guidance levels and procedures stated in the plan and/or procedures.

The area to be used for monitoring and decontamination should be set up as it would be in an actual emergency, with all route markings, instrumentation, record keeping and contamination control measures in place. Monitoring procedures should be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles should be demonstrated. Interior surfaces of vehicles that were in contact with individuals found to be contaminated should also be checked. Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, may be simulated and conducted by interview.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not applicable.

**Appling County, Tattnall County, Toombs County:** Will not demonstrate.

**Jeff Davis County:** Jeff Davis County will be demonstrated out of sequence October 15, 2009. The Vehicle Decontamination Site is located at Jeff Davis County High School located at 156 Collins Street, Hazlehurst. One individual will dress out for demonstration purposes, all others will simulate wearing equipment and will vocally indicate when they would change gloves or other equipment as necessary during the monitoring and decontamination demonstration. All monitoring activities will be demonstrated based on plans and procedures.

### ***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—Preparedness 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, J.12)**

### **Extent of Play**

Under this criterion, demonstration of congregate care centers may be conducted out of sequence with the exercise scenario. The evaluator should conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with ARC 3031. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this objective, exercise demonstration expectations should be clearly specified in extent-of-play agreements. Congregate care staff should also demonstrate the capability to ensure that evacuees have been monitored for contamination, have been decontaminated as appropriate, and have been registered before entering the facility. This capability may be determined through an interview process. If operations at the center are demonstrated, material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility (facilities). However, availability of such items should be verified by providing the evaluator a list of sources with locations and estimates of quantities. All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not applicable.

**Appling County, Tattnall County, Toombs County:** Will not demonstrate.

**Jeff Davis County:** Demonstrated out of sequence as described in 6.a.1. The facility will be demonstrated by interview and walk-through of the shelter with the Shelter Manager or his designee.

***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**

Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the victim.

Offsite Response Organizations (OROs) should demonstrate the capability to transport contaminated injured individuals to medical facilities. An ambulance should be used for the response to the victim. However, to avoid taking an ambulance out of service for an extended time, any vehicle (e.g., car, truck, or van) may be utilized to transport the victim to the medical facility. Normal communications between the ambulance/dispatcher and the receiving medical facility should be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur before releasing the ambulance from the drill. This

communication would include reporting radiation monitoring results, if available. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information. Monitoring of the victim may be performed before transport, done enroute, or deferred to the medical facility. Before using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities should be completed as they would be in an actual emergency. Appropriate contamination control measures should be demonstrated before and during transport and at the receiving medical facility. The medical facility should demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals.

The medical facility should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

**State of Georgia:** Not applicable.

**Jeff Davis County, Tattnall County, Toombs County:** Will not demonstrate.

**Appling County:** Appling County Hospital and EMS exercise will be demonstrated out of sequence on August 13, 2009 prior to the evaluated plume phase exercise.

## **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 Hatch Nuclear Plant exercise on October 14, 2009.

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

SCENARIO AND SCENARIO DATA DEVELOPMENT  
CONFIDENTIALITY STATEMENT FOR OCTOBER 5, 2005 EVALUATED EXERCISE

# Plant Hatch Emergency Preparedness

## 2009 Evaluated Exercise



**October 14, 2009**

SCENARIO AND SCENARIO DATA DEVELOPMENT  
CONFIDENTIALITY STATEMENT FOR THE  
OCTOBER 14, 2009 EXERCISE

A continued emphasis on scenario confidentiality and avoiding the perception that Exercise participants have foreknowledge of exercise events makes the control of scenario data essential. If any suspicion of scenario compromise exists, the NRC or EP Staff/Plant Management may invalidate the Exercise scenario and require a last minute change of scenario data or a full or partial remedial performance.

When you are working with scenario data, ensure that you maintain control of the material. Do not reproduce, distribute or discard this data in any fashion that may allow participants to gain access to it. Be especially careful about delegation of typing or reproduction and any transfer of data pages not enclosed in envelopes marked "Confidential". Do not discuss scenario data specifics with unauthorized personnel or potential participants. Of particular importance are scenario sequences, time frames and specific equipment casualties.

The practice of reasonable caution with respect to scenario data will prevent any inference of participant preparation. The perceived gain from "leaking" data to participants is tremendously offset by the consequences from suspicion of compromise. A remedial Exercise would yield a substantial expense in manpower, operational impact and possible fines. In addition, the federal evaluators would have lost confidence in SNC/HNP and would exercise increased diligence in their reappraisal of plant performance.

---

STATEMENT OF CONFIDENTIALITY AWARENESS

I have been fully informed of the importance of Exercise scenario and scenario development data confidentiality.

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

Table of Contents

- 1.0 Introduction
- 2.0 Scope, Objectives, and Rules
  - 2.1 Scope
  - 2.2 Hatch Nuclear Plant Objectives
  - 2.3 State of Georgia and EPZ County Objectives
  - 2.4 Rules
- 3.0 Scenario
  - 3.1 Narrative Summary
  - 3.2 Timeline
- 4.0 Controller Messages
- 5.0 Plant Parameters
- 6.0 Meteorological Parameters
  - 6.1 Meteorological Timeline
  - 6.2 Meteorological Messages
- 7.0 Radiological Data
  - 7.1 Unit 2 Radiochemistry Data
    - 7.1.1 Reactor Coolant System Radiochemistry Data
    - 7.1.2 Suppression Pool (Torus) Water Radiochemistry Data
    - 7.1.3 Suppression Pool (Torus) Atmosphere Radiochemistry Data
    - 7.1.4 Primary Containment (Drywell) Atmosphere Radiochemistry Data
    - 7.1.5 Reactor Building Atmosphere Radiochemistry Data
    - 7.1.6 Turbine Building Atmosphere Radiochemistry Data
  - 7.2 Area Radiation Monitor Data
    - 7.2.1 Unit 1 Area Radiation Monitor Data
    - 7.2.2 Unit 2 Area Radiation Monitor Data
  - 7.3 Process Radiation Monitor Data
    - 7.3.1 Unit 1 Process Radiation Monitor Data
    - 7.3.2 Unit 2 Process Radiation Monitor Data
    - 7.3.3 Process Radiation Monitor Flow Data
  - 7.4 In-Plant Survey and Radiological Maps and Data
  - 7.5 Dose Assessment Projection Output
  - 7.6 Field Monitoring Team Survey Maps and Data

## 1.0 INTRODUCTION

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

1.0 INTRODUCTION

Southern Nuclear Operating Company (SNC) plans and conducts emergency preparedness drills and exercises to:

- Assure the health and safety of the general public is protected in the event of an accident at the E. I. Hatch Nuclear Plant (HNP) and
- Meet the requirements of 10 CFR 50, Appendix E.

This scenario has been written to conduct the October 14, 2009 Biennial Evaluated Emergency Preparedness Exercise.

This exercise scenario will be conducted during normal work hours and will involve partial participation by State and local agencies. Their participation will include the activation of Emergency Response Facilities, mobilization of personnel and resources and full communications activities. The Utility participation will include the activation of all utility onsite and offsite Emergency Response Facilities, mobilization of onsite and offsite personnel and resources and full communications network activity.

This exercise will include the elements of a Control Room (Simulator) drill, a communications drill, a radiological monitoring drill, and a Health Physics drill. It will require the activation of the site and corporate Emergency Response Organization.

Exercise participants ("players") will have no prior knowledge of the exercise scenario. The intent of this exercise is to demonstrate that individuals with assigned responsibilities in a radiological emergency are adequately trained to perform in accordance with emergency preparedness plans and procedures.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

1.0 INTRODUCTION

The exercise will be controlled, observed and critiqued by a Controller Organization. This scenario manual has been prepared to provide the Controller Organization the information and data necessary to conduct the exercise in an efficient and coordinated manner. It contains the following scenario sections:

Section 2.0, SCOPE, OBJECTIVES AND RULES;

Describes the exercise scope and objectives and sets forth the guidelines for conducting the exercise to meet those objectives. In addition, the rules for conduct of the exercise are detailed.

Section 3.0, SCENARIO;

Describes the postulated sequence of events that should require the various onsite and offsite emergency response organizations to respond.

Section 4.0, MESSAGES;

Includes information in the form of message sheets that are utilized to control scenario activities. Messages will be used to initiate activities and ensure proper progression of the scenario.

Section 5.0, PLANT PARAMETERS;

The data for this section is to be provided by the plant simulator

Section 6.0, METEOROLOGICAL PARAMETERS;

Contains postulated meteorological information to be used for the scenario.

