



FEMA

MAR 24 2016

Marc Dapas, Regional Administrator, Region IV
Nuclear Regulatory Commission Harris Tower
1600 East Lamar Boulevard
Arlington, Texas 76011-4511

Dear Mr. Dapas:

Enclosed is a copy of the final report for the October 21, 2015, plume exercise of the off-site radiological emergency response plans and procedures site-specific to the Grand Gulf Nuclear Station (GGNS). The participants included officials from the State of Mississippi, local government elected officials, employees and volunteers from Claiborne, Adams, Copiah, Hinds, and Warren Counties.

Overall, this exercise demonstrated an effective partnership among the State and local governments, volunteers and private organizations. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional responsibility for others. Others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. The excellent cooperation and teamwork of all participants demonstrated the quality of training and preparation.

This report contains the evaluation of the exercise on October 21, 2015, as well as out-of-sequence activities conducted the week of September 28-October 2, 2015, which included: a Medical Services Drill (MSD), traffic control demonstrations, reception center and congregate care demonstrations, and emergency worker and vehicle decontamination demonstrations.

State and local organizations demonstrated the ability to implement their emergency response plans and procedures. Federal evaluators did not identify any level 1 findings (former Deficiencies) or level 2 findings (former Areas Requiring Corrective Action). The identified 2013 ARCA concerning a combination of out-of-calibration survey instruments, an inadequate system to track the current calibration of radiological survey equipment, insufficient training of emergency workers to properly perform source checks of those instruments, and unorganized procedures was successfully resolved. The Federal Emergency Management Agency (FEMA) Region IV staff prepared the enclosed report.

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Based on the results of the October 21, 2015, exercise and FEMA's review of Mississippi's Annual Letters of Certification for 2014, the off-site radiological emergency response plans and preparedness for the State of Mississippi and the affected local jurisdictions site-specific to the GGNS can be implemented, and are adequate to provide reasonable assurance that appropriate measures can be taken off-site to protect the health and safety of the public in the event of a radiological emergency at the site. The Title 44 CFR, Part 350, approval of the off-site radiological emergency response plans and preparedness for the State of Mississippi site-specific to the GGNS, granted on June 23, 1983, will remain in effect.

Should you have questions, please contact the Technical Hazards Branch Chief, Conrad Burnside at 770-220-5486.

Sincerely,



Gracia B. Szczech

Gr Regional Administrator

Enclosure

cc: Ms. Vanessa E. Quinn, REP Branch Chief
Federal Emergency Management Agency Headquarters
Radiological Emergency Preparedness
Branch - NP-TH-RP
1800 South Bell Street, 8th Floor
Arlington, Virginia 20598-3025

✓ NRC Headquarters' Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001



Grand Gulf Nuclear Station Final After Action Report

Exercise Date October 21, 2015

Radiological Emergency Preparedness Program



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Executive Summary

On October 21, 2015, the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Region IV, Radiological Emergency Preparedness (REP) Program staff evaluated a hostile action based (HAB) plume exposure pathway exercise in the emergency planning zones (EPZ) for the Grand Gulf Nuclear Station (GGNS). The evaluation of out of sequence activities conducted during the weeks of September 28 through October 2, 2015 are included in this report. These out-of-sequence (OOS) activities included: a medical services drill, protective actions for reception/congregate care centers, traffic control points (TCP) and emergency worker (EW) and vehicle monitoring and decontamination (EWD).

This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERP) and procedures. The evaluation team conducted this exercise using Homeland Security Exercise and Evaluation Program (HSEEP) methodology. The previous Federal evaluated exercise was conducted on September 10, 2013 with the original qualifying emergency preparedness exercise being conducted in November 4-5, 1981. The GGNS 10 mile EPZ includes the risk counties of Claiborne County, Mississippi and Tensas Parish, Louisiana. FEMA Region IV conducts the REP evaluation of Mississippi and Claiborne County as outlined in this After Action Report (AAR). FEMA Region VI is responsible for the REP evaluation of Louisiana and Tensas Parish and issues a separate AAR.

Officials and representatives from the States of Mississippi and Louisiana along with those state's plume pathway counties and parish participated in the exercise. Federal participation included the Nuclear Regulatory Commission (NRC), Region IV, the FEMA Regions IV and VI, and the Federal Bureau of Investigation (FBI), Mississippi Field Office. The cooperation and teamwork of the participants was evident throughout all phases of the exercise. The States and local organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. Therefore, no Level 1 or Level 2 findings were noted during the exercise.

This REP HAB exercise saw several firsts and it was apparent that a great deal of training and preparation was initiated to effortlessly incorporate these firsts into the exercise. Of note, was the Homeland Security Information Network (HSIN), which provided a dedicated, teleconference-level, face-to-face information sharing platform for situational awareness in real-time. This real-time information sharing greatly enhanced situational awareness for decision makers in making realistic response decisions. Additionally, notification time to multiple responders was reduced to one minute or less as compared to five to ten minutes in previous exercises. The State notification system provided state and county participants near immediate notification time for initial and follow-up notifications.

FEMA acknowledges the remarkable energy of the many individuals who planned, prepared for and participated in this exercise. Their enthusiasm, cooperation and teamwork highlighted their obvious training and preparation for a fruitful investment into public safety.

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Section 1: Exercise Overview

1.1 Exercise Details

Exercise Name

2015 GGNS HAB REP Program Evaluated Exercise

Type of Exercise

Full-Scale Exercise

Exercise Date(s)

October 21, 2015

Locations

See the Extent of Play Agreement (EOPA) in Appendix D for a complete listing of locations.

Sponsors

Mississippi Emergency Management Agency
#1MEMA Drive
Pearl, Mississippi 39208

Grand Gulf Nuclear Station
7003 Bald Hill Road
Port Gibson, Mississippi 39150

Program

DHS/FEMA REP Program

Mission

Response

Scenario Type

HAB REP Exercise

1.2 Exercise Planning Team Leadership

Mr. Gerald McLemore
Mississippi Site Specialist
FEMA Region IV
3003 Chamblee-Tucker
Atlanta, Georgia 30341
770/220-3148
gerald.mclemore@dhs.gov

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Mr. David Huttie
REP Program Manager
Mississippi Emergency Management Agency
#1MEMA Drive
Pearl, Mississippi 39208
601/933-6366
dhuttie@mema.ms.gov

Mr. David Ellis
Emergency Preparedness Manager
Grand Gulf Nuclear Station
7003 Bald Hill Road
Port Gibson, Mississippi 39150
601/437-2489
DELLIS@entergy.com

1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the 2015 GGNS exercise.

State Jurisdictions:

*Mississippi Emergency Management Agency
Mississippi State Department of Health, Division of Radiological Health
Mississippi State Department of Health, State Health Officer
Mississippi Department of Public Safety
Mississippi Department of Transportation
Mississippi Department of Agriculture and Commerce
Mississippi Department of Environmental Quality
Mississippi Department of Finance and Administration
Mississippi Department of Human Services
Mississippi Fire Marshal's Office
Mississippi Association of Public Works
Mississippi Public Utilities Staff
Mississippi Military Department/National Guard
Mississippi Office of Homeland Security
Louisiana Department of Environmental Quality/Radiological Services
Louisiana Department of Environmental Quality Public Information Officer
Louisiana Governor's Office of Homeland Security and Emergency Preparedness*

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Risk Jurisdictions:

*Claiborne County Emergency Management Agency
Claiborne County Board of Supervisors
Claiborne County Public Information Officer
Claiborne County Fire Department
Claiborne County Health Department
Claiborne County Hospital
Claiborne County Public Transportation
Claiborne County Road Department
Claiborne County Schools
Claiborne County Sheriff's Department
Claiborne County Welfare Department
Claiborne County Cooperative Service/Regional Coordinator
Port Gibson Mayor's Office
Port Gibson Police Department
Tensas Parish Office of Homeland Security and Emergency Preparedness &
Public Information Officer*

Support Jurisdictions:

*Adams County Emergency Management Agency
Adams County Department of Human Services
Adams County Department of Health
City of Natchez Police Department
City of Natchez Fire Department
Natchez Regional Hospital
Copolah County Emergency Management Agency
Copolah County Board of Supervisors
Copolah County Department of Transportation
Copolah County Fire Department
Copolah County Health Department
Copolah County Sheriff's Office
Crystal Springs Mayor's Office
Hazlehurst Mayor's Office
Hazlehurst Emergency Medical Services
Hazlehurst Police Department
Hazlehurst School Districts
Hinds County Community College Police Department
Hinds County Emergency Management Agency
Hinds County-Utica Volunteer Fire Department
Hinds County Public Works
Hinds County Public School District
Hinds County Health Department*

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Hinds County Sheriff's Office
Jackson Police Department
Raymond Fire Department
Warren County Emergency Management Agency
Warren County Volunteer Fire Department
Warren County Sheriff's Office
Warren County Department of Human Services
River Region Hospital
Vicksburg Police Department
Vicksburg Fire Department
Vicksburg Fire & Emergency Medical Services

Private Organizations:

Alcorn State University
American Red Cross
Salvation Army
Entergy Incorporated

Federal Agencies:

Nuclear Regulatory Commission, Region IV
Federal Emergency Management Agency, Region IV
Federal Emergency Management Agency, Region VI
Federal Bureau of Investigation, Mississippi Field Office
US Coast Guard, Port Security

Section 2: Exercise Design Summary

2.1 Exercise Purpose and Design

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

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

Formal submission of the RERPs for the GGNS to FEMA Region IV by the State of Mississippi and involved local jurisdictions occurred on May 22, 1981. Formal approval of the RERP was granted by FEMA on June 29, 1983, under 44 CFR 350.

A REP exercise was evaluated on October 21, 2015, and included evaluations of the OOS activities held during the week of September 28 through October 2, 2015, to include a Medical Services Drill (MSD) on September 28, 2015. This HAB scenario exercise was held in accordance with FEMA's policies and guidance as specified by the REP Program Manual (January 2015) and the approved EOPA. The design incorporated exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance.

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2.2 FEMA Exercise Objectives and Core Capabilities

The purpose of this exercise was to assess the level of state and local preparedness in responding to a HAB emergency at the GGNS. This full participation exercise was held in accordance with FEMA's policies and guidance concerning the exercise of state and local RERPs and procedures.

The goal was to validate reasonable assurance; demonstrating that the health and safety of the public can be protected, through successful demonstration of all the Emergency Preparedness Evaluation Areas – elements and sub-elements – that are required to be demonstrated in every exercise, as required by the REP Program Manual (January 2015) and the approved EOPA.

The objectives developed to meet the REP requirements and based on the negotiated EOPA were as follows:

- Objective 1: Demonstrate the ability to direct and control through the State and County's emergency operations centers (SEOC/EOCs) and incident command post (ICP), providing protective action decision-making for State and County emergency workers (EW) and the public through exercise play and discussions of plans and procedures. (*Core Capability- Operational Coordination*)
- Objective 2: Demonstrate the ability to coordinate off-site resources with on-site personnel in case of a hostile action taken against the fixed nuclear facility. (*Core Capability- Operational Coordination*)
- Objective 3: Demonstrate the ability to activate the Prompt Alert and Notification System (PNS) and Emergency Alert System (EAS). (*Core Capability- Operational Coordination and Public Information and Warning*)
- Objective 4: Demonstrate the effectiveness of plans, policies, and procedures in the Joint Information System (JIS) for emergency information communications. (*Core Capability- Public Information and Warning*)
- Objective 5: Demonstrate the ability to physically implement protective actions for State and county EWs and the public through exercise demonstration. (*Core Capabilities- Environmental Response/Safety and Health; Critical Transportation; On-Scene Security and Protection; Mass Care; and Public Health and Medical Services*)
- Objective 6: Validation of the State of Mississippi REPP for the GGNS and the affected risk and host Counties of Claiborne, Adams, Copiah, Hinds and Warren through exercise demonstrations. (*Core Capabilities- Operational Coordination; Public Information and Warning; Environmental Response/Safety and Health;*

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Critical Transportation; On-Scene Security and Protection; Mass Care; and Public Health and Medical Services)

HSEEP Exercise Capabilities:

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from HSEEP Core Capabilities. The core capabilities listed below form the foundation of FEMA Region IV REP Program objectives and observations for this exercise.

- **Operational Coordination:** Is the core capability to establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.
- **Public Information and Warning:** Is the capability to deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.
- **Environmental Response/Health Safety:** Is the capability to ensure the availability of guidance and resources to address all hazards including hazardous materials (HazMat), acts of terrorism, and natural disasters in support of the responder operations and the affected communities.
- **Critical Transportation:** Is the capability to provide transportation, including infrastructure access and accessible transportation services, for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.
- **On-Scene Security and Protection:** Is the capability to ensure a safe and secure environment through law enforcement (LE) and related security and protection operations for people and communities located within affected areas and also for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.
- **Mass Care:** Is the capability to provide life-sustaining services to the affected population with a focus on hydration, feeding and sheltering to those who have the most need as well as support for reunifying families.
- **Public Health and Medical Services:** Is the capability to provide lifesaving medical treatment via emergency medical services and related operations and avoid additional

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disease and injury by providing targeted public health and medical support and products to all people in need within the affected area.

2.3 Scenario Summary

The scenario begins at 0830 with a telephone call from the NRC Operations Center of an Informational Threat involving a hijacked Federal Express Cargo Plane, which is on a heading including GGNS and is less than 45 minutes away. This meets the criteria for an Unusual Event. Contingencies have been included in the scenario to ensure Unusual Event declaration by 0845, with notification to offsite agencies by 0900. The site will be evacuated, licensee emergency responders will staff their alternate facilities, and local LE agencies will start activating the ICP.

At 0850, the NRC reports that there is no communication from the aircraft, the heading and speed remain constant, estimated time to arrival is ~14 minutes, and military fighters have been dispatched to intercept the aircraft. This meets the criteria for an Alert due to a Probable Threat of a Hostile Action (HA1). Contingencies have been included in the scenario to ensure Alert declaration by 0905, with notification to offsite agencies by 0920.

At 0905, the NRC reports that the aircraft is descending and accelerating with an estimated time to arrival of less than five minutes. Fighters are not expected to arrive prior to the aircraft entering plant airspace. The crew will consider this an Imminent Threat and take actions to Safety Control Rod Actuator Mechanism (SCRAM) the reactor and notify Mississippi Emergency Management Agency (MEMA) and Security, who will inform local LE agencies.

At 0909, the aircraft impacts the site on the southwestern side of the Protected Area with several damaged buildings, damaged tanks, damaged electrical busses, damaged Security Bullet Resistant Enclosures, damage to the Protected Area fence, and a large fire on the ground. This meets the criteria for a Site Area Emergency (SAE) for a hostile action occurring in the Protected Area (HS1). (Contingencies have been included in the scenario to ensure SAE declaration by 0924, with notification to offsite agencies by 0939). Military fighter aircraft will remain in the area as coverage against further potential attacks. By 0915, the ICP should be fully operational and will begin to coordinate actions at the site. Priorities should be emergency medical response, firefighting support, and security of the site.

Electrical buss loss from aircraft debris will remove the capability for maintaining reactor water level with circulating water and condensate systems, requiring water level to be maintained by Reactor Core Isolation Cooling (RCIC). At 0930, the RCIC Turbine will trip, resulting in a lowering of the reactor coolant level. The crew will attempt to inject water with High Pressure Core Spray (HPCS), which will fail. If a team is sent out to open the HPCS injection valve, it will be mechanically bound, but able to be manually

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opened approximately 10%, which will be adequate to raise and maintain reactor level. If a team is not sent out, the crew will be required to emergency depressurize the reactor to allow low pressure systems to inject water into the vessel.

By 0940, the ICP and Security should determine it is safe to move people in the plant with escorts. A contingency message was included in the scenario to ensure movement of teams into the plant. The ICP should coordinate bringing offsite fire fighters and medical personnel on site. By 1000, the fire fighters should have the fire under control to allow medical personnel access to recover one dead and one injured Security Officer. The fire should be extinguished within 30 minutes. Security will perform a plant sweep, finding no additional security issues. By 1100, the Joint Information Center (JIC) should have sent out an approved press release. At 1300, the HAB Exercise will be terminated.

HAB Timeline

The timeline was reviewed to ensure that there was adequate time to demonstrate the applicable criteria. The timeline is consistent with a HAB exercise. Per the EOPA, State Area Coordinators, Field Team, and Emergency Operations Facility (EOF) personnel will be prepositioned at or near the designated exercise location. Other State, County, and ICP personnel will respond real-time at their respective exercise locations. Therefore, it is critical that notifications are made to local LE agencies at the Unusual Event declaration to ensure prompt activation. Major events are as follows:

- **~0830 Notification of Unusual Event**
- **~0850 Alert**
- **~0909 Site Area Emergency due to aircraft impact**
- **~0915 ICP activated**
- **~1000 Offsite support personnel onsite**
- **~1300 HAB Exercise termination**

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Section 3: Analysis of Capabilities

3.1 Exercise Evaluation and Results

This section contains the results and findings of the evaluation of all jurisdictions and functional entities that participated in the October 21, 2015 HAB exercise and OOS interviews and demonstrations during September 28 – October 2, 2015 in Mississippi.

Each jurisdiction and functional entity was evaluated based on their demonstration of Capabilities and their equivalent REP criteria as delineated in the FEMA REP Program Manual dated January 2015. Exercise criteria are listed by number and the demonstration status of those criteria are indicated by the use of the following terms:

- M: MET (no Level 1 or Level 2 findings assessed and no unresolved findings from prior exercises)
- 1: Level 1 finding (formerly deficiency) assessed
- 2: Level 2 finding (formerly area requiring corrective action (ARCA)) assessed or an unresolved level 2 finding(s) from a prior exercise
- P: Plan issue
- N: Not demonstrated

3.2 Summary Results of Exercise Evaluation

HSEEP evaluation methodology is an analytical process used to assess the demonstration of specific capabilities during an exercise. A capability provides a means to perform one or more critical tasks under specified conditions and to specific performance standards. The previously described core capabilities form the foundation of the FEMA Region IV REP Program. The core capability summaries below provide an overall combined assessment of the State of Mississippi and local jurisdictions based upon their collective demonstrated performance as it relates to the specific core capability. Each jurisdiction's stand-alone capability summaries are listed in section 3.3 of this report.

As a whole, the targets and critical tasks associated with the core capabilities were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of these activities did not contribute to additional health and/or safety risks for the public or for EW, and they were conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Operational Coordination: This core capability was performed with some challenges, identified at the ICP. Key leadership personnel from different agencies established and maintained a unified and coordinated operational structure which provided effective and responsive direction and control. Critical stakeholders were appropriately integrated in the overall decision making process which enabled protective action recommendations

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(PAR) to be evaluated in a sensible and timely manner. This process included input from relevant critical stakeholders and support personnel taking into account the safety and well-being of the general public, property, business and utility alike. From there, a protective action decision (PAD) was made in a timely manner and without undue delay. The integration of the ICP into coordination and decision discussions was a success, however, communication and coordination with GGNS needed to be improved.

Public Information and Warning: This core capability was performed without challenges. The public information function demonstrated the ability to deliver coordinated, prompt, reliable and actionable information to the whole community through the use of clear, consistent and accessible means. Accurate information and follow on instructions were made with the formulation of news releases and press briefings being jointly reviewed by the SEOC Director and the FBI Special Agent-in-Charge. The PAD not to sound sirens but to issue a news release to advise the public of the ongoing situation demonstrated a willingness to think outside of established protocols and derive a course of action that was best for the general public and EW.

Environmental Response/Health and Safety: This particular core capability was demonstrated across several disciplines to include Dose Assessment, Radiological Monitoring Teams, Emergency Worker Decontamination and Evacuee Monitoring and Decontamination. While some disciplines were evaluated for training only, the disciplines that were evaluated performed this core capability with no challenges.

Critical Transportation: This core capability was performed without challenges and was used to evaluate the protective action for schools. During the interviews school officials demonstrated the knowledge needed to carry out the plans and procedures required to safely relocate or, if directed, to shelter in place the students and staff of their respective schools. As such, the school districts accomplished through these interviews, that protective actions relative to providing transportation for the relocation of endangered schools could be completed in a coordinated and orderly manner. All discussions were based on and in accordance with the multijurisdictional response plans and would be implemented if this were an actual event.

On-Scene Security and Protection: Traffic and access control was partially demonstrated and fully discussed at a designated TCP during OOS activities. The management function was conducted by interview in sequence. At each venue and jurisdiction the scope and level of the TCP was driven by the response that would be needed or expected as the exercise scenario unfolded. The HAB event is in itself an impediment and each venue and jurisdiction demonstrated and/or discussed their specific response for establishing and managing TCPs and the clearing of impediments. This core capability was performed without challenges.

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Mass Care: This core capability was performed without challenges across four host counties. Each county successfully demonstrated the ability to provide shelter services to the affected EPZ population.

Public Health and Medical Services: This core capability was performed without challenges. The capability was demonstrated out of sequence by Warren County Fire and Emergency Medical Services (EMS) and River Regions Hospital. Overall, each entity demonstrated they have the appropriate space, adequate resources and trained personnel to provide transport, communications, monitoring, decontamination and medical treatment to contaminated injured individuals.

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Table 3.2 - Summary of Exercise Evaluation

<p>DATE: 2015-10-21 SITE: Grand Gulf Nuclear Station, MS</p> <p>M: MET, 1: Level 1 Finding, 2: Level 2 Finding, P: Plan Issue, N: Not Demonstrated, Not applicable for the jurisdiction or Not required for this exercise <input type="checkbox"/></p>												
		MEMA	JIS	MSDH/DRH Dose	MSDH/DRH/FT	EOF Dose	Claiborne County	Claiborne ICP	Adams County	Copiah County	Hinds County	Warren County
Emergency Operations Management												
Alert and Mobilization	1a1	M	M	M	M	M	M	M	M	M	M	M
Facilities	1b1	M	M				M	M	M	M	M	M
Direction and Control	1c1	M					M	M	M	M	M	M
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M	M
Equipment and Supplies to Support Operations	1e1	M	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1			M	M	M	M					
Dose Assessment & PARs for the Emergency Event	2b1			M	M	M	M					
PADs for the Emergency Event	2b2	M		M		M	M	M	M			
PADs for the Protection of persons with disabilities and access/functional needs	2c1			M		M	M	M				
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1											
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of Emergency Worker Exposure Control	3a1	M			M		M	M	M	M	M	M
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1						M		M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1						M					
Implementation of Protective Actions for Schools	3c2						M			M		
Implementation of Traffic and Access Control	3d1	M										
Impediments to Traffic and Access Control cleared	3d2	M										

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<p>DATE: 2015-10-21 SITE: Grand Gulf Nuclear Station, MS</p> <p>M: MET, 1: Level 1 Finding, 2: Level 2 Finding, P: Plan Issue, N: Not Demonstrated, Not applicable for the jurisdiction or Not required for this exercise <input type="checkbox"/></p>													
		MEMA	JIS	MSDH/DRH Dose	MSDH/DRH/FT	EOF Dose	Claiborne County	Claiborne ICP	Adams County	Copiah County	Hinds County	Warren County	
Implementation of Ingestion Pathway Decisions	3e1												
Implementation of Ingestion Pathway Decisions	3e2												
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1												
Field Measurement and Analysis													
RESERVED	4a1												
Plume Phase Field Measurement and Analyses Management	4a2				M								
Plume Phase Field Measurement and Analyses Procedures	4a3				M								
Post Plume Phase Field Measurements and Sampling	4b1												
Laboratory Operations	4c1												
Emergency Notification and Public Info													
Activation of the Prompt Alert and Notification System	5a1		M				M	M					
RESERVED	5a2												
Backup Alert and Notification System	5a3												
Activation of the Prompt Alert and Notification System for Exception Areas	5a4												
Emergency Information and Instruction for the Public and the Media	5b1		M				M	M					
Support Operations/Facilities													
Monitoring, Decontamination, and Registration of Evacuees	6a1								M	M	M	M	
Monitoring, Decontamination of EW Equipment and Vehicles	6b1						M						
Temporary Care of Evacuees	6c1								M	M	M	M	
Transportation and Treatment of Contaminated Injured Individuals	6d1											M	

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3.3 Jurisdictional Summary Results of Exercise Evaluation, State Of Mississippi

3.3.1 Mississippi Emergency Management Agency

3.3.1.1 State Emergency Operations Center

Operational Coordination Capability Summary:

MEMA personnel successfully demonstrated the ability to establish and maintain a unified and coordinated operational structure and decision making process that appropriately integrated all critical stakeholders and supported the execution of core capabilities.

MEMA Communications Director used a new automated system to effectively alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. When the initial emergency notification was received from GGNS, via the Emergency Notification Form Notification System (InForm), the Communications Director had an alert message sent out notifying SEOC staff of the situation and the need to report to the facility. The time from receiving the emergency notification to alerting staff was three minutes. The InForm system would automatically authenticate the message and alert the SEOC that a new notification was ready to be retrieved.

The SEOC had multiple communications, including amateur radio operators, and all systems worked throughout the exercise. All Emergency Support Functions (ESF) had access to computers and telephones in the SEOC. Five large monitors were installed in front of the SEOC and could be programmed to display different boards or videos. The SEOC had sufficient equipment, space, backup power, and facilities to support extended operations.

The Operations Director provided excellent direction and control in the MEMA SEOC throughout the exercise. He used his staff to insure all ESFs were kept up-to-date on situational awareness and were proactive on looking at possible additional actions. The SEOC Deputy Director and the FBI Special Agent-in-Charge (Command Group) maintained coordination and communications with the Risk County, Host Counties, the Incident Commander (IC), the State of Louisiana, and Tensas Parish. The Operations Director held frequent SEOC briefings and worked closely with the Communications Director to insure all ESFs were kept informed of Emergency Classification Level (ECL) changes.

Although during the exercise there was no need to issue dosimetry or monitor EW exposure the process was described. A representative from Public Health arrived at the SEOC with a supply of Potassium Iodide (KI) for issue to EWs. The REP Program Manager explained that Public Health brought the KI to the SEOC in preparation for distribution to any EW entering the EPZ. EWs would come to the SEOC and be given

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proper dosimetry, KI, and radiological briefings prior to being dispatched:

Department of Radiological Health (DRH) personnel were stationed in the SEOC and prepared to analyze data and make PARs to the SEOC Deputy Director when necessary. However, during this exercise there was no radiological release, and DRH did not have to run any dose projections. They did explain how they would run their own dose projections and compare them to the utility's projections and then make recommendations to the Deputy Director.

The Operations Director tasked Mississippi Department of Transportation (MDOT) to coordinate with the Federal Aviation Administration (FAA) and United States Coast Guard (USCG) to institute a no-fly zone and close the river after GGNS declared a SAE.

At the SEOC the Deputy Director coordinated a PAD call between the SEOC, Claiborne County, the IC, and the FBI Special Agent-in-Charge where it was decided not to sound the sirens at the SAE to prevent alarming the local residents. Instead, they would issue a press release and conduct a media briefing to notify the general public in Claiborne County. At this time in the exercise, and in accordance with the EOPAs between FEMA Region VI and the utility, scenario activities diverged to accomplish different exercise objectives. The Louisiana jurisdiction of Tensas Parish called and informed Claiborne County of their decision to sound their sirens based upon projected conditions across the Mississippi River.

The Operations Director tasked ESFs to be proactive in tracking reception center (RC) and shelter openings. He discussed with the Salvation Army what their capabilities were to feed evacuees if necessary. When he received notification that a county was moving functional needs people he ensured that Public Health and American Red Cross (ARC) were notified and were prepared to provide assistance.

Throughout the exercise the Operations Director tasked Public Health, Salvation Army, and Logistics to stay proactive on planning for relocating functional needs and opening RCs and shelters. When Adams County announced they were moving functional needs people to another shelter, the Operations Director ensured that Public Health was involved in assisting the move.