Section 7.0, RADIOLOGICAL DATA;

Contains time-related information concerning simulated radiological conditions at postulated onsite and offsite monitoring locations. Also included in this section is information concerning primary coolant activity, radiological release data and area radiation monitor readings.

Copies of this manual will be provided to the exercise controllers, evaluators and observers (as appropriate) prior to the exercise.

## 2.0 SCOPE, OBJECTIVES AND RULES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.0 SCOPE, OBJECTIVES AND RULES

This section contains the following information:

Section 2.1 SCOPE

Describes the overall content and intended activities of the exercise. Details the anticipated responses and the emergency facilities to be activated.

Section 2.2 HATCH NUCLEAR PLANT OBJECTIVES

Describes the Hatch Nuclear Plant objectives that will be evaluated for determination of satisfactory performance during the course of the exercise.

Section 2.3 STATE OF GEORGIA AND EPZ COUNTY OBJECTIVES

Describes the State of Georgia and EPZ County objectives that will be evaluated for determination of satisfactory performance during the course of the exercise

Section 2.4 RULES

Describes the rules for Participants, Controllers, Evaluators and Observers, which will be applied to the conduct of the exercise.

## 2.1 SCOPE

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.1 SCOPE

To assure that the health and safety of the general public is protected in the event of an accident at the E. I. Hatch Nuclear Plant (HNP), it is necessary for the Southern Nuclear Operating Company (SNC) to conduct emergency preparedness drills and exercises. This exercise at HNP involves mobilization of onsite personnel and resources to respond to a simulated accident scenario. SNC Corporate emergency responders will also mobilize personnel and resources to respond to the scenario. State and local government's Emergency Management Agencies (EMAs) will partially participate in the exercise.

The Simulator Control Room will be staffed with a normal shift operating crew. They will be performing the actions of the operating crew and running the simulator. They will interface with the ERO and perform initial Control Room ERO actions as the operating crew they have no foreknowledge of the exercise events and their actions will count toward PI participation and performance opportunities.

The onsite Technical Support Center (TSC) and Operations Support Center (OSC), the SNC Emergency Operating Facility (EOF), located at the corporate office, and the Emergency News Center (ENC) , located in Vidalia Ga., will be activated in accordance with simulated conditions and appropriate emergency response procedures. Exercise participants ("players") will not have prior knowledge of the simulated accident events, operational sequence, radiological effluents or weather conditions. Their actions will count toward PI participation and performance opportunities.

In addition, the exercise incorporates the following:

#### Radiological Monitoring Drill

Both onsite and offsite Radiological Emergency Teams (RETs) will be dispatched to obtain radiological measurements and air samples associated with a simulated offsite release of radioactivity and elevated radiation reading onsite. They will communicate these results to the appropriate Emergency Response Facility (ERF). (Field monitoring team protective gear will be simulated in the field.)

#### Health Physics Drill

Involves the response to and analysis of simulated elevated activity airborne or liquid samples, radiation exposure control, emergency dosimeter issuance and the use of protective equipment onsite. (Some in-plant team's protective gear may be simulated in the plant.)

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.1 SCOPE

Communications Drill

Emergency response communications capabilities will be demonstrated. Offsite participation will allow for demonstration of notification capabilities as well as utilization of the Corporate Emergency Operating Facility to support on-site activities and communicate events to the Offsite Agencies, media and the public.

Real-Time Activation and Staff Augmentation

Real-time staffing and activation of the Onsite Emergency Facilities within the guidelines HNP emergency plans and procedures will be demonstrated. Augmented staffing in emergency response positions to support the on-shift operating crew as a result of the emergency will be demonstrated.

The preceding sub-drills are incorporated into the main exercise scenario and will be demonstrated concurrently in the course of the exercise.

The overall intent of the exercise is to demonstrate that the SNC HNP staff assigned responsibilities in an emergency situation are adequately trained to perform in accordance with emergency preparedness plans and procedures.

## 2.2 HATCH NUCLEAR PLANT OBJECTIVES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.2 HATCH NUCLEAR PLANT OBJECTIVES

The E. I. Hatch Nuclear Plant 2009 emergency preparedness exercise objectives are based upon Nuclear Regulatory Commission requirements provided in 10 CFR 50, Appendix E, ***Emergency Planning and Preparedness for Production and Utilization Facilities***. Additional guidance provided in NUREG-0654, FEMA-REP-1, Revision 1, ***Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants***, was utilized in developing the objectives. The following objectives for the exercise are consistent with the aforementioned documents:

A. Accident Assessment and Classification

1. Demonstrate the ability to identify initiating conditions, determine Emergency Action Level (EAL) parameters to correctly and timely classify the emergency throughout the event.
2. Demonstrate the ability to provide core damage assessments.
3. Demonstrate the ability to assess plant conditions to correctly and timely determine the appropriate protective actions.

B. Notification

1. Demonstrate the ability to alert, notify and mobilize appropriate station and corporate emergency response personnel.
2. Demonstrate the ability to accurately and timely notify the State, Local and Federal authorities of the emergency.
3. Demonstrate the ability for accurate and timely notification of protective action recommendations (PARs) to State and Local authorities.
4. Demonstrate the ability to warn or advise onsite individuals (including employees, visitors and contract personnel) of an emergency condition.
5. Demonstrate the capability of the Prompt Notification System for the public to operate properly when required.

C. Emergency Response

1. Demonstrate that an individual is assigned and in charge of the emergency response.
2. Demonstrate the line of succession for the Emergency Director.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.2 HATCH NUCLEAR PLANT OBJECTIVES

3. Demonstrate planning for 24-hour per day emergency response capabilities.
4. Demonstrate the timely activation of the Technical Support Center, Operations Support Center, Emergency Operations Facility and Emergency News Center (ENC)/Corporate Media Center (CMC).
5. Demonstrate the adequacy of the facility, equipment, security provisions and habitability precautions for the OSC, TSC, EOF, ENC, and CMC, as appropriate
6. Demonstrate satisfactory communications ability of all emergency support resources.
7. Demonstrate the capability of the TSC to make timely and effective decisions and to control the TSC response effort.
8. Demonstrate the capability of the OSC to make timely and effective decisions and to control the OSC response effort and response teams.
9. Demonstrate the capability to turn over Emergency Operations Facility (EOF) functions to the EOF staff when the EOF is activated and staffed.

D. Radiological Assessment and Control

1. Demonstrate the gathering of onsite radiological data including collection and analysis of in-plant surveys and samples necessary for emergency response.
2. Demonstrate the gathering of radiological data necessary for environmental response including collection and analysis of field monitoring surveys and samples.
3. Demonstrate onsite facility contamination and area access control.
4. Demonstrate the ability to project doses from available plant instrumentation, as appropriate.
5. Demonstrate the ability to compare dose projections to Protective Action Guidelines (PAGs) and determine the appropriate protective actions.
6. Demonstrate the decision making process for authorizing emergency workers to receive radiation doses in excess of administrative limits, as appropriate..

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.2 HATCH NUCLEAR PLANT OBJECTIVES

7. Demonstrate onsite Protective Action Guides (PAGs) for a select number of personnel, as appropriate.
8. Demonstrate the ability to evacuate onsite personnel (represented by a sample population) to a reception center.
9. Demonstrate the ability for collection and analysis of Post-Accident samples.
10. Demonstrate the use of equipment and procedures for the collection and transportation of samples from areas that receive deposition from the airborne plume. Samples should include soil, vegetation, and water.
11. Demonstrate the adequacy of procedures for monitoring and decontamination of emergency workers.

E. Public Information Program

1. Demonstrate the capability to develop and disseminate clear, accurate and timely information to the news media.
2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion.