The Operations Director received a notification that a tractor trailer collision in Claiborne County would impede a major evacuation route for at least five hours. He immediately met with MDOT and Mississippi Highway Patrol (MHP) and instructed them to start working on either clearing the impediment or re-routing traffic. MHP was working with the IC and Claiborne County to establish TCPs due to the incident at GGNS. MDOT informed the Operations Director that a method to clear a path for evacuees through the impediment had been formulated with assistance from Logistics.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1,

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2.b.2, 3.a.1, 3.d.1, 3.d.2

Public Information and Warning Capability Summary:

The External Affairs Division Director was a key member of the Command Group, a decision-making element of senior staff located adjacent to (and above) the SEOC. An experienced Public Information Officer (PIO), he provided valuable advice to the Command Group on issues related to the alert and notification to the public. Acting on the consensus decision of this element, which included input from the ICP, Claiborne County leadership, the Mississippi Emergency Management Director (EMD) and representatives from the FBI, which concurred with the consensus that primary alert and notification via sirens and EAS in Mississippi was detrimental to LE efforts. The effectiveness of this decision was slightly diminished by the lack of coordination from Louisiana officials in their uncoordinated decision to sound sirens for Tensas Parish. He also concurred with the consensus to close airspace, rail, and waterway traffic, and ensured proper notifications were made to facilitate those actions.

The External Affairs Division Director also served as the State's primary approval authority for press releases, and as the primary spokesperson for public information at media briefings. Successful demonstration of these responsibilities was made possible by the recent colocation of the JIC within the SEOC complex. Details of both public information products and media briefings are included within the JIC jurisdictional summary.

For this capability the following REP criteria were MET: 5.a.1, 5.b.1

On-Scene Security and Protection Capability Summary:

The MHP successfully demonstrated their ability to control and access TCPs in support of GGNS. An interview was conducted where one MHP trooper was interviewed along with a supervisor and crew from MDOT. It was identified by the MHP that there are 12 predetermined TCPs. MHP troopers in conjunction with the Mississippi National Guard (MNG), which were not armed, were positioned at the TCPs. Communication was conducted by the use of 700 Megahertz (MHz) radios and cell phones. Any barricades, lights, electronic signs, and equipment used to remove any impediments would be acquired and provided by MDOT. It was identified that responding personnel would not be issued KI because the TCPs were outside the 10-mile EPZ. However, it was stated that if there was a need for KI and dosimetry, the MHP Special Operations Group and first responders would issue Radiation Kits. It was also identified that news releases would be the manner in which the public was notified that TCPs have been implemented. The briefing conducted with MHP, MNG and MDOT, was thorough and presented in a very professional manner. The MHP trooper and MDOT members were very familiar with their plans, procedures and knowledgeable of their duties.

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For this capability the following REP criteria were MET: 1.d.1, 1.e.1, 3.a.1, 3.d.1, 3.d.2

3.3.1.2 Joint Information Center

Operational Coordination Capability Summary:

The ability to provide emergency information and instructions to the public and media was demonstrated at the MEMA JIC in support of the GGNS. The MEMA JIC is housed within the MEMA facility at #1 MEMA Drive, Pearl, Mississippi and is co-located with the SEOC. The MEMA JIC served as the official release point for information regarding an emergency at GGNS. Activation was done in accordance with jurisdictional plans following the declaration of Alert ECL. Representatives from the States of Mississippi and Louisiana, the FBI, and Entergy, along with Risk County Claiborne and Tensas Parish were present. MEMA's Director of External Affairs served as the Lead Public Information Officer (LPIO) and was positioned in the SEOC with his Deputy serving as the MEMA JIC Manager.

Ample space and sufficient equipment was available. Redundant communications and sufficient equipment and supplies to support emergency operations were tested and used during the exercise. Communications included Voice Over Internet Protocol (VOIP) telephones supplemented by cell phones, electronic mail (E-Mail), and Mississippi Wireless Information Network (MSWIN) radio. Primary and backup communications systems were fully functional and there were no failures during the exercise.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.d.1, 1.e.1

Public Information and Warning Summary:

The Public Information function at the MEMA JIC operated within a JIS structure. It was through close coordination and collaboration that effective and unified emergency information for the public was achieved. Established protocols were followed when preparing, coordinating and disseminating news releases. Due to the nature of this event; the FBI Spokesperson vetted all information prior to its release. Three formal media briefings were held and a total of five news releases were distributed during the exercise. The EAS was not activated or used during this exercise. The rumor control function was performed by personnel from the utility and operated in the confines of the JIS. Trends and false rumors were brought to the attention of the PIO and each were appropriately addressed or dismissed during the media briefings. Additionally, a MEMA representative monitored local social media sites and posted relevant emergency information as needed.

The combined effort of multiple agencies led to the successful demonstration of this core capability through the coordination, development, and dissemination of emergency public information.

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For this capability the following REP criteria were MET: 5.a.1, 5.b.1

3.3.1.3 Traffic and Access Control Points

On-Scene Security and Protection Capability Summary:

This core capability was successfully demonstrated by the MHP and MDOT OOS on October 1, 2015. Initial notification for the establishment of TCPs would come from the SEOC and go through both the MHP and MDOT representatives simultaneously. In turn, MHP and MDOT assets and resources would be dispatched to the appropriate pre-designated TCPs. The TCPs are established in conjunction with the ECL and for this demonstration TCP SAE2 was evaluated. TCPs are a combined operation of the two agencies and, after setup they can remain staffed or left unattended. If unattended, the traffic diversion equipment would remain in place throughout the duration of the incident.

Both agencies have multiple means of communication and can rely on the other to maintain contact with their dispatch centers and SEOC. Equipment to support the operation was sufficient and is available 24 hours a day. Specifically, MDOT maintains two pre-loaded trailers with all the necessary items to effectively divert and redirect traffic as necessary for all the TCPs within the area. They include signage, barricades, barrels, and cones. These trailers are maintained at the local MDOT yard that serves the region. They would be brought to the TCPs, as instructed, by crews ranging from two to ten members. MHP augments each TCP with one to two troopers and provides the authorization under state law for MDOT to divert traffic. Impediments to evacuation would be cleared immediately by the assigned personnel. If impediment removal was outside of their ability, assistance would be requested and coordinated through the area supervisor and SEOC. Other organizations available to assist with impediment removal would include additional MDOT resources, County Public Works and/or Department of Transportation; all of whom would be coordinated through the SEOC.

The TCP demonstration of TCP SAE2 was done in accordance with plans and procedures. The physical setup was not demonstrated. The responders were interviewed at the location and "walked" the evaluator through the setup of this TCP. This TCP would take approximately 20 minutes to setup as stated by the MDOT representative and would not be declared "operational" until a MHP trooper was present; which is in accordance with state law.

For this capability the following REP criteria were MET: 1.d.1, 1.e.1, 3.a.1, 3.d.1, 3.d.2

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3.3.2 Mississippi State Department of Health/Division of Radiological Health

3.3.2.1 Dose Assessment for the SEOC and EOF

Operational Coordination Capability Summary:

MSDH/DRH personnel arrived at the alternate EOF following activation from their offices in Jackson. When they arrived at the EOF, GGNS had already declared an SAE. DRH staff members acquired current plant conditions from utility personnel, set up their work areas, and were operational within a few minutes. The alternate EOF lacked many of the provisions found at the primary EOF. However, DRH personnel brought with them the necessary equipment and supplies to support their operations. DRH personnel also reported to the SEOC, JIC, and ICP. In accordance with the Extent-Of-Play Agreement, one Radiological Emergency Response Team (RERT) participated during the exercise for training only.

The State Radiological Accident Assessment Officer (SRAAO) provided overall direction to DRH responders and offered technical assessments to leaders at the SEOC. The DRH EOF Coordinator gathered information from utility personnel and ensured that the SRAAO, DRH PIO, and DRH liaison at the ICP were kept informed of conditions at the plant.

For this capability the following REP criteria were MET: 1.a.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1

Environmental Response/Health and Safety Capability Summary:

Although no release occurred during the exercise, DRH personnel were prepared to use Radiological Assessment Systems for Consequence Analysis (RASCAL) 4.3.1 dose assessment software to calculate dose projections using radiological release and meteorological data provided by the utility. The EOFC described the procedure for comparing the results with the utility's dose projections as well as the dose projections generated by the Louisiana Department of Environmental Quality. Following each calculation, the DRH EOFC would forward the results to the SRAAO and discuss potential PARs. The SRAAO would, in turn, present the PARs to decision makers.

In accordance with the EOPA, the RERT participated during the exercise for training only. However, the RERT Coordinator established communications with the RERT using 700 MHz radio. Cell phones and a satellite radio were available as backups. The RERTC provided updates to the RERT on plant conditions and meteorological data. The EOFC and RERTC discussed the best deployment of a RERT, considering wind direction and the operations of utility field teams. Because of the hostile action, the EOFC and RERTC understood the need to coordinate RERT movements with the ICP.

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For this capability the following REP criteria were MET: 1.a.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 4.a.2

3.3.2.2 Field Team 1

Operational Coordination Capability Summary:

The capability to issue appropriate dosimetry and manage radiological exposure to EWs was successfully demonstrated by the MSDH/DRH for the RERT during the GGNS HAB Exercise. One RERT participated in the exercise for training purposes only. The SRAAO provided a briefing to team members, which included exposure limits, safety considerations, KI authorization information, plant status, and dispatch instructions. EW exposure control was sufficient to support emergency operations.

For this capability the following REP criteria were MET: 2.a.1, 2.b.1, 3.a.1

Environmental Response/Health and Safety Capability Summary:

An OOS demonstration was conducted on October 6, 2015, to re-demonstrate field monitoring team (FMT) activities as part of a Level 2 Finding Resolution for ARCA 028-12-1.e.1-A01. The MSDH/DRH offices located at 3150 Lawson Street, Jackson, Mississippi convened a FMT to conduct field monitoring operations. The FMT consisted of two employees of MSDH/DRH. For this event the team was stationed at MSDH/DRH, their normal work location.

The team was convened in the conference room and provided a briefing on a simulated emergency at GGNS. The team was advised that GGNS declared an SAE at the plant and the team was to prepare for activation to conduct monitoring and sampling. The FMT was reminded of the turn-back limits of 1R and 1.5 R/hr, and told to report those limits to the Field Team Controller (FTC) and exit the area immediately. The briefing included instructions for when the team was to ingest KI (at direction of State Health Officer) and for the team to check instruments, obtain dosimetry, check inventory, perform communications checks and beware of local hazards in the area of the GGNS.

After the briefing, the team obtained their dosimetry, an electronic self-reading-dosimeter, due for calibration on July 17, 2016. The team was supplied a simulated permanent-record dosimeter (PRD). The FMT then began obtaining needed equipment and supplies for the exercise.

The FMT obtained an appropriate survey instrument (due for calibration on January 2, 2016) with two probes; a pancake probe and a Geiger-Mueller or "hot dog" probe. Another survey instrument (due for calibration on July 1, 2016) was also retrieved for use. The team then performed operational checks on each instrument correctly. In each circumstance the equipment performed within the acceptable range indicated on the side

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of each instrument. The dosimeters were re-zeroed after the operational check. The operational check of the instruments successfully resolved ARCA 028-12-1.e.1-A01 (the evaluator was also advised that two MSDH/DRH employees will be obtaining a Ludlum Calibration Certification in the coming months to maintain the calibration requirements of all MSDH/DRH radiological survey instruments).

The FMT then conducted an inventory check of all other necessary equipment and supplies. The team had three pre-packaged sample kits that were sealed with inventory check dates of September 30, 2015. The team was well equipped with a laminated road map of the 10-mile EPZ that included pre-located air sampling points, distance rings for GGNS, and potential sampling locations. The team was also equipped with a navigational Global Positioning System (GPS) device, a car-mounted State radio, and a cellular phone. Primary communication with the FTC would be via radio. Sufficient supplies and equipment for sampling and field decontamination were available for use by the State FMT, as described and listed in the State of Mississippi Manual of Procedures for RERT.

The FMT then applied a covering to the rear interior of the field vehicle to prevent contamination and loaded the required equipment. Two (a primary and back-up) air samplers (due for calibration on July 23, 2016) were obtained and placed in the vehicle. The units were opened and a battery check performed to make sure they were fully charged.

The team exited the facility and performed a radio check with headquarters. The team traveled to a sampling location near GGNS (simulated) and performed a survey. Readings were conducted at waist level and ground level using the appropriate survey instrument and probe, with the window open and window closed. The readings were recorded and radioed to the EOF (simulated). At a second location the team was instructed to collect monitoring results and an air sample. The team successfully deployed the air sampler with a silver-zeolite cartridge (simulated) to collect an air sample. The sampler operated correctly and the proper volume was pumped through the filter and cartridge. Monitoring readings were taken before the sampler started and at the end of the collection time. The team knew the monitoring confirmed they were in the plume based on before/after and window/open/closed readings.

The team moved to a low background area and performed required measurements on the filter and cartridge. The readings were recorded and calculations performed on the worksheet to determine the activity of iodine and particulates. The information was radioed to the EOF (simulated).

The team then demonstrated environmental media sampling by collecting a soil, vegetation, and water sample. The team used proper equipment and techniques in collecting these samples. The samples were properly labeled and a chain-of-custody completed for the samples.

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Throughout the exercise the team demonstrated proper contamination control techniques by use of lay-down sheets, personal protective equipment (PPE) (simulated), changing of gloves at appropriate times, and limiting equipment used in contaminated areas. The team described decontamination techniques that could be used in the field to clean sampling equipment (use of water and towels to wash equipment).

It was apparent the team was not extremely confident in performing the required sampling and monitoring functions. This was evident in trouble getting the air cartridge into the sample holder, performing the calculations for the air samples, and in not checking one of the survey instrument probes prior to deployment. More frequent hands-on equipment training is recommended for FMT staff to instill confidence in the team in meeting the goals for Field Measurement and Analysis as part of the overall Environmental Response/Health and Safety functions.

The MSDH/DRH FMT successfully demonstrated field monitoring and sampling by following their procedures and getting guidance on conducting their activities. The MSDH/DRH FMT also successfully resolved ARCA 028-12-1.e.1-A01.

The MSDH/DRH mobilized personnel and activated facilities in a timely manner. The RERT successfully demonstrated communications systems. The equipment and supplies used by the team members were sufficient to support emergency operations. After the RERT arrival at the Claiborne County EOC/ICP, the Mississippi State National Guard Civil Support Team (CST) field team outlined their sampling and surveying capabilities. The CST did not have radioiodine collection media, such as charcoal or silver zeolite cartridges. In order to obtain an air sample, the MSDH/DRH determined they would pair one RERT member and an air sampler with each CST.

The CST and MSDH/DRH RERT compared their radiological detection equipment. The CST was better equipped for radioactive source detection rather than radiological plume surveying. The RERT demonstrated the use of the air sampler for particulates and radioiodines collection.

The CST members stated that turnover to the RERTs would be provided via log sheets or electronically. A pairing of the CST field teams with the RERTs would capitalize on the strengths of both organizations. Training and exercising between the two groups would provide additional opportunities to expand the use of the CST to support the MSDH/DRH objectives.

For this capability the following REP criteria were MET: 1.a.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 4.a.3.

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3.3.3 Risk Jurisdiction

3.3.3.1 Claiborne County

3.3.3.1.1 Emergency Operations Center, Backup Route Alerting, Schools

Operational Coordination Capability Summary:

Claiborne County EMD effectively demonstrated the ability to rapidly communicate information and recall or mobilize his staff in a timely manner. He was able to declare the Claiborne County EOC operational within one hour of initiating the recall process. The 24-hour roster had some personnel positioned in multiple locations; which covered multiple scenarios. In this scenario where a person was required in multiple locations by shift, a request for additional Claiborne County EOC staffing was requested from the State to fulfill the manpower requirements for the following 12-hour period.

The facility utilized by the Claiborne County EOC had adequate space, furnishings, expendable supplies, maps, charts, and automation equipment to perform 24-hour operations for an extended period of time. Smart technology was utilized connecting various work spaces and agencies. Communications systems were numerous and redundant. Communications were established and maintained with all supported and supporting agencies. No communications equipment failures were observed during the exercise.

The Claiborne County EMD successfully led Claiborne County EOC response to the simulated accident at GGNS. Situational awareness was maintained in Claiborne County EOC by the EMD, providing nine staff briefings over the four-hour period. During these briefings, direction was also provided to the staff.

A HSIN conference call line was established and remained open allowing coordination with MEMA and all host counties. Additional coordination was made by use of cellular phone calls to specific individuals. Due to the close proximity of the ICP the EMD utilized runners to provide the IC situational awareness and insure that he was aware of all IC requests for support. This process was not effective in the opening stages of the exercise but improved dramatically as incident command evolved.

At the request of the EMD, the senior elected officials of Claiborne County and the City of Port Gibson signed a local state of emergency. The same elected officials participated in all conference calls and were involved in the decision making process to not sound sirens and to provide a news release to their citizens directing them to monitor and prepare.

The County's plan and standard operation guides provided direction on monitoring, exposure control and the use of KI. The EMD explained the decision process, but stated nothing had happened that would require action related to EWs or his population.

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No PARs were provided by the utility or the State. The scenario did not drive that action but through discussion the EMD explained the decision making process those PARs would drive. The joint decision making process which included the IC input was used effectively to reach a decision not to sound sirens in the Mississippi EPZ.

Precautionary actions to move school students and groups with access/functional needs were staged and ready to implement, but were placed on hold at the request of the IC.

The Claiborne County EOC staff performed the capability target of protective action implementation without challenges. The EOC staff performed this capability through both simulated demonstration and interview. Through interview, they successfully described the Claiborne County REPP's requirements regarding the provision of KI to the general public and institutionalized individuals. They demonstrated by simulated actions that protective actions could be implemented for persons with disabilities and access/functional needs (PDAFN), other than schools, within areas subject to protective actions. The staff also demonstrated by simulated actions that they could implement protective actions for schools within the plume exposure pathway EPZ and the ability to activate the schools bus system for relocation of students and, if needed, to support County public transportation assets for other transportation requirements. The Claiborne County EOC is located within the EPZ. They use one electronic dosimeter centrally located to monitor for Claiborne County EOC staff. Also demonstrated by simulated action was that appropriate traffic and access controls could be established and that they could coordinate successfully with Mississippi SEOC responders to identify and resolve potential impediments to evacuation.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2

Public Information and Warning Capability Summary:

The Claiborne County EOC Director and PIO demonstrated the ability to prepare and disseminate accurate and timely information to notify the public of both the Notice of Unusual Event and Alert ECL declarations at the GGNS. Prior to the SAE ECL declaration, the State of Mississippi had undertaken the public information effort and activated the JIC. As a result, the JIC prepared and disseminated the remainder of the News Releases.

Following the SAE ECL declaration, the State of Mississippi, Claiborne County, as well as the Host Counties, concurred over an open conference call line that Claiborne County would not activate the siren system even though Tensas Parish, LA sounded sirens.

Since no sirens were sounded, no siren failures were detected; however, per the 2015 GGNS EOPA, backup route alerting was completed through interview. It was explained that the Director would notify the Claiborne County Sheriff's Office representative in the Claiborne County EOC of a siren failure, and the Claiborne County Sheriff's Office EOC

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representative would, in turn, notify and direct trained Sheriff's Office deputies to complete backup route alerting. As directed, deputies would respond to a specific siren location and notify the public by reading a pre-scripted message over the vehicle's public address system. The Claiborne County Sheriff's Office indicated that backup alert and notification of the public would be completed within the required 45-minute timeframe.

In addition, the 2015 GGNS EOPA indicated that waterway warning would be discussed via interview with the appropriate agencies in Claiborne County in relation to the exercise scenario. The agencies discussed a shared responsibility for waterway warning to be accomplished by the USCG and the State of Mississippi (specific responsibilities defined in the Mississippi RERP).

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.b.1

Critical Transportation Capability Summary:

The Claiborne County EOC responders demonstrated by simulated actions that they could implement protective actions for schools within the plume exposure pathway EPZ. No simulated re-location of school children occurred due to the IC's request for no movement of persons in the EPZ. After receiving this request, the Claiborne County Schools representative directed all three schools be placed in a "locked down" status so that students would be available for transportation should a subsequent relocation order be given.

In addition, a representative from Alcorn State University, also located in the 10-mile EPZ, was present in the Claiborne County EOC and coordinated actions with that university for protection of students and staff. She coordinated the restriction of student movement from the campus; transportation for students should an evacuation be ordered; informed the university's IC of the need to activate the mass text and e-mail messaging to students; and conveyed a formal needs request for meals and water for students in the event the movement restriction lasted for a prolonged period.

For this capability the following REP criteria were MET: 3.c.2

3.3.3.1.2 Incident Command Post

Operational Coordination Capability Summary:

Offsite LE response to the GGNS during a HAB incident is the responsibility of the Claiborne County Sheriff's Office, MHP and the FBI. Each agency performs incident command functions in sequential order respectively. During the HAB REP exercise conducted on October 21, 2015, these agencies collectively demonstrated the ability to alert and mobilize sufficient personnel to operate an ICP in a unified manner.

Facilities were sufficient and had ample space to support the emergency response. The ICP

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had redundant communication capabilities, which included 800 MHz radio, commercial phone, cell phone and email. All communications were used at one time or another during this exercise and all operated without fail. Responder dosimetry and just-in-time training provisions were in place and would be provided by the Mississippi DRH at a pre-designated staging area.

The ICP was organized and operated in accordance with the basic concepts of the National Incident Management System (NIMS) and the Incident Command System (ICS). This organizational structure maintained unity of command with clear and consistent duties and responsibilities by the supporting staff. These individuals, as well as those from various support agencies, represented their specific response disciplines, as they would in an actual incident. The FBI IC was kept informed of discussions regarding protective actions and took part in the HSIN Connect video briefs from the EOC.

FMT deployments, operations and movements were coordinated by the MNG, MHP, DRH and FBI representatives within the ICP. There were several instances where the GGNS security liaison advised the FBI that utility repair crews would be moving under GGNS security escort to the site. These notifications were more along of the lines of advisement-not coordination. In general, there was a lack of coordination on the part of the GGNS liaisons within the ICP. While there are definitive off-site provisions and resources to provide support to GGNS, communication and coordination needed to be improved.

For this capability the following REP criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 3.a.1

Public Information and Warning Capability Summary:

Public information and warning was not performed at the ICP. Public information was formulated and coordinated amongst the EOCs and the JIC. There was a FBI PIO in the JIC who vetted the releases in accordance with plans and procedures. This PIO was in contact with the FBI IC or designee on a frequent basis and copies of the press releases were available for the IC, as needed.

For this capability the following REP criteria were MET: 5.a.1, 5.b.1

3.3.3.1.3 Emergency Worker and Vehicle Monitoring and Decontamination

Environmental Response/Health and Safety Capability Summary:

Claiborne County emergency response personnel successfully demonstrated EW monitoring capability at the Emergency Worker Monitoring and Decontamination Station located at the Hermanville Fire Department (FD) in Hermanville, MS. The EWs are adequately trained, knowledgeable and equipped to accomplish the task, if the need arises. The facility, equipment, displays, radiation monitoring instruments, dosimetry and KI was appropriate to

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support emergency operations to receive and monitor EWs, as a result of a GGNS emergency.

EWD was demonstrated OOS on October 1, 2015 at the Claiborne County FD's Hermanville Station. The demonstration began at 0854 hours with a safety briefing for all participants, as given by the Radiation Exposure Control Officer (RECO). These participants included the Claiborne County Emergency Management, FD, Sheriff's Office, 911 and County administrative staff. The safety briefing focused on radiological response operations, EWD, personal protection, dosimetry, forms and the use and safety instructions of KI. The briefing included administrative radiological limits and action levels. These limits are 1R for turn back and 0.13 milli-Roentgens per hour (mR/hr) or 300 counts per minute (cpm) above background as the action level for contamination. Of particular note during the safety briefing were the step-by-step decontamination job aids, which were posted and easily readable within the decontamination area.

Each EW was issued a low range and high range direct-reading dosimeter (DRD) and a simulated Thermoluminescent Dosimeter (TLD). The participants wore Tyvek PPE with booties, hoods, gloves and N-95 facemasks. Workers were also issued a Mississippi REP EW Handbook.

Throughout the demonstration, the RECO provided oversight and guidance to the EWD operations, as needed. Apart from the safety brief, his input was minimal due in part to the level of proficiency demonstrated by the participants throughout the activity.

For this capability the following REP criteria were MET: 1.b.1, 1.e.1, 3.a.1, 3.b.1, 6.b.1

3.3.4 Host Jurisdictions

3.3.4.1 Adams County

3.3.4.1.1 Emergency Operations Center

Operational Coordination Capability Summary:

The Adams County Emergency Management Agency (EMA) successfully demonstrated the Operational Coordination Core Capability from the County EOC in response to a radiological incident at GGNS during this exercise. They established and maintained a unified, coordinated operational structure and process.

The EOC was co-located with and in the basement of the County Sheriff's Department, and housed several administrative offices including tertiary 911 operations, communications, and dining facilities. The EOC was suitable with sufficient space and backup power to support emergency response activities, and appropriately equipped with supplies and multiple redundant communications. All communications are tested

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regularly and functioned during this exercise with no observed adverse impact to operations. SAVs were conducted on September 29 and 30, 2015 at MEMA and MSDH/DRH; reviewing 2015 training records and equipment associated records on file between the two State agencies, the Risk County and the Host Counties. There was one discrepancy identified with MEMA issued equipment; incomplete range of readings stickers. This had no adverse impact on the outcome of the Adams County demonstration.

There were some EOC staff pre-positioned in the operational area, however they conducted no emergency response activities until alerted, as specified in the Extent-of-Play Agreement (EOPA). Staff were alerted, mobilized and the EOC activated in a timely manner. Key staff included the EMD, Deputy EMD, Natchez City Police Assistant to the Police Chief, Fire Chief, American Medical Response (AMR) EMS Liaison, ARC Regional Nurse, County Administrative Specialist and MEMA Area Liaison.

The County EMA and Natchez City FD capitalized on the opportunity during this exercise to allow members of the FD to observe EOC operations in response to a GGNS radiological incident. The EMD and FD personnel explained it was beneficial for FD personnel to see this aspect of the emergency response to better understand their role as emergency responders and principles in the implementation of the reception, and congregate care and emergency vehicle decontamination operations that support the incident response.

Upon activation of the EOC, Direction and Control were established immediately and maintained throughout. The EMD was assertive, decisive and effectively kept staff abreast of evolving conditions with recurring situation updates, guidance and detailed direction for occurring activities, in anticipation of potential actions. The PAD making process included all key staff and aided in making more informed potential PADs. It also included coordinated activities with State and other local jurisdictions that included consideration for activation of the PNS, EAS, relocation and notification of citizens and establishment of shelters in support of the incident response. Decisions and implementation were timely and coordinated through conference calls in consideration of, and without PARs from the plant, and all other available information. The exercise did not include a condition that required consideration for KI, but the EMD and staff demonstrated familiarity with its purpose and use, as well as with dosimetry.

The EOC staff were well trained, proactive and performed their duties in accordance with plans and procedures. Actions were defined and deliberate and aided in carrying out coordinated responsibilities with internal and external agencies. Informative displays and maps were positioned in the facility, however, staff would benefit from more updated materials to aid in situational awareness. This would allow greater incident and resource tracking and the ability to quickly retrieve and update officials on events leading to the current status.

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LE activities were managed effectively to aid support activities implemented and carried out by the ARC, EMS and FD. LE in the EOC explained that patrol vehicles are equipped with sufficient safety equipment to aid in traffic direction and have multiple means of radio and computer aided dispatch technology to receive and transmit essential information. He demonstrated exceptional knowledge of his duties, including the removal of impediments to traffic. The FD, EMS and ARC were equally proficient in their responsibilities and demonstrated keen knowledge of procedures and protocols with expressed consideration for accommodating functional needs persons.

The MEMA Liaison was especially vital in supporting the EMD and staff with updated and validated information that aided in situational awareness and the decision making process.

The EMD explained that information for release to the media and public was coordinated by local County and Sheriff PIOs through the JIC, reviewed, appropriately routed, and approved in accordance with prescribed procedures and proper authorities prior to dissemination, and without undue delay. Additionally, public inquiries are routinely directed to a primary number managed by the administrative specialist and routed through the EMD for review and disposition.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1,

3.3.4.1.2 Reception and Congregate Care Center

Environmental Response/Health and Safety Capability Summary:

Adams County successfully demonstrated Reception and Congregate Care Center (RCCC) operations during an OOS on September 29, 2015 at the Natchez High School, Natchez, MS in support of the GGNS. The facility, equipment, displays, radiation monitoring instruments, dosimetry and KI was appropriate to support emergency operations to receive and monitor the evacuating public from Claiborne County, as a result of a GGNS.