F. Evaluation

1. Demonstrate ability to conduct a post-event critique to determine weaknesses and areas for improvement.

## 2.3 STATE OF GEORGIA AND EPZ COUNTY OBJECTIVES

## 2.3 STATE OF GEORGIA AND EPZ COUNTY OBJECTIVES

<b>ELEMENT/Sub-Element</b>	<b>FEOC</b>	<b>SOC</b>	<b>DOSE</b>	<b>ENC</b>	<b>APPLING</b>	<b>JEFF DAVIS</b>	<b>TATTNALL</b>	<b>TOOMBS</b>
<b>1. EMERGENCY OPERATIONS MANAGEMENT</b>								
1.a.1. Mobilization	X	X	X	X	X	X	X	X
1.b.1. Facilities								
1.c.1. Direction and Control	X	X	X		X	X	X	X
1.d.1. Communications Equipment	X	X	X	X	X	X	X	X
1.e.1. Equipment & Supplies to Support Operations	X	X	X	X	X	X	X	X
<b>2. PROTECTIVE ACTION DECISION MAKING</b>								
2.a.1. Emergency Worker Exposure Control	X		X		X	X	X	X
2.b.1. Rad Assessment & PARs Based on Available Information			X					
2.b.2. Rad Assessment and PADs for the General Public	X				X	X	X	X
2.c.1. Protective Action Decisions for Special Populations					X	X	X	X
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			X		X	X	X	X
3.b.1. Implementation of KI Decisions	X		X		X	X	X	X
3.c.1. Implementation of PADs for Special Populations					X (I, S)	X (I, S)	X (I, S)	X (I, S)
3.c.2. Implementation of PADs for Schools					X (I, S)			X (I, S)
3.d.1. Implementation of Traffic and Access Control					X (I, S)	X (I, S)	X (I, S)	X (I, S)
3.d.2. Impediments to Evacuation and Traffic and Access Control					X	X	X	X
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			X(T)					
4.a.2. Plume Phase Field Measurement & Analysis Management			X(T)					
4.a.3. Plume Phase Field Measurements & Analysis Procedures			X(T)					
4.b.1. Post Plume Field Measurement & Analysis								
4.c.1. Laboratory Operations								
<b>5. EMERGENCY NOTIFICATION &amp; PUBLIC INFO</b>								
5.a.1. Activation of Prompt Alert and Notification	X							
5.a.2. Activation of Prompt Alert and Notification 15 Minute (Fast Breaker)								
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification					X (I)	X (I)	X (I)	X (I)
5.b.1. Emergency Info and Instructions for the Public and the Media				X	X	X	X	X
<b>6. SUPPORT OPERATIONS/FACILITIES*</b>								
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees						X		
6.b.1. Monitoring and Decon of Emergency Worker Equipment						X		
6.c.1. Temporary Care of Evacuees						X		
6.d.1. Transport and Treatment of Contaminated Injured Individuals					X			

### 2.3 STATE OF GEORGIA AND EPZ COUNTY OBJECTIVES

Criterion denoted with the letter **(T)** will be demonstrated during training activities, **(I)** will be demonstrated by interview and **(S)** will be simulated. \*Criterion 6a - 6.c will be demonstrated out of sequence on October 15, 2009 in Jeff Davis County. Criterion 6.d.1 Appling County Hospital will be demonstrated August 13, 2009.

## 2.4 RULES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.4 RULES

The following general rules have been established to help delineate the extent of play for participants to meet exercise objectives.

1. The exercise will be conducted October 14, 2009. Participants will not be informed of the scenario sequence or initiating events.
2. The exercise will postulate conditions requiring a declaration of an Alert, and a Site Area Emergency (SAE), and a General Emergency (GE) with Protective Action Recommendations (PARs) being required.
3. Five groups of personnel may be in attendance and will function as described below:
  - A. **PARTICIPANTS**: Managers, supervisors, operators, health physics technicians, maintenance personnel, etc., who are trained and qualified to assume the duties of their emergency response position are known as a "Participant". These persons respond and take the necessary actions to mitigate, terminate, correct and/or recover from the simulated events.
  - B. **MENTORS**: "Participant" who is assigned to respond to their emergency position during a simulated emergency to coach the "Participant" in taking the necessary actions to mitigate, correct, terminate, and/or recover from the simulated events.
  - C. **CONTROLLERS**: Those designated personnel who serve an active role during the exercise by providing scenario data to participants. **CONTROLLERS** also serve to initiate actions (i.e.: contingency messages) in order to assure continuity of the events described in the exercise scenario. **CONTROLLERS** are the only personnel who will provide information to the **PARTICIPANTS**. **CONTROLLERS** will also serve as **EVALUATORS**.
  - D. **EVALUATORS**: Designated personnel that provide documentation and assessment of the exercise activities for the purpose of the internal self-critique. **EVALUATORS** serve a passive function (when not serving as a Controller/Evaluator) and will only note actions taken by **PARTICIPANTS**. These personnel may have specific areas to consider in their evaluation. **EVALUATORS** may ask questions to clarify actions taken or procedural concerns but should not interfere with the flow of events or players actions. **EVALUATORS** may also serve as **CONTROLLERS**.
  - E. **OBSERVERS/ VISITORS**: Personnel who serve no evaluation, control or participatory function in the exercise. They should not interfere with **EVALUATORS** or **PARTICIPANTS**. Questions from **OBSERVERS** should be directed to a **CONTROLLER**.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.4 RULES

Identification of the different groups of personnel in onsite facilities will be accomplished by the use of badges using the following colors:

<b>PARTICIPANTS</b>	Yellow
<b>CONTROLLERS</b>	Red
<b>NRC PARTICIPANTS</b>	Blue
<b>EVALUATORS/MENTORS</b>	Green
<b>EVALUATORS</b>	Orange
<b>OBSERVERS/VISITORS</b>	White

4. Personnel will be assigned as controllers at all functional areas to monitor and control exercise activities. They will also provide data to Internal Radiological Emergency Teams (RET) and Field Monitoring Teams (FMT) and accompany them, as appropriate.
5. Messages may be used to initiate, modify and complete some events comprising the overall scenario. Controllers will use the message forms to initiate scenario events and trigger responses from the involved personnel. Some messages that deal with plant operations activities are used only if the simulator fails to function.
6. Controllers will have access to time-related plant and radiological parameters for the exercise scenario. This information will be issued when necessary or upon request from the appropriate participants.
7. Controllers will **NOT** provide information to the participants regarding scenario development or resolution of problem areas encountered. Participants are expected to obtain information through their organizations and exercise their judgment in determining correct response actions and problem resolution.
8. Scenario data will be provided periodically. Participants should request from the controller's data that they feel is necessary for the performance of their function.
9. The controllers have the authority with the approval from the Exercise Manager to clarify any questions regarding scenario content. It may be necessary to exercise "controller's prerogative" of countermanding participant actions to preserve the continuity and objectives of the exercise. Participants must accept the controller's word as final and proceed.
10. Scenario events are hypothetical. Any portions of the scenario depicting plant system operational transients are simulated events. **NO** scenario actions shall involve operation of plant systems except Post Accident Sampling System (PASS) operation. To help delineate such actions, all exercise scenario messages must be preceded and followed by the words: "**THIS IS A DRILL**"!

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.4 RULES

11. SNC onsite and offsite emergency response facilities will be manned and perform their prescribed functions as appropriate to the development of the exercise scenario.
12. Participation of SNC onsite personnel directly involved in responding to an emergency should be carried out to the extent necessary to meet the scope and objectives, including the deployment of radiological monitoring teams, emergency repair/damage control teams and other emergency workers. All actions are to be played out, as much as possible, in accordance with the emergency plan and procedures as if it were an actual emergency. Actions should be identified to the controller for guidance as to whether to play them out or simulate them.
13. Certain events and activities may be simulated rather than utilize the actual deployment of the resources.
  - Simulation - Involves the identification and utilization of requirements and procedures short of actual deployment.
  - Actual - Involves the movement of resources and/or physical implementation for this exercise.
14. Exercise participants, controllers, evaluators and observers should **NOT** take any action that would preclude maintaining emergency readiness of the organization and community. If an actual situation occurs that requires a group to terminate its participation in the exercise, they should notify the Exercise Manager. All messages concerning actual events must be preceded with "**THIS IS NOT, I REPEAT, NOT A DRILL MESSAGE**". In the event of an actual situation during the exercise or other unforeseen contingencies, contact the:

**Exercise Manager - John C. Lewis**

15. Communications between all exercise participants shall occur in accordance with the procedures of applicable emergency response plans. All communications, including initial telephone conversations, radio transmittals and loudspeaker announcements must begin and end with "**THIS IS A DRILL**", particularly in the public relations area!
16. Intentional violation of laws is **NOT** permitted during the exercise. Participants, controllers, evaluators and observers should comply with all federal, state and local legal restrictions. All local traffic laws, specifically speed limits, shall be observed.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

2.4 RULES

17. Exercise participants, controllers, evaluators and observers should avoid the endangering of public and private property.
18. At the appropriate point in the exercise scenario, the Exercise Manager will initiate termination of the scenario. The Exercise Manager will ensure notification of offsite points of contact to advise them that the exercise is terminated.
19. All exercise participants will be encouraged to take part in a critique session in their emergency response facility immediately upon termination of exercise activities.
20. Controller/Evaluators and Key Participants (supervisory level positions as a minimum) will meet for a combined exercise critique following the exercise.
21. All Controller/Evaluators should return their evaluation materials and comments to the Emergency Preparedness Coordinator in the Simulator Building no later than the close of business the day following the exercise.