Adams County RCCC operations began with all participants receiving a safety briefing. Evacuee vehicle monitoring, exit procedures, and good directions were given to evacuees as they moved through the RCCC process. During the demonstration, radiation exposure limits and administrative reporting for turn-back values was discussed. The County expects approximately 740 evacuees will arrive at the RCCC.

For each person monitored, the portal monitor check took about 5 seconds. Low activity radioactive sources were placed on two of the evacuees (one male and one female), resulting in actual portal monitor alarms.

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During the secondary monitoring demonstration, the issued survey meters did not have the range of reading stickers affixed to the instruments, but did have a check source affixed to the side. The operators also determined they could not properly monitor evacuees, as the county plan specified limits not compatible with current survey meters. The operators quickly referred to the Mississippi REP EW Handbook, wherein the proper procedures were specified and used during the demonstration. All participants demonstrated a strong desire to refine their individual and collective skills and were open to recommendations to improve their capabilities.

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1

Mass Care Capability Summary:

Adams County successfully demonstrated its procedures to receive, monitor, decontaminate, register and shelter evacuees during an OOS drill at the Natchez High School. Adams County Department of Human Services and the ARC meld well as a team focused on safeguarding evacuees during an incident at GGNS. The Director of the Department of Human Services demonstrated registering eight evacuees. The ARC counseled evacuees as necessary and managed the reception area. All participants demonstrated a thorough knowledge of shelter operations and were ready with contingency plans if necessary.

For this capability the following REP criteria were MET: 1.e.1, 3.b.1, 6.c.1

3.3.4.2 Copiah County

3.3.4.2.1 Emergency Operations Center

Operational Coordination Capability Summary:

The Copiah County EMD successfully established and maintained a unified and coordinated operational structure that integrated critical stakeholders. EOC staff included the EMD, an Administrative Assistant, two 911 dispatchers, and a MEMA Area Coordinator. The EOC is well appointed with communications capabilities, supplies, equipment, and displays to support operations. A generator is available to provide back-up power for twelve hours for each tank of fuel.

Key County and Hazlehurst representatives were quickly notified of events by the 911 dispatchers using a call-down roster. At the Alert ECL, the agencies were notified to stand by, and at the SAE ECL, they were instructed to report to the EOC for a briefing. During the briefing, agency representatives were provided appropriate tasks and instructions to accomplish the Host County's mission. They also anticipated potential needs of the Risk County and prepared applicable resources.

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The EMD maintained communication with all stakeholders using the HSIN, Web-based Emergency Operations Center (WebEOC), and cell phones. He kept the EOC staff aware of incident status and updates. All EOC staff were familiar with their duties and accomplished them in accordance with plans and procedures.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1,

3.3.4.2.2 Reception and Congregate Care Center

Environmental Response/Health and Safety Capability Summary:

Copiah County emergency response personnel successfully demonstrated evacuee monitoring capability at the RCCC located at the Joe L. Johnson Safe Room, 1060 Epps Lane, Hazlehurst, MS. The facility, equipment, displays, radiation monitoring instruments, dosimetry and KI were appropriate to support emergency operations to receive and monitor the evacuating public from Claiborne County, as a result of a GGNS incident.

The majority of evacuees expected in Hazlehurst are projected to be children from the Claiborne County School System. All vehicles (school buses) would remain parked at the Copiah County Fair Grounds for up to 24 hours, after which, they would be monitored for contamination. If a vehicle was determined to still be contaminated, it would remain at the Copiah County Fair Grounds and be turned over to GGNS representatives for further decontamination. Additionally, an interview with the EMD determined, should there be a need to make further PADs for the school children, such as evacuation, ample transportation would be readily available.

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 3.b.1, 3.c.2, 6.a.1

Mass Care Capability Summary:

Copiah County successfully demonstrated the ability to register and manage the temporary care of evacuees at the Joe L. Johnson Safe Room in Hazlehurst, Mississippi. The new facility was perfect for receiving and processing evacuees for short-term stays. ARC volunteers and the Department of Human Services employees worked seamlessly to support emergency response operations. The majority of evacuees are expected to be school age children. Registration forms and location rosters were accurately maintained throughout the exercise. All personnel were professional and knowledgeable in their duties and responsibilities.

For this capability the following REP criteria were MET: 1.e.1, 3.b.1, 6.c.1

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3.3.4.3 Hinds County

3.3.4.3.1 Emergency Operations Center

Operational Coordination Capability Summary:

Hinds County elected officials, and emergency management personnel and assigned staff successfully demonstrated the ability to effectively respond to a HAB emergency at the GGNS. All actions taken by the EOC staff during the exercise reflected their plans and procedures. Personnel were well trained and familiar with their responsibilities, as they relate to an accident at GGNS. Both internal and external coordination was competently and professionally performed by the Hinds County EMD.

The Director and his Assistant Director (AD) used effective procedures to alert, notify, and mobilize emergency response personnel and activate the EOC in a timely manner. The EOC had multiple redundant means of communications, to include an automatic engage public information system, commercial land lines, and cell phones or other hand-held electronic devices. The HSIN was very successfully used for coordination of protective actions, and a 700 MHz was also available for this purpose. Backup communications also included E-Mail, facsimile machines, 800 MHz radios, and satellite phones. WebEOC, an electronic incident management system, was also used to maintain situational awareness.

The EOC had sufficient supplies, space and equipment to support emergency response operations. The 15,000 square foot facility is supported by a 250 kilowatt diesel generator, smart boards, EPZ and State maps, projectors, monitors, fax, copiers, clocks, tables, chairs, computers, response plans, procedures and checklists. There are separate rooms that accommodate a conference area, communications, amateur radio operators, a kitchen, and bathrooms.

The Hinds County Department of Emergency Management (HCDEM) Director was involved in the decision making process throughout the exercise, and continually had his County prepared for the next event. He led his staff with a proactive approach to problem solving, and maintained a calm, positive, and confident atmosphere in the EOC. The Emergency Management and EOC staff were also well trained and able to complete their missions as assigned.

The Director conducted periodic briefings, which kept the EOC staff updated throughout the exercise. Using the HSIN video-teleconference system, the Director coordinated closely with the State EOC, Claiborne County EMD, and other counties effectively. Hinds County is a Host County with the mission of providing a RCCC for the general public evacuating from designated at-risk areas. The EMD and his EOC staff demonstrated the ability to effectively plan and implement this mission during the exercise. All actions taken by the EOC staff during the exercise reflected their plans and

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procedures. They were well trained and familiar with their responsibilities, and demonstrated the ability to respond to a hostile action at GGNS.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1,

3.3.4.3.2 Reception and Congregate Care Center

Environmental Response/Health and Safety Capability Summary:

Hinds County RCCC operations were evaluated during OOS on September 30, 2015 at the Hinds Community College, Utica, MS. The college serves as the RC and provides initial evacuee monitoring, decontamination, and processing. The sheltering and care of the evacuees is done at the Hinds Community College Raymond Campus, located a few miles north of the Utica Campus. The facility, equipment, displays, radiation monitoring instruments, dosimetry and KI were appropriate to support emergency operations and to receive and monitor the evacuating public from Claiborne County, as a result of a GGNS emergency. The County emergency response personnel were well trained and knowledgeable of their roles and responsibilities.

For this capability the following REP criteria were MET: 1.b.1, 1.e.1, 3.a.1, 3.b.1, 6.a.1

Mass Care Capability Summary:

Hinds County, in conjunction with the ARC, successfully demonstrated the ability to effectively conduct registration and congregate care procedures at the Utica Campus of Hinds County Community College. No KI was available for monitoring personnel; however, the HCDEM Director indicated that the MSDH/DRH stockpiles KI in Hinds County for use by EWs.

The long-term shelter, also managed by the ARC, was located at the Hinds County Community College's, Raymond Campus about twenty miles north from the Utica Campus. Evacuees requiring longer term shelter are bussed from the Utica Campus to the Raymond campus with county transportation resources coordinated through the Hinds County EMA. All evacuee paperwork is transferred by a volunteer to the Raymond Campus. Volunteers registered six evacuees into the Utica Campus without delay and were able to quickly fulfill all aspects of their assigned tasks.

For this capability the following REP criteria were MET: 1.e.1, 3.b.1, 6.c.1

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3.3.4.4 Warren County

3.3.4.4.1 Emergency Operations Center

Operational Coordination Capability Summary:

Warren County successfully demonstrated the capability of Operational Coordination by alerting, notifying and mobilizing the emergency staff. The Director of Warren County Emergency Management Agency (WCEMA) and the Director of the County Permit Department received the ECL notices in the form of e-mail, call, text and fax from the State. WCEMA tasked the Vicksburg-Warren 911 Communications Center to send notification and mobilization message via the Computer Assist Device (CAD). The CAD is county all hazardous alert and notification system, this system is capable of sending a message by voice, text, e-mail and fax.

The Warren County Emergency Operations Center (WCEOC) is located in the basement of the County Courthouse at 1009 Cherry St. Vicksburg, MS 39183, was built in 1939. The building is constructed of brick and cement mortar. The city of Vicksburg provides all the utilities for the building. A 100k emergency gas generator provides auxiliary power during emergencies. The basement provides sufficient space to support staff during activation of the WCEOC. The WCEOC supports about 30 staff with a classroom style setup that provides a comfortable room for extended activation. 24-hour operations are supported by County and State agencies. The WCEMA follows the ICS, which provides the WCEOC with ESFs staffed by county and city departments and agency personnel. The backup WCEOC is located at the 911 Center, 1401 Clay St., Vicksburg.

WCEMA coordinates primary emergency communications for responding to an emergency at GGNS. The primary means of communications includes; commercial telephones, cellular phones, pagers, and facsimile. 800 MHz radio serve as backup communications systems and to communicate countywide with Public Safety agencies and Public Works Department personnel. The 700 MHz radio is utilized statewide to communicate with the MEMA personnel.

The WCEOC provided sufficient equipment to support and maintain 24-hour operations. The equipment was placed appropriately so that the WCEOC staff had easy access to accomplish their duties.

The Warren County Board of Supervisors is assisted by the heads of City and County agencies and departments that exercise direction and control from the WCEOC. The staff of the WCEOC is comprised of the WCEMA professional staff, County department directors and department heads from other City and volunteer agencies during emergency response operations.

The WCEMA Director briefed the WCEOC staff on incident status and potential

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response activities. The briefings were conducted in a professional manner at all times. They were informative and frequent and included weather reports, department and agency specific tasks and situational incident reports. A total of five briefings were conducted during the exercise.

MEMA asked the Host Counties to activate the RCs. The WCEMA Director tasked the representative of Vicksburg-Warren County Public Schools to start the process of relocating school children from Warren Central High School to Hinds Community College. The School representative contacted the Director of Bus Operations of the district and arranged for 12 buses to pick up and deliver the children to the host school. The Vicksburg FD and Warren County Volunteer FD representative met to discuss the movement of resources to stand-up the RC. Although never asked or tasked by MEMA, the Vicksburg FD was ready and available upon request to support transportation such as buses, wheel chair accessible vehicles and ambulances for use in special needs population evacuation.

During a State HSIN conference call, MEMA asked the WCEMA Director to please support Claiborne County in accordance with the Mutual Aid agreement and provide three fire trucks, six firefighters, 3300 gallons of water and foam. The WCEMA Director tasked Vicksburg FD and WCVFD to coordinate the response.

The Director requested a Joint Proclamation of Existence of a Local Emergency. This is required to render assistance to the affected county. The Proclamation is issued as a precautionary measure at the Alert ECL, but no later than (NLT) at the SAE ECL. During an evacuation of Claiborne County, WCEMA is responsible for coordinating response activities, such as monitoring and decontamination, registering EWs and sheltering of evacuees.

KI was discussed, and is only available for use by EWs in the risk area during an emergency. It is administered at the order of the State Health Officer /Mississippi Department of Health (MSDH) in accordance with MSDH policy.

For this capability the following REP criteria were MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.b.1

3.3.4.4.2 Reception and Congregate Care Center

Environmental Response/Health and Safety Capability Summary:

On September 28, 2015, Warren County conducted a RCCC drill. The drill was conducted at Warren Central High School, 1000 Highway 27, Vicksburg, Mississippi 39180. This is the official location for evacuees arriving from Claiborne County, which is inside the 10-mile EPZ of the GGNS. At this location, the WCEMA is responsible for evacuee services, which will minimize the effects of people being displaced from their

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homes because of a possible release of radiation from (GGNS). The RCCC is a pre-designated facility in which evacuees can register, receive contamination monitoring, decontamination assistance, general information, sheltering and reunite with family and friends.

All vehicles entering the parking area of Warren Central High School, which is the location for the RCCC, from the GGNS EPZ during an evacuation, must go through a vehicle decontamination wash station. The wash station at this location is manned by the WCVFD. Each FD member attends a safety briefing, which is conducted by the Radiation Safety Officer (RSO), who gave very pertinent information concerning contamination control. The WCVFD is equipped with all necessary equipment and supplies, and has the knowledge and expertise to perform all the duties and responsibilities required to support evacuees entering the shelter from a possible contaminated EPZ.

State and local emergency response personnel successfully demonstrated evacuee monitoring capability at the RCCC located at Warren Central High School, 1000 Highway 27, Vicksburg, MS. The facility, equipment, displays, radiation monitoring instruments, dosimetry and KI were appropriate to support emergency operations to receive and monitor the evacuating public from Claiborne County, as a result of a GGNS emergency.

The demonstrated decontamination process for evacuees was not set up in an optimal or flowing order. However, each component (evacuee monitoring, registration, and primary and secondary decontamination) was setup and operational. The evaluated processes were performed correctly at each station, but found to be repetitive in nature. The six evacuees surveyed at primary and secondary monitoring stations were done so successfully.