## 3.0 SCENARIO

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.0 SCENARIO

This section contains the following information:

Section 3.1 EXERCISE NARRATIVE SUMMARY

Describes in detail activities and events which occur during the Exercise scenario along with appropriate and anticipated corrective actions.

Section 3.2 EXERCISE SCENARIO TIMELINE

Provides a relationship between Exercise scenario events, real time and scenario time.

## 3.1 EXERCISE NARRATIVE SUMMARY

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.1 EXERCISE NARRATIVE SUMMARY

Initial conditions establish Unit 1 operating at 100% rated thermal power early in core life. Power history has been full power operation for the last 172 days. Unit 2 is operating at 100% rated thermal power, late in core life.

Power history has been full power operation for the last 328 days. Emergency Diesel Generator (EDG) 2C (2R43-S001C) is tagged out of service to replace the air start solenoid using procedure 52PM-MEL-013-0 and is in day 2 of a 72 hour Required Action Statement (RAS). The work plan has the 2C EDG work completing at approximately 2:00 p.m. today then turning over to Operations for clearance removal and testing.

After the Simulator Control Room (SCR) Operating Crew assumes shift, the Crew receives an annunciators indicating a trip of 2C Plant Service Water (PSW) pump. A phone call is received from security that a tractor trailer truck's parking brakes failed causing it to roll down the hill from the Demineralizer Building Area and crashed into the South side of Intake Structure. Security reports that the vehicle was unoccupied at the time of the accident. The SCR Operating Crew enters the Annunciator Response Procedures (ARP) and Abnormal Operating Procedures (AOP) attempts to restore the PSW 2C pump.

The Shift Manager (SM) assumes Emergency Director (ED) duties and declares an **Alert** at this time in accordance with procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **HA1** Natural and Destructive Phenomena Affecting the PROTECTED AREA., **Threshold Value 3**, Vehicle crash within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to any of the following plant structures or equipment therein **OR** Control Room indication of degraded performance of systems required for safe shutdown of the plant: Intake Structure.

The Simulator Operating Crew will enter the Emergency Implementing Procedures (EIPs) and perform initial emergency response actions including offsite notifications to Federal, State and Local agencies, Public Address announcements to initiate actions of onsite emergency responders, and activation of the HNP Autodialer system to initiate on-shift staff augmentation. Emergency responders will begin to report to their emergency response facilities and initiate activation and emergency response procedures. Personnel without unescorted access will be escorted to the Plant Entry and Security Building (PESB) to exit the Protected Area. Security will initiate the Owner Controlled Area (OCA) notifications and Protected Area accountability procedures.

The Operations Support Center (OSC) and Technical Support Center (TSC) will activate and begin assisting the SCR with assessment of plant conditions and development of mitigation plans. The ED duties will transfer to a management ED in the TSC. The Offsite Notifications and Dose Assessment activities will also transfer to the TSC Staff. The Southern Nuclear Company (SNC) Emergency Operating Facility (EOF) in the Southern Nuclear Company (SNC) headquarters in Birmingham Alabama will activate

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.1 EXERCISE NARRATIVE SUMMARY

and prepare to support offsite notifications, dose assessment activities, and news writing duties. The Emergency News Center (ENC) in Vidalia Georgia will begin activation and initiate public information duties.

After the SCR Operating Crew has addressed the loss of the 2 C PSW Pump, the 2 A Circulating Water Pump trips. The loss of vacuum causes a Main Turbine trip and a trip of both Reactor Feed Pump Turbines (RFPTs) initiating a Reactor Scram. During the Reactor Scram an Anticipated Transient Without Scram (ATWS) occurs from flow blockage at the Scram Discharge Volume. The Operating Crew will respond to the ATWS using the EOPs and AOPs. The EOPs require manual insertion of the Control Rods and injection of Standby Liquid Control (SBLC) to reduce reactor power. An un-isolable Reactor Water Clean-Up (RWCU) System line break occurs in the Drywell during the reactor scram. Drywell pressure and temperature will rise until a Loss of Coolant Accident (LOCA) signal is received causing a Group 2 isolation signal.

The Emergency Director declares a **Site Area Emergency (SAE)** in accordance with procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **SS2.**, Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded **AND** Manual Scram Was **NOT** Successful due to the ATWS.

Mandatory site evacuation of non-essential plant personnel and accountability are performed, if an early dismissal has not previously taken place. The Reactor Building will be evacuated. The ED may transfer offsite notification and dose assessment activities to the EOF. The EOF and TSC Staff will perform required emergency response actions including offsite notifications to Federal, State and Local authorities and public address announcements. The EOF Dose Assessment Staff or TSC HP/Chem Staff will dispatch the initial Field Monitoring Team (FMT) if not already dispatched, perform dose assessment activities, and evaluate onsite protective action recommendations.

The Reactor Core Isolation Cooling (RCIC) steam supply line breaks in the Unit 2 Reactor Building 130' elevation steam chase causing secondary containment temperatures to increase resulting in a group 1 isolation signal. RCIC steam supply pressure decreases to zero due to the break size. The Emergency Response Organization (ERO) will monitor secondary containment temperatures (T), delta T, and radiation conditions. An emergency depressurization of the reactor will be required prior to two area temperature or delta Ts exceeding max safe temperature.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.1 EXERCISE NARRATIVE SUMMARY

The Technical Support Center (TSC) will assist the SCR Operating Crews with assessment of plant conditions and mitigation plans by dispatching OSC teams to evaluate plant conditions and address plant problems identified and return the EDG 2C to service.. The ERO will attempt to isolate RCIC and insert control rods until the reactor is brought to a “cold” shutdown condition.

The localized overheating from the ATWS and stuck Control Rods causes some minor fuel damage and gas gap activity is released to the Drywell and Reactor Building. The radioactivity levels in the Reactor Building continue to increase providing additional indications of the break and minor core damage. The TSC will dispatch OSC teams to evaluate the break and attempt to repair the isolation valves to stop the leak outside secondary containment. HP teams will be sent to evaluate and monitor radiation levels in the Reactor Building. The Main Stack Normal Range Monitors increase until a procedurally defined release is underway.

The Drywell Wide Range Radiation Monitor (DWRRM) and ARMs increase more rapidly. The EOF Dose Assessment Staff or TSC HP/Chem Staff will perform projections to evaluate the release using Isotopic Mix 3 – Gap Release Filtered. The offsite dose projections continue to increase and data gathered by the FMTs find elevated radiation levels offsite. The DWRRM and Reactor Coolant sample activity increase to a level exceeding the threshold values for indicating core damage has occurred.

The ED declares a **General Emergency (GE)** based on 73EP-EIP-001-0 Initiating Condition **FG1** - Loss or Potential Loss of ANY Two Barriers and Loss of Potential Loss of the third barrier (Threshold Values - Fuel Clad Barrier Loss 3 Drywell Radiation Monitoring (DWRRM > 7000 R/Hr), RSC Barrier Potential Loss 3 RCS Leak Rate (Unisolable primary system leakage outside drywell as indicated by Secondary Containment operating temperatures or radiation levels above Max. Normal Operating Values (SC - Secondary Containment Control Flowchart – Table 4 & Table 6)), Containment Barrier - Loss 3 Containment Isolation Failure or Bypass (Failure of both RCIC Isolation valves to close **AND** downstream breach outside Primary Containment exists). The EOF Dose Assessment Staff or TSC HP/Chem Staff will evaluate plant conditions and the dose projections to develop the Protective Action Recommendation (PAR) and recommend PAR 2 to State and Local authorities. The EOF and TSC Staff will perform required emergency response actions including offsite notifications to Federal, State and Local authorities and public address announcements.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.1 EXERCISE NARRATIVE SUMMARY

The dose projection from effluent monitors and field teams readings continue to increase until they exceed the Environmental Protection Agency (EPA) Protective Action Guidelines (PAGs). The EOF Dose Assessment Staff or TSC HP/Chem Staff will evaluate the dose projections to develop additional Protective Action Recommendations (PARs) and recommend PAR 3 to State and Local authorities. The EOF and TSC Staff will perform required offsite notifications to Federal, State and Local authorities.

The Emergency Response Organization will continue to assess plant and radiological conditions and attempt to restore primary and/or secondary containment integrity. Field monitoring teams and the EOF Dose Assessment Staff or TSC HP/Chem Staff continue to evaluate the release until the exercise is terminated.

## 3.2 EXERCISE TIMELINE

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.2 EXERCISE TIMELINE

**TIME**      **EVENT**

**0730**

**Initial Conditions:**

Initial conditions establish Unit 1 operating at 100% rated thermal power early in core life. Power history has been full power operation for the last 172 days.