For this capability the following REP criteria were MET: 1.b.1, 1.e.1, 3.a.1, 3.b.1, 6.a.1

Mass Care Capability Summary:

Warren County successfully demonstrated evacuee reception and congregate care during an OOS evaluation on September 28, 2015. Under the auspices of the WCEMA and the Department of Human Services, volunteers and fulltime County staff collaborated to establish a well laid out facility to streamline the flow of evacuees through monitoring, decontamination and registration. All representatives were knowledgeable regarding their duties and responsibilities. The ARC and the Department of Human Services personnel followed their plans and procedures for the evacuee entrance and registration process. The Shelter Registration form is provided by the ARC in English and Spanish. The ARC has the "Safe and Well" online program for separated families to reconnect. Supplies are brought in from other nearby ARC shelters, as necessary. Evacuees with special or medical needs are assessed by nurses at this location prior to moving to an

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appropriate facility.

For this capability the following REP criteria were MET: 1.e.1, 3.b.1, 6.c.1

3.3.4.4.3 Public Health and Medical Services

Support Operations Facilities Capability Summary:

The MSD for Warren County in support of the GGNS was evaluated OOS on September 28, 2015. The emergency response agencies of Warren County and the River Region Medical Center successfully demonstrated the ability to respond, transport, treat and decontaminate a radiological contaminated accident victim. An EMS crew from the Vicksburg FD responded to a simulated vehicle accident following an evacuation of the EPZ. While limiting the spread of contamination, the EMS crew treated and prepared the patient for transportation to the Hospital.

The hospital emergency room staff implemented radiological emergency procedures, quickly prepared the decontamination room and established a radiation emergency area for the arrival of the patient. The hospital team worked well together, with each member taking a proactive approach and understanding their individual roles. The priority of the victims' injuries were considered during the decontamination process.

The EMS crew and hospital staff used appropriate medical care and contamination control procedures. Sufficient quantities of medical supplies and equipment were available. All actions performed in this drill were in accordance with appropriate plans and procedures. Both Warren County and River Region Medical Center established they were fully capable of effectively providing emergency response support to a radiologically contaminated patient. (See Appendix E for Medical Service Drill)

For this capability the following REP criteria were MET: 1.d.1, 1.e.1, 3.a.1, 6.d.1

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Section 4: Conclusion

Officials and representatives from the State of Mississippi, Claiborne County, Adams County, Copiah County, Hinds County, Warren County, the State of Louisiana, Tensas Parish and Entergy Inc., as well as numerous volunteers, participated in the exercise. The cooperation and teamwork of the participants was evident throughout all phases of the exercise. This exercise saw several technological initiatives being seamlessly incorporated into a successful demonstration. FEMA recognizes the efforts of the many individuals who participated and made the exercise a success.

FEMA acknowledges the exceptional efforts in exercising direction, control and protective action decision-making all while considering plant conditions and supporting off-site response organizations (ORO). The primary focus was the HAB facet, which directed the integration of offsite resources with onsite response. This was successfully demonstrated utilizing the ICP for the emergency response. Despite some challenges at the ICP for Claiborne County, they were able to successfully coordinate off-site resources with onsite personnel during the HAB exercise.

Protecting the public health and safety is a fulltime job for some of the exercise participants and an additionally assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities.

In consideration of the results of this exercise along with FEMA's review of Mississippi's Annual Letter of Certification for 2014, associated SAVs, and the preparedness activities for the State of Mississippi and affected local jurisdictions site-specific to the GGNS, FEMA has determined that reasonable assurance exists and that appropriate measures could be taken off-site to protect the health and safety of the Grand Gulf Community in the event of a radiological emergency at GGNS.

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Appendix A: Exercise Timeline

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken							
		SEOC	JIC	Dose Assessment	Claiborne County	Adams County	Hinds County	Copiah County	Warren County
Unusual Event	0836	0844	0848	N/A	0844	0847	0845	0847	0847
Alert	0852	0855	0859	N/A	0856	0858	0900	0859	0859
Site Area Emergency	0921	0923	0927	0929	0923	0927	0928	0927	0926
General Emergency	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Simulated Rad. Release Started	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Simulated Rad. Release Ended	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational	1020	0907	0859	1015	0910	0858	0945	0859	0935
Exercise Terminated	1303	1236	1240	1303	1240	1238	1258	1238	1237
Declaration of State of Emergency: Local		N/A	N/A	N/A	0932	N/A	0915	0927	1100
State		0949	0950	N/A	1144	1143	N/O	N/O	N/O
Precautionary Actions:									
Schools on Lock Down		N/A	0958	N/A	0934	N/A	N/A	N/A	N/A
Monitor and Prepare			0915		0934				
Closed Parks and Recreation Areas			N/A		0913				
Closed River; No Fly Zone (simulated)			N/A		N/A				
1st Protective Action Decision: Monitor and Prepare		1028	N/A	N/A	1025	1028	N/A	N/A	N/A
1st Siren Activation: No Siren Activation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Press Release: Monitor and Prepare		1100	1100	N/A	1100	N/A	N/A	N/A	N/A

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Appendix B: Exercise Evaluators and Team Leaders

Regional Assistance Committee (RAC) Chair: Conrad Burnside

North Section Chief: Kevin Keyes

Site Specialist: Gerald McLemore

Central Section Chief: Lawrence Robertson

ICF Coordinator/NTE: Erica Houghton

ICF Admin Support: Haesun Jang

Location / Venue	Evaluation Team	Core Capability(ies) Evaluated at each venue
Mississippi Emergency Management Agency: Director – Mr. Robert Latham		
SEOC	Gerald McLemore John Simpson Lorenzo Lewis Joe Harworth James Greer	Operational Coordination Public Information and Warning On Scene Security Protection
JIC	Robert Spence Elsa Lopez Tom Hegele	Operational Coordination Public Information and Warning
TCPs (OOS)	Ackermann	On-Scene Security & Protection
Mississippi Department of Radiological Health: Director – B.J. Smith		
EOF Dose Assessment	John Fill	Operational Coordination Environmental Response/Health and Safety
SEOC Dose Assessment	Lloyd Generette	Operational Coordination Environmental Response/Health and Safety
Field Team 1	Jill Leatherman	Environmental Response/Health and Safety
Claiborne County: Director – Marvin Ratliff		
EOC	Walt Cushman Bill Maier Erica Houghton	Operational Coordination Public Information and Warning
Backup Route Alerting	Bill Maier	Operational Coordination Public Information and Warning
Schools	Erica Houghton	Critical Transportation
ICP	JT Ackermann Brad Dekorte Mark Dalton	Operational Coordination Public Information and Warning
EWD (OOS)	McLemore Spence Lewis Rink McRee	Operational Coordination Environmental Response/Health and Safety
Adams County: Director – Robert Bradford		
EOC	Odin Spencer Quintin Ivy	Operational Coordination
Reception Center / Congregate Care (OOS)	Ackermann McLemore Spence Lewis Rink	Operational Coordination Environmental Response/Health and Safety Mass Care

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Location / Venue	Evaluation Team	Core Capability(ies) Evaluated at each venue
	McRee	
Copiah County: Director – Randle Drane		
EOC	Matt Bradley	Operational Coordination
Reception Center / Congregate Care (OOS)	Ackermann McLemore Spence Lewis Rink McRee	Operational Coordination Environmental Response/Health and Safety Critical Transportation Mass Care
Hinds County: Director – Ricky Moore		
EOC	Mike Dolder Ron Shaw	Operational Coordination
Reception Center / Congregate Care (OOS)	Ackermann McLemore Spence Lewis Rink McRee	Operational Coordination Environmental Response/Health and Safety Mass Care
Warren County: Director – John Elfer		
EOC	Alex Sera	Operational Coordination
Reception Center / Congregate Care (OOS)	Ackermann McLemore Spence Lewis Rink McRee	Operational Coordination Environmental Response/Health and Safety Mass Care
MSD (OOS)	McLemore Spence	Operational Coordination Public Health and Medical Services

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Appendix C: Acronyms and Abbreviations

Acronym	Meaning
AAR	After Action Report
AD	Assistant Director
ALC	Annual Letter of Certification
AMR	American Medical Response
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CAD	Computer Assist Device
CFR	Code of Federal Regulation
cpm	Counts Per Minute
CST	Civil Support Team
DHS	Department of Homeland Security
DOH	Department of Health
DRD	Direct-Reading Dosimeter
DRH	Department of Radiological Health
EAS	Emergency Alert System
ECL	Emergency Classification Level
EEG	Exercise Evaluation Guide
EMA	Emergency Management Agency
E-Mail	Electronic Mail
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOPA	Extent of Play Agreement
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Worker
EWD	Emergency Worker and Vehicle Monitoring and Decontamination
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FD	Fire Department
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FTC	Field Team Controller
GE	General Emergency
GGNS	Grand Gulf Nuclear Station
GPS	Global Positioning System
HA1	Probable Threat of a hostile action

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Acronym	Meaning
HAB	Hostile Action Based
HazMat	Hazardous Materials
HCDEM	Hinds County Department of Emergency Management
HPCS	High Pressure Core Spray
HS1	Hostile action occurring in the Protected Area
HSEEP	Homeland Security Exercise and Evaluation Program
HSIN	Homeland Security Information Network
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
InForm	Emergency Notification Form Notification System
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LE	Law Enforcement
LPIO	Lead Public Information Officer
MDOT	Mississippi Department of Transportation
MEMA	Mississippi Emergency Management Agency
MHP	Mississippi Highway Patrol
MHz	Megahertz
MNG	Mississippi National Guard
mR/hr	milli-Roentgens per hour
MSD	Medical Services Drill
MSDH/DRH	Mississippi State Department of Health/Division of Radiological Health
MSWIN	Mississippi Wireless Information Network
NIMS	National Incident Management System
NLT	No Later Than
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
NUREG-0654/ FEMA REP-1	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
OOS	Out-of-Sequence
ORO	Off-Site Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PDAFN	Persons with disabilities and access/functional needs
PIO	Public Information Officer
PNS	Prompt Alert and Notification System
PRD	Permanent-Record Dosimeter

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Acronym	Meaning
PPE	Personal Protective Equipment
R	Roentgen
RAC	Regional Assistance Committee
RASCAL	Radiological Assessment Systems for Consequence Analysis
RC	Reception Center
RCCC	Reception and Congregate Care Center
RCIC	Reactor Core Isolation Cooling
REAC/TS	Radiation Emergency Assistance-Training Site
RECO	Radiation Exposure Control Officer
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RERT	Radiological Emergency Response Team
RERTC	Radiological Emergency Response Team Coordinator
RSO	Radiation Safety Officer
SAE	Site Area Emergency
SAV	Staff Assistance Visit
SCRAM	Safety Control Rod Actuator Mechanism
SEOC	State Emergency Operations Center
SOG	Standard Operating Guide
SOP	Standard Operating Procedure
SRAAO	State Radiological Accident Assessment Officer
TCP	Traffic Control Point
TLD	Thermoluminescent Dosimeter
USCG	United States Coast Guard
VOIP	Voice Over Internet Protocol
WCEOC	Warren County Emergency Operations Center
WebEOC	Web-based Emergency Operations Center

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Appendix D: Extent-of-Play Agreement

EXTENT OF PLAY AGREEMENT

2015 GRAND GULF NUCLEAR STATION

HOSTILE ACTION BASED

RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE

This Extent of Play Agreement is written by exception. If it is not listed as an exception, it will be demonstrated as described in the plans, standard operating guides (SOG) and/or procedures (SOP). This exercise is planned in accordance with the Radiological Program Manual June 2013 as the exercise planning cycle had begun prior to the release of the Radiological Program Manual January 2015. All activities will be demonstrated fully in accordance with respective plans and procedures as they would be in an actual emergency, activities which are not demonstrated due to exercise artificialities will be demonstrated through interview. FEMA must receive plans, guides and procedures NLT 90 days (July 23, 2015) before the exercise. Any issue or discrepancy arising during exercise play may be redemonstrated if allowed by the Regional Assistance Committee (RAC) Chairman or as listed herein. This allowance may be granted if it is not disruptive to exercise play and is mutually agreed upon by the MEMA REP Program Manager, Lead Controller and Lead FEMA evaluator.

1. Core Capability: Operational Coordination:

Definition: Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Jurisdictions: *SEOC, JIC, EOF, MSDH/DRH, Risk County (Claiborne), Host Counties (Adams, Copiah, Hinds and Warren)*

1.1 Capability Target: Emergency Operations Management

Performance Measure: *Demonstrate alert, notification, and mobilization of emergency personnel and facility activation; a facilities ability to support emergency operations; management of communications capabilities; and the ability to sufficiently support emergency operations.*

1.1.1 Critical Task: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/ FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4; Criterion 1a1).

MEMA and MSDH/DRH: Prepositioning will consist of State Area Coordinators, Field

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Teams and EOF personnel. These positions will be prepositioned near or at designated exercise locations and will respond as the scenario dictates. Other state personnel will not be pre-positioned and will respond in accordance with State alert procedures. Alert rosters will be provided to FEMA evaluators for review.

Risk County (Claiborne) and Host Counties (Adams, Copiah, Hinds and Warren): The Risk County and ICP exercise participants will respond real-time at their exercise locations. Host County personnel will respond real-time at respective exercise locations.

1.1.2 Critical Task: Facilities are sufficient to support emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b; Criterion **1b1**).

1.1.3 Critical Task: At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion **1d1**).

Risk County (Claiborne) ICP: Incident Command responder's communications and response equipment will be prepositioned and setup for operations prior to commencement of the exercise to facilitate time jumps and FEMA evaluator interviews.

1.1.4 Critical Task: Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

MEMA, MSDH/DRH, Risk County (Claiborne) and Host Counties (Adams, Copiah, Hinds and Warren): Site Assistance Visits (SAV) will consist of verification of calibration dates on survey/monitoring equipment and dosimeters; inspection of ORO REP training records; and inspection and verification of KI and expiration letter. SAV's will occur concurrently with scheduled OOS activities; dates for SAV's and OOS activities are as follows:

Warren County:	MSD	Sep 28 th	9:00 AM – 1:00 PM
Warren County:	RCCC	Sep 28 th	6:00 PM – 10:00 PM
MSDH/DRH:	SAV	Sep 29 st	9:00 AM – 11:00 AM
Adams County:	RCCC	Sep 29 th	6:00 PM – 10:00 PM
MEMA:	SAV	Sep 30 st	9:00 AM – 11:00 AM
Hinds County:	RCCC	Sep 30 st	6:00 PM – 10:00 PM
Claiborne County:	EWD	Oct 1 th	9:00 AM – 12:00 PM
MEMA:	TCP's	Oct 1 th	2:00 PM – 3:00 PM
Copiah County:	RCCC	Oct 2 st	6:00 PM – 10:00 PM

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1.2 Capability Target: Protective Action Decision Making

Performance Measure: *Demonstrate key personnel ability to execute direction and control of response effort; PAD making by OROs; PARs for current onsite/offsite conditions; PAD for the general public; and PADs for PDAFNs.*

- 1.2.1 Critical Task:** 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/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6; Criterion **1c1**).

SEOC and Risk County (Claiborne): Demonstrate activation and setup of HSIN Portal as an additional means of communication for conducting face to face coordination and decision making between MEMA, Risk and Host County Directors for one briefing.

- 1.2.2 Critical Task:** 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/FEMA-REP-1, C.6; J.10. e, f; K.3.a, 4; Criterion **2a1**).

SEOC and MSDH/DRH: If this criterion is not triggered by exercise events, procedures for emergency worker exposure control will be discussed in sequence during the exercise at Emergency Operations Centers.

- 1.2.3 Critical Task:** Appropriate PARs 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/FEMA-REP-1, I.10 and Supplement 3; Criterion **2b1**).

- 1.2.4 Critical Task:** A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PAD for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m; Criterion **2b2**).

- 1.2.5 Critical Task:** PADs are made, as appropriate, for groups of PDAFNs. (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e; Criterion **2c1**).

Risk County (Claiborne): If this criterion is not triggered by exercise events, protective action decision-making for PDAFNs/Special Populations will be demonstrated through discussion at the EOC. PDAFN records may be visually inspected only.

Risk County (Claiborne): If this criterion is not triggered by exercise events, school officials will discuss protective action decision-making in relation to the exercise scenario.

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1.3 Capability Target: Protective Action Implementation

Performance Measure: *Demonstrate the capability to implement emergency worker exposure control; KI decision for institutionalized individuals and the general public; implementation of protective actions for PDAFNs; implementation of schools; and establishment of traffic control and resolution of impediments to evacuation.*

- 1.3.1 Critical Task:** The OROs issue appropriate dosimetry, KI 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. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4; Criterion 3a1).

SEOC: The MEMA RECO will demonstrate one EW deployment briefing, issue dosimetry and KI on-location at TCP SAE#2 during OOS demonstrations on Oct 1, 2015 at 2PM. There will be no MEMA RECO demonstration during the HAB REP exercise conducted on 21 October 2015; this OOS demonstration will serve in its place.

Risk County (Claiborne) and Host Counties (Adams, Copiah, Hinds and Warren): Radiation Exposure Control briefings will be observed by FEMA Evaluators at the commencement of all OOS exercise activities for each jurisdiction.

- 1.3.2 Critical Task:** KI and appropriate instructions are available should a decision to recommend use of KI for the general public and institutionalized individuals be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f; Criterion 3b1).

Risk County (Claiborne): If this criterion is not triggered by exercise events, KI distribution and record keeping for general public and institutionalized individuals will be discussed in relation to the exercise scenario.

- 1.3.3 Critical Task:** PADs are implemented for PDAFNs other than schools within areas subject to protective actions. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3c1).

Risk County (Claiborne): If this criterion is not triggered by exercise events, contact and implementation of PDAFNs will be discussed in relation to the exercise scenario.

- 1.3.4 Critical Task:** OROs/School officials implement protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3c2).

Risk County (Claiborne): If this criterion is not triggered by exercise events, demonstrate the ability to implement PADs for schools through interview.

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Host County (Copiah): Discuss through interview the possibilities of onsite emergencies at primary RC and who would be responsible to implement additional PADs for schools and what those PADs may involve.

- 1.3.5 Critical Task:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j; Criterion **3d1**).

MEMA: An OOS TCP demonstration will be conducted on Oct 1, 2015 at 2PM. TCP SAE#2, Ingleside-Karnac Ferry Road west of intersection US 61 will be the designated TCP location for demonstration.

MEMA: TCP coordination and deployment will be discussed in relation to the exercise scenario.

- 1.3.6 Critical Task:** Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k; Criterion **3d2**).

MEMA: Procedures for identifying and resolving impediments to evacuation will be discussed in relation to the exercise scenario. The impediment will be IAW the 2013 REP Program Manual requirements.

2. Core Capability: Public Information and Warning

Definition: Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.

Jurisdictions: *SEOC, JIC, and Risk County (Claiborne)*

2.1 Capability Target: Emergency Notification & Public Information

Performance Measure: *Demonstrate primary alerting and notification of the public; backup alert and notification of the public for siren failure and/or waterway warning; accurate emergency information and instruction to public and news media.*

- 2.1.1 Critical Task:** 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. (NUREG-0654/FEMA-REP-1, E.5, 6, 7; Criterion **5a1**).

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Risk County (Claiborne): Initial siren activation will be completed by a “growl” test of that system as exercise play dictates; subsequent activations will be simulated. Initial activation of the EAS will be demonstrated up to the point of actual broadcast to the public in relation to the exercise scenario.

MEMA: The MEMA JIC is now collocated with the MEMA facility at #1 MEMA Drive, Pearl, Mississippi 39208. Initial activation of the EAS will be demonstrated up to the point of actual broadcast to the public in relation to the exercise scenario.

- 2.1.2 Critical Task:** Backup alert and notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654/FEMA-REP-1, E.6, Appendix 3.B.2.c; Criterion 5a3).

Risk County (Claiborne): Backup route alerting will be demonstrated through interview only if a siren failure is indicated; if there is no siren failure, backup route alerting procedures will be discussed in relation to the exercise scenario.

- 2.1.3 Critical Task:** Backup alert and notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654/FEMA-REP-1, E.6, Appendix 3.B.2.c; Criterion 5a3).

MEMA: Waterway warning will be discussed with the appropriate agencies in relation to the exercise scenario.

Risk County (Claiborne): Waterway warning will be discussed with the appropriate agencies in relation to the exercise scenario.

- 2.1.4 Critical Task:** OROs provide accurate emergency information and instruction to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c; Criterion 5b1).

MEMA and Risk County (Claiborne): Public Information should ensure emergency information and instructions are consistent with PADs made by appropriate officials. The emergency information must contain all necessary and applicable instructions (e.g., evacuation instructions, evacuation routes, RC locations, what to take when evacuating, shelter-in-place instructions, information concerning protective actions for schools and PDAFNs, and public inquiry hotline telephone number) to assist the public in carrying out the PADs provided.

Additionally, demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public;

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demonstrate an effective system is in place for dealing with calls received via the public inquiry hotline; and address dissemination of information dealing with specific aspects of NPP security capabilities, actual or perceived adversarial (terrorist) force or threat, and tactical LE response must be coordinated/communicated with appropriate security authorities, e.g., LE and NPP security agencies, in accordance with ORO plans/procedures.

3. Core Capability: Environmental Response/Health and Safety

Definition: Ensure the availability of guidance and resources to address all hazards including hazardous materials, acts of terrorism, and natural disasters in support of the responder operations and the affected communities.

Jurisdiction: *EOF, Field Teams, Risk County (Claiborne), and Host Counties (Adams, Copiah, Hinds and Warren)*

3.1 Capability Target: Protective Action Decision Making

Performance Measure: *Demonstrate protective action decision-making by OROs concerning exposure control; PARs for current onsite/offsite conditions; PAD for the general public.*

3.1.1 Critical Task: 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/FEMA-REP-1, C.6; J.10. e, f; K.3.a, 4; Criterion **2a1**).

3.1.2 Critical Task: Appropriate PARs 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/FEMA-REP-1, I.10 and Supplement 3; Criterion **2b1**).

3.1.3 Critical Task: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PADs for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m; Criterion **2b2**).

3.2 Capability Target: Field Measurement and Analyses

Performance Measure: *Demonstrate alert, notification, and mobilization of emergency personnel and facility activation; management of communications capabilities; and the ability to sufficiently support emergency operations; manage field teams in gathering radiation release data and controlling exposure; FMT operations within the plume*

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exposure pathway EPZ performing detection capabilities; collect appropriate measurements and samples to support protective action decision-making.

- 3.2.1 Critical Task:** OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/ FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4; Criterion **1a1**).
- 3.2.2 Critical Task:** At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion **1d1**).
- 3.2.3 Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (NUREG-0654 H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

MSDH/DRH: A SAV will be conducted at the MSDH/DRH on Sep 29, 2015 from 9 AM to 11 AM. The SAV will include assessment of monitoring instruments, radiological emergency response training records, dosimetry, and KI and a review of items listed on the 2013 ARCA 028-13-1e1-A-01, which include: implementation of a radiation instrument calibration tracking program; review of training for members of the RERTs, to include the driver and support members; development and implementation of a reproducible geometry check source jig to include an operational check procedure to source check equipment prior to deployment; check sources assigned to instruments and range of reading labels affixed to meters; and development of SOPs or SOGs to conduct: source response checks, issue dosimetry, conduct radiation surveys, and collecting air samples.

MSDH/DRH: ARCA 028-13-1e1-A-01 requires correction. MSDH/DRH will demonstrate correction on the 6th Oct 2015 from 9am to 11am.

- 3.2.4 Critical Task:** Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a; Criterion **4a2**).

MSDH/DRH: Will utilize Field Teams to develop “Field Team Turnover” procedures with the MSNG CST concerning Field Operations transitioning from hostile action operations to normal/peacetime operations in a training capacity only.

- 3.2.5 Critical Task:** 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/FEMA-REP-1, C.1; H.12: I.8, 9; J.10.a; Criterion **4a3**).

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MSDH/DRH: Critical task 3.2.5 will not be applicable pending the successful outcome of critical task 3.2.3. Otherwise, MSDH/DRH will utilize Field Teams for Field Operations during the graded exercise.

- 3.2.6 Critical Task:** The field teams (2 or more) 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/FEMA-REP-1, C.1; I.8; J.11; Criterion **4b1**).

MSDH/DRH: Critical task 3.2.6 will not be applicable pending the successful outcome of critical task 3.2.3. Otherwise, MSDH/DRH will utilize Field Teams for Field Operations during the graded exercise. Samples of water, vegetation and soil will be demonstrated by field team personnel.

3.3 Capability Target: Support Operations Facilities (RC)

Performance Measure: *Demonstrate management of communications capabilities; the ability to sufficiently support emergency operations; capability to implement emergency worker exposure control; KI decision for institutionalized individuals and the general public; adequately trained personnel and equipment to support RC operations; and adequate resources and personnel to support emergency workers and vehicles.*

- 3.3.1 Critical Task:** At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion **1d1**).
- 3.3.2 Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

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3.3.3 Critical Task: The OROs issue appropriate dosimetry, KI 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. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4; Criterion **3a1**).

Risk County (Claiborne) and Host Counties (Adams, Copiah, Hinds and Warren): Radiation Exposure Control briefings will be observed by FEMA Evaluators at the commencement of all OOS exercise activities for each jurisdiction.

3.3.4 Critical Task: KI and appropriate instructions are available should a decision to recommend use of KI for the general public and institutionalized individuals be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f; Criterion **3b1**).

3.3.5 Critical Task: The RC facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12; Criterion **6a1**).

Host Counties (Adams, Copiah, Hinds and Warren): Staff responsible for the radiological monitoring of evacuees must demonstrate the capability to attain and sustain, within about 12 hours, a monitoring productivity rate per hour needed to monitor the 20 percent EPZ population planning base. The 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 procedure. For demonstration of monitoring, decontamination, and registration capabilities, a minimum of six evacuees must be monitored per station using equipment and procedures specified in the plans/procedures. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators to determine whether the 12-hour requirement can be met. Refer to section 1.1.4 for specific dates and times of OOS specific events.

SAV's will be conducted in conjunction with the OOS events for each Host County. The SAV includes assessment of monitoring instruments, dosimetry, and KI. The SAV dates/results will be provided to evaluators by the Site Emergency Management Specialist.

3.3.6 Critical Task: The facility/ORO has adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles. (NUREG-0654/FEMA-REP-1, K.5.a, b; Criterion **6b1**).

Risk County: Monitoring of emergency workers does not have to meet the 12-hour requirement. However, appropriate monitoring procedures must be demonstrated for a minimum of two emergency workers and their equipment and vehicles. Provisions for

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separate showering and same-sex decontamination must be demonstrated or explained. Monitoring procedures must be demonstrated for a minimum of one vehicle. The Emergency Worker Decontamination (EWD) Station OOS activity will be conducted at the Hermanville FD on Oct 1, 2015 from 9AM to 12PM.

MSDH/DRH: Field Teams will participate as EW's to be processed through the Emergency Worker Decontamination (EWD) Station during the OOS activity at Hermanville FD on Oct 1, 2015 from 9AM to 12PM. MSDH/DRH Field Teams will be composed of two emergency workers and their equipment and vehicles to achieve the FEMA requirement.

4. Core Capability: Critical Transportation (Schools)

Definition: Provide transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.

Jurisdictions: *Risk County (Claiborne) and Host County (Copiah)*

4.1 Capability Target: Protective Action Implementation

Performance Measure: *Demonstrate the implementation of schools.*

4.1.1 Critical Task: OROs/School officials implement protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3c2).

Host County (Copiah): In the event of possible emergency at primary RC, demonstrate the ability to implement PADs for schools through interview. Refer to Critical Task 1.3.4.

5. Core Capability: On-Scene Security and Protection (TCP)

Definition: Ensure a safe and secure environment through LE and related security and protection operations for people and communities located within affected areas and also for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.

Jurisdictions: *SEOC (TCP/Waterway Warning)*

5.1 Capability Target: Protective Action Implementation

Performance Measure: *Demonstrate the management of communications capabilities; and the ability to sufficiently support emergency operations; capability to implement*

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emergency worker exposure control; and establishment of traffic control and resolution of impediments to evacuation.