Unit 2 operating at 100% rated thermal power, in late core life. Power history has been full power operation for the last 328 days.

**Equipment Out-of-Service (OOS):**

The following equipment is out-of-service:

Unit 2 C Emergency Diesel Generator (EDG) tagged out to replace the air start solenoid using procedure 52PM-MEL-013-0. A 72 hr Required Action Statement (RAS) has been written.

The work plan has the EDG work completing at approximately 2:00 p.m. today then turning over to Operations for clearance removal and testing.

**Radiological:**

Normal

Simulator Control Room (SCR) Operating Crew receives shift turnover briefing.

**0800**      SCR Operating Crew takes the shift.

**0810**      The Crew receives an annunciator indicating a trip of 2C Plant Service Water (PSW) pump.

The Crew receives a phone call from a Security Officer reporting that a Semi-Truck has rolled down the hill from the Demineralizer Building Area and crashed into the Intake Structure.

**0815**      The SCR Operating Crew enters the Annunciator Response Procedures (ARP) and Abnormal Operating Procedures (AOP) to attempt to restore the PSW 2C pump.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.2 EXERCISE TIMELINE

<u>TIME</u>	<u>EVENT</u>
≅ 0825	The Shift Manager (SM) assumes Emergency Director (ED) duties and declares an <b>Alert</b> at this time in accordance with procedure 73EP-EIP-001-0, <i>Emergency Classification and Initial Actions</i> , Initiating Condition <b>HA1</b> Natural and Destructive Phenomena Affecting the PROTECTED AREA., <b>Threshold Value 3</b> Vehicle crash within PROTECTED AREA boundary resulting in <b>VISIBLE DAMAGE</b> to any of the following plant structures or equipment therein <b>OR</b> Control Room indication of degraded performance of systems required for safe shutdown of the plant: Intake Structure.
0830	The Simulator Operating Crew will enter the Emergency Implementing Procedures (EIPs) and perform initial emergency response actions including offsite notifications to Federal, State and Local agencies, Public Address announcements to initiate actions of onsite emergency responders, and activation of the HNP Autodialer system to initiate on-shift staff augmentation.
0835	Onsite Emergency responders will begin to report to their emergency response facilities and initiate activation and emergency response procedures. Personnel without unescorted access are escorted to the Plant Entry and Security Building (PESB) to exit the Protected Area (PA). Security initiates the OCA Notifications and PA accountability program.
≅ 0855	The Operations Support Center (OSC), Technical Support Center (TSC), and SNC Emergency Operations Facility (EOF) will activate and begin assisting the SCR with assessment of plant conditions and development of mitigation plans.
	The Emergency News Center (ENC) in Vidalia Georgia will activate and initiate public information duties. Note - Due to time constraints of the exercise, the ENC Staff will be pre-staged in Vidalia, GA and respond when contacted.
	The ED duties will transfer to a management ED in the TSC. Offsite Notifications and Dose Assessment activities will also transfer to the TSC.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.2 EXERCISE TIMELINE

**TIME**      **EVENT**

**0930**

The 2 A Circulating Water Pump trips. The loss of vacuum causes a Main Turbine trip and a trip of both Reactor Feed Pump Turbines (RFPTs) initiating a Reactor Scram. During the Reactor Scram an Anticipated Transient Without Scram (ATWS) occurs from flow blockage at the Scram Discharge Volume.

The Operating Crew will respond to the ATWS using the EOPs and AOPs. The EOPs require manual insertion of the Control Rods and injection of Standby Liquid Control (SBLC) to reduce reactor power.

An un-isolable Reactor Water Clean-Up (RWCU) System line break occurs in the Drywell during the reactor scram. Drywell pressure and temperature will rise until a Loss of Coolant Accident (LOCA) signal is received causing a Group 2 isolation signal.

**0945**

The Emergency Director declares a **Site Area Emergency (SAE)** in accordance with procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **SS2.**, Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded **AND** Manual Scram Was **NOT** Successful due to the ATWS.

**0950**

Mandatory site evacuation of non-essential plant personnel and accountability are performed, if an early dismissal has not previously taken place.

The EOF and TSC Staff will perform required emergency response actions including offsite notifications to Federal, State and Local authorities and public address announcements.

The ED may transfer offsite notification and dose assessment activities to the EOF. The EOF Dose Assessment Staff or TSC HP/Chem Staff will dispatch the initial Field Monitoring Team (FMT) if not already dispatched, perform dose assessment activities, and evaluate onsite protective action recommendations.

≅ **1000**

The localized overheating from the ATWS and stuck Control Rods causes some minor fuel damage and gas gap activity to be released into the Drywell.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.2 EXERCISE TIMELINE

<u>TIME</u>	<u>EVENT</u>
1015	The Reactor Core Isolation Cooling (RCIC) steam supply line breaks in the steam chase causing secondary containment temperatures and delta T to increase resulting in a group 1 isolation signal. RCIC steam supply pressure decreases to zero due to the break size.
1015 +	The Main Stack Normal Range Monitors increase until MIDAS dose projections performed after 1015 result in a procedurally defined release being declared.
1020	<p>The Emergency Response Organization (ERO) will monitor secondary containment temperatures (T), delta T, and radiation conditions. An emergency depressurization of the reactor will be required prior to two area temperature or delta Ts exceeding max safe temperature.</p> <p>The radioactivity levels in the Reactor Building continue to increase providing additional indications of the break and containment H<sub>2</sub> &amp; O<sub>2</sub> concentrations increase indicating minor core damage. The Reactor Building will be evacuated.</p>
1025	<p>The Technical Support Center (TSC) will assist the SCR Operating Crews with assessment of plant conditions and mitigation plans by dispatching OSC teams to evaluate plant conditions and address plant problems identified and return the DG 2C to service. The ERO will evaluate the RCIC break and attempt to repair the isolation valves to stop the leak outside secondary containment and insert control rods until the reactor is brought to a “cold” shutdown condition.</p> <p>The Drywell Wide Range Radiation Monitor (DWRRM) and Area Radiation Monitors (ARMs) increase more rapidly.</p>
1030 +	The EOF Dose Assessment Staff or TSC HP/Chem Staff will perform projections to evaluate the release using Isotopic Mix 3 – Gap Release Filtered. The offsite dose projections continue to increase and data gathered by the FMTs find elevated radiation levels offsite. Drywell and Post-LOCA monitors rapidly increase until the Drywell Wide Range Radiation Monitor (DWRRM) exceeds 7000 R/Hr. This value exceeds the EAL Threshold Value on the Fission Product Barrier Chart indicating actual core damage is present. Reactor Coolant sample activity increase to a level exceeding the threshold values for indicating core damage has occurred.

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

3.2 EXERCISE TIMELINE

<u>TIME</u>	<u>EVENT</u>
1045	<p>The ED declares a <b>General Emergency (GE)</b> based on 73EP-EIP-001-0 Initiating Condition <b>FG1</b> - Loss or Potential Loss of ANY Two Barriers and Loss or Potential Loss of the third barrier.</p> <ul style="list-style-type: none"><li>• <u>Threshold Values - Fuel Clad Barrier Loss 3</u> Drywell Radiation Monitoring (DWRRM &gt; 7000 R/Hr),</li><li>• <u>RSC Barrier Potential Loss 3</u> RCS Leak Rate (Unisolable primary system leakage outside drywell as indicated by Secondary Containment operating temperatures or radiation levels above Max. Normal Operating Values (SC - Secondary Containment Control Flowchart – Table 4 &amp; Table 6)),</li><li>• <u>Containment Barrier - Loss 3</u> Containment Isolation Failure or Bypass (Failure of both RCIC Isolation valves to close <b>AND</b> downstream breach outside Primary Containment exists).</li></ul>
1100	<p>The EOF Dose Assessment Staff or TSC HP/Chem Staff will evaluate plant conditions and the dose projections to develop the Protective Action Recommendation (PAR) and recommend PAR 2 to State and Local authorities. The EOF and TSC Staff will perform required emergency response actions including offsite notifications to Federal, State and Local authorities and public address announcements.</p>
1145	<p>The dose projection from effluent monitors and field teams readings continue to increase until they exceed the Environmental Protection Agency (EPA) Protective Action Guidelines (PAGs). The EOF Dose Assessment Staff or TSC HP/Chem Staff will evaluate the dose projections to develop additional Protective Action Recommendations (PARs) and recommend PAR 3 to State and Local authorities. The EOF and TSC Staff will perform required offsite notifications to Federal, State and Local authorities.</p>
1200 +	<p>The Emergency Response Organization will continue to assess plant and radiological conditions and attempt to restore primary and/or secondary containment integrity. Field monitoring teams and the EOF Dose Assessment Staff or TSC HP/Chem Staff continue to evaluate the release.</p>
12:30 +	<p>The exercise is terminated when all objectives have been demonstrated.</p>

## 4.0 CONTROLLER MESSAGES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

4.0 CONTROLLER MESSAGES

This section the following information:

Section 4.1 Exercise Controller Messages

This section contains messages which are used to control the scenario.