5.1.1 Critical Task: At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion **1d1**).

5.1.2 Critical Task: Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

MEMA: A SAV will be conducted at MEMA on Sept. 28, 2015 from 9 AM to 11AM. The SAV includes assessment of monitoring instruments, ORO REP Training records, dosimetry, and KI, the SAV dates/results will be provided to evaluators by the Site Emergency Management Specialist.

5.1.3 Critical Task: The OROs issue appropriate dosimetry, KI 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. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4; Criterion **3a1**).

SEOC: The MEMA RECO will demonstrate one EW deployment briefing, issue dosimetry and KI on-location at TCP SAE#2 during OOS demonstrations on Oct 1, 2015 at 2PM. There will be no MEMA RECO demonstration during the HAB REP exercise conducted on Oct 21, 2015; this OOS demonstration will serve in its place.

5.1.4 Critical Task: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j; Criterion **3d1**).

MEMA: Demonstrate State TCP SAE#2, Ingleside-Karnac Ferry Road west of intersection US 61 on Oct 1, 2015 at 2PM.

5.1.5 Critical Task: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k); Criterion **3d2**).

MEMA: Demonstrate State TCP SAE#2, Ingleside-Karnac Ferry Road west of intersection US 61 on Oct 1, 2015 at 2PM.

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6. Core Capability: Mass Care (CC)

Definition: Provide life-sustaining services to the affected population with a focus on hydration, feeding and sheltering to those who have the most need as well as support for reunifying families.

Jurisdictions: *Host Counties (Adams, Copiah, Hinds and Warren)*

6.1 Capability Target: Support Operations and Facilities

Performance Measure: *Demonstrate the ability to sufficiently support emergency operations; KI decision for institutionalized individuals and the general public; and the direction and control exhibited by Congregate Care Managers to provide reasonable accommodations and contamination free shelter to evacuees.*

6.1.1 Critical Task: Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

Host Counties (Adams, Copiah, Hinds and Warren): Refer to section 1.1.4 for specific dates and times of specific OOS events. SAV's will be conducted in conjunction with the OOS events for each Host County. The SAV includes assessment of monitoring instruments, dosimetry, and KI. The SAV dates/results will be provided to evaluators by the Site Emergency Management Specialist.

6.1.2 Critical Task: KI and appropriate instructions are available should a decision to recommend use of KI for the general public and institutionalized individuals be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f; Criterion **3b1**).

6.1.3 Critical Task: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with ARC planning guidelines. 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/FEMA-REP-1, J.10.h, J.12; Criterion **6c1**).

7. Core Capability: Public Health and Medical Services

Definition: Provide lifesaving medical treatment via EMS and related operations and avoid additional disease and injury by providing targeted public health and medical support and products to all people in need within the affected area.

Jurisdictions: *Host County (Warren):*

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7.1 Capability Target: Support Operations and Facilities (EMS & Hospital)

Performance Measure: *Demonstrate the management of communications capabilities; the ability to sufficiently support emergency operations; capability to implement emergency worker exposure control; and adequately trained personnel and resources to support transport, medical and decontamination operations.*

7.1.1 Critical Task: At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion **1d1**).

7.1.2 Critical Task: Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion **1e1**).

Host County (Warren): Refer to section 1.1.4 for specific dates and times of specific OOS events. SAV's will be conducted in conjunction with the OOS events. The SAV includes assessment of monitoring instruments, dosimetry, and KI. The SAV dates/results will be provided to evaluators by the Site Emergency Management Specialist.

7.1.3 Critical Task: The OROs issue appropriate dosimetry, KI 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. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4; Criterion **3a1**).

Host County (Warren): "ORO must demonstrate the capability to provide emergency workers (including supplemental resources) with the appropriate direct-reading and permanent record dosimetry, dosimeter chargers, KI, and instructions on the use of these items." FEMA Evaluators will observe the Radiation Exposure Control briefing for each Host County at or before commencement of exercise activities.

7.1.4 Critical Task: 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/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4; Criterion **6d1**).

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Host County (Warren): The Medical Service Drill will be conducted in accordance with Warren County EMS/Vicksburg FD Procedure for Response to Radiological Emergencies and The Hospital Emergency Department Management of Radiation Accidents Plan for The River Region Medical Center, Vicksburg, MS.

Host County (Warren): Medical Service Drill locations are Vicksburg Fire Station #5 and River Region Medical Center, Vicksburg MS. The Medical Service Drill will be conducted on 30 September 2015 at 9 AM.

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Appendix E: GGNS Medical Drill

Date: September 28, 2015

Site Specialist/Team Leader: Gerald McLemore

Assist Evaluator: Bob Spence

Warren County Medical Service Drill (MSD)

Core Capability: 7. Public Health and Medical Services

Contained in this section are the results and findings of the evaluation of the Warren County Medical Service Drill for the GGNS.

Participating agencies supporting this MSD were:

1. Warren County Emergency Management for radiological support and direction.
2. Vicksburg FD EMS for emergency treatment and medical transport.
3. River Region Medical Center for patient treatment and decontamination.
4. MEMA for exercise support.
5. Entergy – GGNS for exercise controlling and support.

Capability Target: 7.1 Support Operations Facilities

EMS Portion

The Grand Gulf MSD began at Vicksburg Fire Station #5 and transitioned to River Regions Medical Center. The MSD scenario began with a General Emergency (GE) exercise notification inject at 0831. The Warren County Emergency Manager received the GE notification (scenario inject) and immediately notified the Warren County 911 Dispatch Office. The Warren County 911 Dispatch Office notified fire personnel on the GE ECL at 0836; the notification was observed on a fire chief's cell phone. At 0847, an exercise inject informing of a possibly contaminated and injured person in an overturned vehicle was reported to the Warren County 911 Dispatch Office by the Warren County EMD. The Warren County 911 Dispatch Office immediately dispatched an ambulance crew.

Upon arrival on scene at 0848, the three-person ambulance crew was greeted and provided a situation brief from an on-scene MHP Trooper (the exercise Controller). Due to the scene being located 12 miles from GGNS and the MHP not wearing protective equipment, the ambulance crew perceived the crash site as uncontaminated and did not don any protective equipment. The Controller then provided further information concerning potential hazards while traversing from GGNS to the crash site, triggering a response and the ambulance crew decided to don facial protection, double gloves and booties prior to making initial patient contact at 0851. The ambulance crew quickly assessed the patient's medical needs and began stabilization. However,

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the ambulance crews' initial mindset of a non-contaminated crash site remained, as they didn't conduct an initial radiological assessment of the patient until 0906 after cocooning the patient. The cocooning procedure was successfully accomplished however; the steps were not accomplished logically or neatly. When the ambulance crew determined the need to assess the radiological threat, they incurred difficulties opening the cocoon to survey the patient injuries.

Once the ambulance crew was able to survey the patient's injuries, their unfamiliarity with survey equipment became evident as the Controller provided an inject, stating the meter had gone off-scale high while surveying the patient's left side using the 1x scale. The ambulance crew member was unsure of what actions to take; which should have been to switch to the 10x scale. The Controller requested the opportunity to conduct on-the-spot re-training. After a few minutes of training, the ambulance personnel re-started the survey and successfully accomplished the patient survey. The ambulance crew requested a nearby fireman to notify the medical center of patient status and information while they re-secured the cocoon around the patient. The fireman did so via radio communications to the hospital.

At 0930, the patient was medically stabilized, cocooned and loaded into the ambulance. The ambulance crew conducted a glove change and properly disposed of potential contaminated waste in a single container within the ambulance. The ambulance departed to River Region Medical Center. The ambulance crew notified the medical center a second time, at 0939, with patient status, vitals and personal information.

The ambulance arrived at the medical center at 0949. They were directed across a blue plastic tarp to a designated parking position. Once the vehicle was safely parked, the patient was removed and placed next to the hospital decontamination gurney/table. An ambulance crewman provided an excellent transfer briefing to the hospital staff and the patient was physically lifted from the ambulance gurney to the clean hospital decontamination gurney/table thus completing the patient transfer.

An interview was conducted with the ambulance crew to determine their next actions. They stated they would clean up and survey the ambulance and then standby by to be surveyed by hospital staff. They successfully demonstrated the survey of the ambulance gurney. They then discussed how the hospital staff would survey them and they properly doffed protective equipment.

Hospital Portion

The Hospital received the initial call at 0833 from the County 911 center that the Vicksburg FD was responding to an accident scene with a potential radiological contaminated female patient. This action initiated a recall of the decontamination team and administrative support staff to report to the Emergency Room (ER).

Setup of the Hospitals Radiation Emergency Area (REA) began at 0839 with the ER Charge Nurse (CN) briefing the staff on the situation. The REA encompasses a buffer zone to the ER,

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the decontamination room (DR) and the ambulance receiving area. Using checklists and REA setup diagram from the Hospitals Radiological procedures, the assembled staff worked quickly to establish the REA. This was a collaborative effort with support from the engineering department, security team, ER, and Hospital administration. Two radiological equipment lockers containing setup supplies were removed from the DR and positioned outside of the buffer zone. The lockers contained everything needed to setup the REA to include, survey meters, dosimetry, posters, informational signs, drop cloths, plastic bags, paper & plastic rolls, boundary ropes, tape, and other disposal supplies. A buffer zone and contamination control line was established at the entrance of the decontamination room and labeled "Contamination Area – Do Not Enter". The exterior ambulance receiving area was cordoned off using safety cones and caution tape. Hospital Security Officers were positioned around the receiving area for security and to prevent unauthorized personnel from entering the REA. Plastic drop cloths were positioned over the interior buffer zone and exterior receiving area and secured with duct tape. A triage/decontamination table was then positioned in the center of the room with a 15-gallon drain barrel attached to the table to capture any contaminated fluid washed from the patient. At 0850 the setup of the REA was completed.

Simultaneous to the preparation of the REA, seven personnel began to prepare and don PPE. The personnel wore normal medical scrubs with a light-weight protective cover-all, a surgical bib, shoe covers, an inner set of gloves taped to the cover-all, an outer set of gloves, an N-95 surgical mask, and a surgical cap. The Buffer Zone Nurse prepared and issued the team personal dosimetry. This included a clip-on TLD worn on the inner clothing, a TLD ring on the finger, and two DRDs, a low range 0-500 mR and a high-range 0-5 R DRD. Both dosimeters were worn on the outer cover-all. She also reviewed the exposure limits with the team and ensured they knew the administrative limit was 100 mR and that the turn-back value was 500 mR.

Additionally, two members of the team prepared and conducted operational checks on two survey meters, with 44-9 pancake probes. Both meters were properly put in operation, and each member was familiar with the survey meters operations. The meters were within calibration and contained the appropriate range of reading stickers. A radiological background check of the decontamination room determined a reading of 50 CPM. Local procedures call for an action level of 300 CPM or greater to identify contamination. Next, an electronic dosimeter was put into operation and secured to the door inside the DR for area dose monitoring.

At 0906 the team received an update from the ambulance crew detailing the patient's injuries of a broken left forearm, bruised left knee, and forehead. The ambulance crew estimated their time of arrival to the hospital at approximately 30 minutes.

At 0910 a Health Physicist (HP) from the utility arrived in the ER to help and provide advice as needed. During this lull waiting for the patient to arrive, the Buffer Zone nurse took the time to go over each team member's role and asked them to look over their checklists. She also took the time to do a heads-up call to the Radiation Emergency Assistance Center Training Site (REAC/TS) in Oak Ridge, TN. to let them know they had a contaminated patient inbound and may need their assistance.

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At 0949 the ambulance arrived and the patient was off-loaded and transferred onto the Hospital's decon table. The ambulance crew briefed the emergency physician (EP) on the patient's vitals and injuries. The hospital team wheeled the patient into the decon room, where the EP began triage of the patient by assessing her vital signs and asking her questions to ascertain her condition. She complained of pain to her left side, but was stable and alert. Two team members then carefully removed the sheets covering the patient and simulated cutting away her clothes, while paying particular attention not to spread the radiological contamination. The EP confirmed that the patient had sustained a contusion on her left knee and forehead, and had a compound fracture of her left forearm.

The monitor began his initial survey of the patient, starting at the head and moving to the feet. The patient showed contamination on her left knee of 2000 CPM, left forearm of 2500 CPM and forehead of 1500 CPM. At 1005, the survey was complete and the EP set the priority of decontamination as; 1st left forearm, 2nd forehead and then the left knee.

The team started the decontamination of the forearm, using a sterile saline solution to flush the wound, and then blotted the wound with absorbent gauze. To help prevent the spread of contamination, an absorbent pad and dam was placed under the arm. Following the first decon, the pads were removed and a re-survey of the area detected that the contamination was still at 2000 CPM. Using the same procedure, the wound was flushed with saline and then blotted dry using gauze. A re-survey of the area showed the contamination was reduced to 500 CPM. The EP asked the team to switch to baby wipes to see if that would remove the contamination more effectively. Two more attempts were made using the same procedure, however, the team could not get the contamination below 500 CPM.

At 1021, the buffer nurse made a call to REAC/TS for advice while the attending team x-rayed the left forearm. The REAC/TS advisor requested the team verify if the contamination was BETA or just GAMMA. The team determined BETA was not present. The REAC/TS advisor recommended they attempt one more cleaning and, if contamination was still present, suture the wound as they normally would and have the patient follow-up with a specialist.

At 1046, the team continued by decontaminating the forehead and then the left knee using the same procedure and setup as previously demonstrated. A re-survey of the areas, showed no contamination. The team finished final decon at 1054. The patient's wounds were dressed and bandaged.

At 1056, the controller stopped play and reminded the team that the patient's clothes and the ambulance backboard were still under her. The team then proceeded to remove the backboard and survey the backside of the patient. They realized the material under the patient could have been the source of the 500 cpm around the wound that they could not remove. The team did a follow-up survey to verify no remaining contamination, and the patient was then transferred out to the ER for follow-on treatment.

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For simulation purposes only one team member was observed doffing their PPE. All actions were done in proper sequence and in accordance with the hospital's plan. The staff used appropriate exit procedures and the EMS personnel were monitored and released.

The decon team frequently changed gloves after contact with the patient to help prevent any spread of contamination. They were periodically reminded to read their dosimetry and report the readings. The team worked well together, with each member understanding their roles.