## 4.1 CONTROLLER MESSAGES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: All Participants

Number: **P - 001**

From: All Lead Controllers

Time: 0730 (approx.)

---

---

**THIS IS A DRILL**

---

---

---

---

**DO NOT** initiate actions affecting normal plant operations

---

---

**Initial Conditions:**

Initial conditions establish Unit 1 operating at 100% rated thermal power early in core life. Power history has been full power operation for the last 172 days.

Unit 2 operating at 100% rated thermal power, in late core life. Power history has been full power operation for the last 328 days.

**Equipment Out-of-Service (OOS):**

The following equipment is out-of-service:

Unit 2 C Emergency Diesel Generator (EDG) tagged out to replace the air start solenoid using procedure 52PM-MEL-013-0. A 72 hr Required Action Statement (RAS) has been written.

The work plan has the EDG work completing at approximately 2:00 p.m. today then turning over to Operations for clearance removal and testing.

**Radiological:**

Normal

**Meteorological:**

Winds are light out of the South Southwest at 4-7 MPH. Temperature is 62° F with an anticipated high in the mid eighties. Chance of rain is 20% for the late afternoon.

---

---

**THIS IS A DRILL**

---

---

Message: **DO NOT** initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Shift Manager or Shift Supervisor

Number: C - 001

From: SCR Lead Controller

Time: 0830 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Controller Note:**

**CONTINGENCY MESSAGE**

**THIS MESSAGE IS TO BE DELIVERED ONLY WITH THE  
APPROVAL OF THE SIMULATOR LEAD CONTROLLER**

**Message:**

If the Operating Crew decides to Scram the Reactor using conservative decision making before 0930 a.m.; notify the Unit 2 SS and SM that scrambling the Reactor may be appropriate but continue to operate.

The exercise timeline require the continued operation of the reactor at this time.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: U2 Shift Supervisor or Shift Manager  
**002**

Number: **P -**

From: Security Guard (Simulator Controller)

Time: 0815 (approx.)

---

---

**THIS IS A DRILL**

**DO NOT** initiate actions affecting normal plant operations

---

---

**Message:**

A Semi-Truck has rolled down the hill from the Demineralizer Building Area and crashed into the Intake Structure.

The driver was not in the truck when it rolled down the hill.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: **DO NOT** initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Emergency Director/SM

Number: **C - 002**

From: CR Lead Controller

Time: 0830 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Controller Note:**

**CONTINGENCY MESSAGE**

**THIS MESSAGE IS TO BE DELIVERED ONLY WITH THE  
APPROVAL OF THE EXERCISE MANAGER**

**Message:**

Declare an **ALERT** at this time in accordance with procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **HA1** Natural and Destructive Phenomena Affecting the PROTECTED AREA., **Threshold Value 3**, Vehicle crash within PROTECTED AREA boundary resulting in **VISIBLE DAMAGE** to any of the following plant structures or equipment therein **OR** Control Room indication of degraded performance of systems required for safe shutdown of the plant: Intake Structure.

The conditions required to meet this classification are expected to be present at 08:15 a.m.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: ENS Communicators (CR/TSC)

Number: **SP - 001**

From: CR, EOF or TSC Controller

Time: 08:25 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

For the purposes of this exercise the NRC Operations Center is **NOT** participating as an exercise player, Notifications to the NRC via ENS should be directed to the following numbers.

**Phone Number - 1-301-816-5100**

**Fax Number - to be provided before the exercise date.**

The number you are calling is the actual NRC Operations Center. You should ask to be added to the Plant Hatch Exercise ENS Conference Bridge. An exercise player cell has been established on this bridge that will simulate NRC interfaces.

**Controller Note:**

This message is to be delivered for NRC Operations Center contact and will be used for the duration of the Exercise.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Reactor Operator (Prompt Dose Assessment)

Number: **P - 003**

From: CR Controller

Time: 0830 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

For the purposes of this drill, the following Unit 1 annunciators have the indicated status:

Unit I Reactor Building Vent Stack annunciators:

<u>Annunciator</u>	<u>Panel Number</u>	<u>Status</u>
RX BLDG VENT SAMPLE FLOW HIGH/LOW	1H11-P601-4	Normal
REFUELING FLOOR VENT EXHAUST RADIATION HI-HI	1H11-P601-4	Normal
RX BLDG STACK RADN MON HIGH-HIGH	1H11-P603-2	Normal
RX BLDG STACK RADN MON HI	1H11-P603-2	Normal

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

To: Repair Team Leader (2C EDG) Number: **P-004**

From: Repair Team Controller

Time: 0830 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

Unit 2 C Emergency Diesel Generator (EDG) is tagged out to replace the air start solenoid using procedure 52PM-MEL-013-0. A 72 hr Required Action Statement (RAS) has been written. The Clearance was worked on Nightshift and we are 4 hours into the RAS.

The work plan has the EDG work completing at approximately 2:00 p.m. this afternoon then turning over to Operations for clearance removal and testing.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SOS – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Repair Team Leader (2P41-C001C)

Number: P - 005

From: Repair Team Controller

Time: 08:30 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

The anchors for the Plant Service Water Pump (PSW) 2C Surge Pack on the inside of the South wall have broken and causes the surge pack to short to ground tripping the breaker.

**Controller Note:**

Provide the above information only to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Repair Team Leader (Intake Structure)

Number: P - 006

From: Repair Team Controller

Time: 08:30 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

Semi-Truck and Trailer has impacted the South wall of the Intake Building. Damage is visible to the outer structure. The truck is blocking the door on the South East corner is blocked by the truck.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Emergency Director

Number: **C - 003**

From: TSC/EOF Lead Controller

Time: 0945 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Controller Note:**

**CONTINGENCY MESSAGE**

**THIS MESSAGE IS TO BE DELIVERED ONLY WITH THE  
APPROVAL OF THE EXERCISE MANAGER**

**Message:**

Declare a **SITE AREA EMERGENCY** at this time in accordance with Procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **SS2**.,.

The conditions required to meet this classification (Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded **AND** Manual Scram Was **NOT** Successful) are expected to be present at  $\cong$  9:30 a.m.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Repair Team Leader (2N71-C001B)

Number: P - 007

From: Repair Team Controller

Time: 09:50 (approx.)

---

---

**THIS IS A DRILL**

**DO NOT** initiate actions affecting normal plant operations

---

---

**Message:**

The pump shaft is discolored and extremely hot to the touch. Breaker has tripped.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

**CONTROLLER MESSAGE**

---

---

**THIS IS A DRILL**

Message: **DO NOT** initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

To: Repair Team Leader (CRD Failure)

Number: P - 008

From: Repair Team Controller

Time: 09:50 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

The Scram Discharge Volume High Volume and Not Drained annunciators are in alarm.

**Controller Note:**

Provide the above information only to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

**CONTROLLER MESSAGE**

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

To: Repair Team Leader (2E21-C001A)

Number: P - 009

From: Repair Team Controller

Time: 09:50 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

The motor is hot to the touch, if checked the motor has a short to ground. The overcurrent relay has energized.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: RO Making PA Announcements (CR/TSC)

Number: **SP - 002**

From: CR or TSC Controller

Time: 10:30 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

Make the following special PA announcement after accountability has been performed:

“All personnel participating in the protected area evacuation for the exercise may now return to the normal work locations.”

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Repair Team Leader (2E51-F007/8)

Number: **P – 010**

From: Repair Team Controller

Time: 10:45 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message**

**2E51-F007** (Inboard Isolation Valve)

The RCIC valves cannot be operated remotely. No problems are apparent from outside the drywell or with the electrical supply.

**Controller Note:** The Valve has failed to completely close due to mechanical binding.

**2E51-F008** (Outboard Isolation Valve)

The RCIC valves cannot be operated remotely. No problems are apparent from outside the Steam Chase or with the electrical supply.

**Controller Note:**

Restoration of this valve to provide a success path to isolating primary containment can be achieved. The valve can be operated locally in the Steam Chase. Contact the Simulator before instructing the player that the valve is closed. The completion of this action should **NOT** be allowed to complete before **1100**.

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Dose Assessment Supervisor  
**003**

Number: **SP –**

From: EOF/TSC Controller

Time: 1045 (approx.)

---

---

**THIS IS A DRILL**

**DO NOT** initiate actions affecting normal plant operations

---

---

**Message:**

Direct the Dose Assessment Supervisor or TSC HP/C Supervisor to review Procedure 73EP-EIP-015-0, Attachment 2 Isotopic Mix Selection Guide

**Note:** The attached "Isotopic Mix Selection Guide" has the information highlighted that should be available for making the decision on which isotopic mix to use. Isotopic Mix 3 - Gap Release Filtered should be selected at this time.

**Controller Note:**

Provide the above information **only** to ERO members as they earn the information by their investigative actions. Do not over-inform them of these conditions, but ensure that they have received sufficient information to assess the situation. Notify the lead Controller in the Simulator before releasing any equipment to the ERO participants.

Contact the Simulator Control Room on the following Plant Extensions:

Controllers – 2730, SM – 150, SS – 151, RO – 152 & 2713, CBO – 2731, & STA – 153.

---

---

**THIS IS A DRILL**

Message: **DO NOT** initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**Indications of Possible Core Damage**<sup>1</sup>

**Indications of Core Damage using Reactor Level**

- Reactor Water Level < -158 for > 3.5 mins. - possible **Gap Release**
- Reactor Water Level < -158 for > 30 mins. - possible **Fuel Melt**

**Indications of Core Damage using Reactor Coolant Analysis**

- Reactor Coolant Activity DEI > 100  $\mu\text{Ci/gm}$  - possible Gap Release or Fuel Melt**
- I-131 concentration > 5  $\mu\text{Ci/gm}$  - possible Gap Release**
- I-131 concentration > 300  $\mu\text{Ci/gm}$  - possible **Fuel Melt**
- Cs-137 concentration > 3  $\mu\text{Ci/gm}$  - possible Gap Release**
- Cs-137 concentration > 30  $\mu\text{Ci/gm}$  - possible **Fuel Melt**

**Indications of Core Damage using Containment Atmosphere Analysis**

- Xe-133 concentration > 10  $\mu\text{Ci/cc}$  - possible Gap Release**
- Xe-133 concentration > 200  $\mu\text{Ci/cc}$  - possible **Fuel Melt**
- Kr-85 concentration > .05  $\mu\text{Ci/cc}$  - possible Gap Release**
- Kr-85 concentration > 1.25  $\mu\text{Ci/cc}$  - possible **Fuel Melt**

**Indications of Core Damage using DBA LOCA instrumentation**

- Measurable Hydrogen present in the Containment - possible Gap Release or Fuel Melt**
- DWRRM > 500 Rem/hr - possible Gap Release**
- DWRRM > 4.8 E + 5 Rem/hr - possible **Fuel Melt**
- Containment Post LOCA Monitor > 138 Rem/hr - possible Gap Release**
- Pretreatment Monitor > 500,000  $\mu\text{Ci/sec}$  - possible **Gap Release**
- Pretreatment Monitor > 100,000  $\mu\text{Ci/sec}$  increase over 30 min. - possible **Gap Release**

**Indications of Core Damage using Reactor or Turbine Bldg. Effluent Monitors**

- Reactor Bldg. Vent Normal Range > 1.0 E+5 cpm or KAMAN Initiated
- Main Stack Normal Range > 1.0 E + 5 cps or KAMAN Initiated**

**Indications of Core Damage using Reactor or Turbine Bldg. Surveys or ARMs**<sup>2</sup>

- Multiple Turbine Building Arms offscale high
- Multiple Reactor Building Arms offscale high**
- High radiation conditions in multiple accessible areas of the Turbine Building
- I-RET Air Samples Indicating Presence of Significant Levels of Iodides or Particulates**

**Indications of Core Damage using Field Monitoring Surveys**<sup>3</sup>

- Field Monitoring Air Samples Indicating Measurable Levels of Iodides or Particulates**
- Field Monitoring dose rates project TEDE or CDE Thyroid exposures approaching the EPA PAGs of 1.0 E + 3 mRem TEDE or 5.0 E + 3 mRem CDE Thyroid**

1. Any indication should be supported by plant conditions which could result in core damage. These include indications of RWL below TAF, significant ATWS, chemical intrusion, or possible mechanical damage to the core. Indications not specifically designated as GAP Release or Fuel Melt can indicate either condition.
2. Use these indications when primary containment breach has occurred and other indications support the potential for core damage being present. Most TB ARMs range is limited to 100 mR/hr and shine from the Drywell can cause ARMs offscale in the Rx Bldg., verify High Radiation level (1000 mR/hr).
3. Field Monitoring information should be based on multiple surveys. Direct readings should be entered into MIDAS to obtain projections before comparing them to PARs.

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: Emergency Director

Number: **C - 004**

From: EOF Lead Controller

Time: 10:45 (approx.)

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Controller Note:**

**CONTINGENCY MESSAGE**

**THIS MESSAGE IS TO BE DELIVERED ONLY WITH THE  
APPROVAL OF THE EXERCISE MANAGER**

**Message:**

Declare a **GENERAL EMERGENCY** at this time in accordance with Procedure 73EP-EIP-001-0, *Emergency Classification and Initial Actions*, Initiating Condition **FG1** - Loss or Potential Loss of ANY Two Barriers and Loss of Potential Loss of the third barrier.

Threshold Values:

- Fuel Clad Barrier Loss 3 Drywell Radiation Monitoring (DWRRM > 7000 R/Hr at  $\cong$  1030),
- RSC Barrier Potential Loss 3 RCS Leak Rate (Unisolable primary system leakage outside drywell as indicated by Secondary Containment operating temperatures or radiation levels above Max. Normal Operating Values (SC - Secondary Containment Control Flowchart – Table 4 & Table 6) at  $\cong$  1015),
- Containment Barrier - Loss 3 Containment Isolation Failure or Bypass (Failure of both RCIC Isolation valves to close **AND** downstream breach outside Primary Containment exists at  $\cong$  1014).

The conditions required to meet this classification are expected to be present for any dose projection performed with data after 10:30 a.m.

**Note:** The ED may declare the GE early based on 73EP-EIP-001-0, Fission Barrier Chart if he judges the radiological conditions represent a potential loss of the Fuel Cladding Barrier.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

**CONTROLLER MESSAGE**

To: ALL PARTICIPANTS

Number: **P – 011**

From: ALL CONTROLLERS

Time: ≅ 1230 +

---

---

**THIS IS A DRILL**

DO NOT initiate actions affecting normal plant operations

---

---

**Message:**

The Emergency Preparedness Exercise is terminated.

Notify all Offsite Participants and send an ENN message terminating the exercise.

Restore all emergency facilities and equipment to a readiness condition.

Collect all logs, data sheets and notification forms and ensure they are given to the facility lead controllers.

Lead Controllers will hold an in-place critique with participants in all facilities.

Facility Managers and Key Participants will ensure that all participants have completed attendance and critique documentation.

A combined facility critique will be held in Room 172 in the Simulator Building at 1330. All Lead Controllers, Facility Managers and Department Managers should attend. If needed, supervision from key areas may attend.

**Controller Note:**

Provide the following above information **only** after the Exercise Manager has approved termination of the exercise.

---

---

**THIS IS A DRILL**

Message: DO NOT initiate actions affecting normal plant operations

---

---

## 5.0 PLANT PARAMETERS

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

5.0 PLANT PARAMETERS

THIS SCENARIO DATA IS PROVIDED BY THE PLANT SIMULATOR.

## 6.0 METEOROLOGICAL PARAMETERS

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.0 METEOROLOGICAL PARAMETERS

This section contains the following information:

Section 6.1 Meteorological Timeline

This section provides a complete summary of the meteorological parameters during the scenario on a 15-minute time basis.

Section 6.2 Meteorological Messages

This section provides a meteorological forecast for the scenario.

Data for this section will be provided by live time computer animated strip chart recorders. Average readings for 15 minute intervals will approximate the data given in the meteorological timeline.

## 6.1 METEOROLOGICAL TIMELINE

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.1 METEOROLOGICAL TIMELINE

TIME:	0700	0715	0730	0745	0800	0815	0830	0845
Wind Direction (from)								
10m elev.	61	61	62	63	63	64	65	65
60m elev.	61	61	62	62	63	64	64	65
100m elev.	61	61	62	62	63	64	64	65
45m.elev.	61	61	62	63	63	64	65	65
Wind Direction Standard Deviation								
10m elev.	16	16	15	15	14	14	15	15
60m elev.	15	15	14	14	15	15	16	16
100m elev.	15	15	14	14	15	15	16	16
45m elev.	16	15	15	14	14	15	15	16
Wind Speed (mph)								
10m elev.	3	3	3	4	4	4	4	4
60m elev.	4	4	4	4	4	4	4	5
100m elev.	5	5	5	4	5	5	5	5
45m elev.	4	3	4	4	4	4	4	4
Temperature (Degrees F)								
10m elev. ambient	61	63	65	67	69	72	73	74
10m elev. ambient (Bkup)	61	62	64	66	68	71	73	74
10m elev. dew point	46	48	50	52	54	57	58	59
60m-10m delta temp.	-1.15	-1.20	-1.20	-1.15	-1.15	-1.15	-1.15	-1.15
100m-10m delta temp.	-2.7	-2.7	-2.7	-2.7	-2.6	-2.6	-2.5	-2.5
45m-10m. delta temp.	-0.95	-1.0	-1.0	-1.05	-1.0	-1.05	-1.05	-1.0
Precipitation (in. since 00:00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stability Class	C	C	C	C	C	C	C	C

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.1 METEOROLOGICAL TIMELINE

TIME:	0900	0915	0930	0945	1000	1015	1030	1045
Wind Direction (from)								
10m elev.	66	67	67	68	68	69	69	69
60m elev.	66	66	67	67	68	69	69	69
100m elev.	66	66	67	68	68	69	69	69
45m.elev.	66	67	67	68	68	69	69	69
Wind Direction Standard Deviation								
10m elev.	16	17	16	16	15	15	15	15
60m elev.	17	17	17	17	16	16	16	16
100m elev.	17	17	17	17	16	16	16	16
45m elev.	17	16	17	16	16	16	16	15
Wind Speed (mph)								
10m elev.	3	3	3	4	4	3	3	3
60m elev.	5	5	5	4	4	4	5	5
100m elev.	6	5	5	5	5	4	4	4
45m elev.	5	4	4	5	5	4	4	4
Temperature (Degrees F)								
10m elev. ambient	76	77	78	79	81	83	83	84
10m elev. ambient (Bkup)	75	77	78	80	81	82	82	83
10m elev. dew point	61	62	63	64	66	68	68	69
10m-60m delta temp.	-1.20	-1.20	-1.25	-1.20	-1.25	-1.25	-1.20	-1.20
100m-10m delta temp.	-2.6	-2.6	-2.6	-2.7	-2.7	-2.7	-2.5	-2.7
45m-10m. delta temp.	-1.0	-1.05	-1.0	-1.05	-1.05	-1.0	-1.05	-1.0
Precipitation (in. since 00:00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stability Class	C	C	C	C	C	C	C	C

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.1 METEOROLOGICAL TIMELINE

TIME:	1100	1115	1130	1145	1200	1215	1230	1245
Wind Direction (from)								
10m elev.	70	70	70	71	71	71	72	72
60m elev.	69	70	70	70	71	71	72	72
100m elev.	69	70	70	70	71	71	72	72
45m.elev.	70	70	70	71	71	71	72	72
Wind Direction Standard Deviation								
10m elev.	15	14	14	14	14	14	15	15
60m elev.	16	15	15	15	15	14	14	14
100m elev.	16	15	15	15	15	14	14	14
45m elev.	15	15	15	15	15	14	14	15
Wind Speed (mph)								
10m elev.	4	3	3	4	3	3	4	4
60m elev.	5	5	5	4	4	4	5	5
100m elev.	5	5	5	5	5	5	5	6
45m elev.	5	4	4	4	4	4	4	4
Temperature (Degrees F)								
10m elev. ambient	84	85	85	85	86	86	86	87
10m elev. ambient (Bkup)	83	83	84	84	85	85	86	86
10m elev. dew point	69	70	70	70	71	71	71	72
10m-60m delta temp.	-1.25	-1.25	-1.20	-1.25	-1.25	-1.20	-1.25	-1.20
100m-10m delta temp.	-2.7	-2.7	-2.6	-2.6	-2.5	-2.5	-2.6	-2.6
45m-10m. delta temp.	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95	-0.95
Precipitation (in. since 00:00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stability Class	C	C	C	C	C	C	C	C

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.1 METEOROLOGICAL TIMELINE

6.2 METEOROLOGICAL MESSAGES

EDWIN I. HATCH NUCLEAR PLANT  
EMERGENCY PREPAREDNESS  
2009 EXERCISE 04

6.1 METEOROLOGICAL TIMELINE

**FORECAST:**

GEORGIA ZONE FORECASTS...UPDATED

NATIONAL WEATHER SERVICE JACKSONVILLE FL

0500 AM OCTOBER 14, 2009

GAZ001>005-011-012-019-020-030-131100-UPDATED

APPLING -JEFF DAVIS-TATTNAL -TOOMBS

INCLUDING THE CITIES OF...BAXLEY...HAZLEHURST...REIDSVILLE...VIDALIA

TODAY...PARTLY CLOUDY WITH A LOW IN THE LOW 60s AND A HIGH IN THE MID 80s. LIGHT SOUTHWESTERLY WINDS WITH LESS THAN A 20 PERCENT CHANCE OF RAIN IN THE EVENING.

CRCOOP

## APPENDIX 5

### RECOMMENDATIONS

#### 1.2 Emergency News Center (ENC)

- Staffing of the ENC by GEMA needs to be re-evaluated based on the decision to field an FEOC or continue to manage operations from the SOC. It was noted that technological enhancements may even support electronic connectivity between the GEMA PIO in the SOC and the SNC staff in the ENC. This could even extend to video connectivity to support media briefings.
- The GEMA PIO requires additional personnel to enable him to perform the myriad of tasks associated with representing the State in the ENC and acting as the State's spokesperson during media briefings.
- The risk Counties should either staff the ENC as called for in plans or the State and Counties should revise emergency information procedures.
- The risk counties should be encouraged to ascertain what information their constituents require during a radiological emergency and detailed message templates should be developed to ensure that this information is disseminated.
- The risk counties have to take a more proactive role in supporting the ENC. County representatives should be able to assist in gathering information and providing updates based upon their county plan awareness and being equipped with county fact books that contain the answers to a preponderance of the questions the media will pose: e.g., population in various zones, school size, school relocation sites, location of reception centers and shelters, etc.
- Although census figures won't be available for some time, indications are that there is a sizeable Hispanic population in the EPZ. Consideration should be given to bi-lingual information flow as a moral obligation vice a regulatory requirement.
- GEMA should work closely with SNC to facilitate the provision of real time video feeds of media briefings to the SOC and risk county EOCs.

#### 2.1.4 Applying County Schools

- Consider placing information in the procedures used by the Radiological Officer and the Director of Transportation concerning the use of group dosimetry for the bus drivers.

#### 2.2.1 Jeff Davis Emergency Operations Center

- During this exercise the Jeff Davis County EMA Director and the County Commissioner placed a very high priority on the safety of the general population in Zones F-10 and G-10, based upon a conservative "worst case" scenario decision based upon a further deterioration of plant conditions. Therefore, they decided to initiate a voluntary evacuation of the two zones, but the EMA Director did not directly coordinate the action with the SEOC or EOCs of the adjoining counties. This inconsistency of evacuation

- actions could have caused confusion on the part of citizens in the affected areas, and have complicated evacuation route planning. It is recommended that, in the future, the EMA Director should immediately contact the SEOC if the leadership of Jeff Davis County decides to modify a PAD.

#### 2.4.4 Toombs County Schools

- The Toombs County REP Plan provided by the State of Georgia [page 19, section V.F.5.b.(3)] states that when directed the students would be transported to the Toombs County High School, however, the Toombs Central Elementary School Evacuation Plan for Nuclear Emergencies states they would be taken to the Toombs County Middle School.
  - The Toombs County EMA should review the school district evacuation plans periodically for continuity with their established plans.
  - The Toombs County School District should provide the EMA with copies of updated district and school emergency plans as changes occur.
- There is no established school protocol telling parents where to go to retrieve their evacuated children, however, the Superintendent stated that the Toombs County Emergency Management Agency would provide information releases to local radio stations with that information. In fact, coordination would occur between the Toombs County EMA and Toombs County Board of Education as specified in The Toombs County REP Plan provided by the State of Georgia [page 19, section V.F.5.b.(5).(b)].
  - iii.
    - A firm protocol for reuniting students evacuated from Toombs Central Elementary School with their parents or guardians should be developed by the School District.
    - This protocol should be shared with parents in writing at least annually, and with the state and county EMA whenever changes occur. The protocol should also coincide with HNP and Toombs County informational brochures as referenced in The Toombs County REP Plan provided by the State of Georgia, page 68, Attachment H, second paragraph section D.