Nuclear/Radiological Incident Annex

Coordinating and Primary Agencies

Mississippi Emergency Management Agency (MEMA)
Mississippi State Department of Health (MSDH)
    Division of Radiological Health (DRH)

Support Agencies

Mississippi Department of Transportation (MDOT)
Mississippi Highway Safety Patrol (MHSP)
Mississippi Department of Human Services (MDHS)
Mississippi Department of Agriculture and Commerce (MDAC)
Mississippi Board of Animal Health (MBAH)
Mississippi State University – Extension Service (MSU-ES)
Mississippi Department of Wildlife, Fisheries, and Parks (MDWF&P)
Mississippi Department of Environmental Quality (MDEQ)
Mississippi Military Department (MMD)
Mississippi Department of Mental Health (MDMH)
Mississippi Public Utilities Staff (MPUS)
Mississippi Forestry Commission (MFC)
Mississippi Department of Education (MDE)

Federal Agencies

Nuclear Regulatory Commission (NRC)
Department of Energy (DOE)
Environmental Protection Agency (EPA)
Federal Emergency Management Agency (FEMA)
Department of Health and Human Services (HHS)
Department of Agriculture (USDA)
Department of Transportation (DOT)
Department of Commerce (DOC)
    National Oceanic and Atmospheric Administration (NOAA)
Department of the Interior (DOI)
    National Park Service (NPS)
Department of Housing and Urban Development (HUD)
United States Coast Guard (USCG)
Federal Bureau of Investigation (FBI)

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Table of Contents (NUREG Section II, P.8)

Nuclear/Radiological Incident Annex

1. INTRODUCTION. Inherent in issuing this Annex, as an integral part of the State of Mississippi Comprehensive Emergency Management Plan (CEMP), is recognizing the interrelationship between radiological emergency preparedness and other emergency planning. The state's overall emergency planning effort is based on an *All-Hazards* approach and the premise that similarities among the various emergencies require maximum standardization of procedures and practices to the extent possible. The state also recognizes that the dynamics associated with planning will be a continuous process to protect the people from personal injury or loss of life and to mitigate damage or loss of property resulting from radiological emergencies.

The State of Mississippi and the Mississippi Emergency Management Agency (MEMA) align their emergency management processes with the National Incident Management System (NIMS) and Incident Command System (ICS) doctrine as standard practice. Continually evolving, the state's methods strive for NIMS compliance and alignment with our federal partner's efforts, the Federal Emergency Management Agency (FEMA). However, there are instances when the state must adapt and improvise based on an incident or event's circumstances. The state's guiding priorities, principles, and leadership fundamentals provide variations in dealing with all nonstandard incident eventualities.

a. Purpose. This Nuclear/Radiological Incident Annex addresses the preparedness and response to Nuclear Power Plant (NPP) and transportation of radiological materials incidents that could impact public health and safety. The Annex establishes the planning and operational concepts to respond to emergencies in and around the incident sites, including identifying organizations with a response role, their general responsibilities, and inter-agency response guidelines.

b. Scope. Though all-encompassing, this document is not all-inclusive. This Annex replaces the Mississippi Radiological Emergency Preparedness Plan (MREPP). It contains state-level policy, directives, guidance, and expectations for nuclear/radiological response activities for NPPs, radiological transportation, and other radiological incidents. Some functional areas referenced in this document are not addressed in other stand-alone documents and thus are detailed. However, the vast majority of the tactical-level processes outlined in this document are addressed in greater detail in other Agency, Office, or functional area directives, plans, and Standard Operating Procedures (SOPs). When taken in their totality, they provide a coordinated and predictable response, thus ensuring the best chance and reasonable assurance of protecting the citizens of Mississippi.

The NPP component of this Annex addresses those elements and attributes of emergency planning and preparedness programs that are directly tied to meeting the planning standards in NUREG-

0654/FEMA-REP-1, Rev.2 (NUREG), 10 CFR 50.47(b), 44 CFR 350.5(a), USDOE/CBFO-98-3103, various components of 49 CFR 172, and other transportation plans and regulations. See Section 5. of this document for a comprehensive list of authorities and regulations.

The radiological transportation component of this Annex addresses those elements and attributes of emergency planning and preparedness programs that are directly tied to meeting the planning standards in DOE/CBFO-98-3103 TRU Waste Transportation Plan, Rev.5, Southern States Energy Board (SSEB) Transportation Planning Guide for the U.S. Department of Energy's Shipments of Transuranic Waste, and various other state and federal radiological transportation regulations.

This guidance describes approaches the State of Mississippi considers acceptable for implementing specific parts of each agency's regulations. It can be partially or fully implemented, anticipating a significant event or response to an incident. The selective implementation allows for a scaled response, delivery of the needed resources, and coordination appropriate to the incident. It is also used when Mississippi's capabilities are exceeded, and a federal government response is requested. This guidance is not a substitute for regulations; compliance is recommended but not required.

2. FACTS AND ASSUMPTIONS.

a. Facts.

(1) MEMA leads, manages, and coordinates the state's response to NPP, radiological transportation, or other radiological incidents.

(2) The MEMA 24/7/365 State Emergency Operations Center (SEOC) and State Warning Point (SWP) are the central points for all state response and incident communication activities.

(3) The Mississippi State Department of Health (MSDH)/Division of Radiological Health (DRH) is the lead state agency providing radiological technical assistance for radiological incidents and information on radiological protective action decisions to protect the public. The State Health Officer directs MSDH/DRH.

(4) Upon recognizing a radiological component to an incident, MEMA notifies the MSDH/DRH Director and/or the MSDH Office of Emergency Preparedness and Response (OEPR) Director. MSDH/DRH will then dispatch OEPR Emergency Response Coordinator (ERC) and/or DRH responder(s) to provide technical assistance to the IC.

(5) FEMA is responsible for reviewing and assessing state and local NPP emergency plans and for offsite radiological emergency planning and response for adequacy.

(6) The United States Nuclear Regulatory Commission (NRC) is responsible for onsite radiological emergency planning and NPP operation licensing. The NRC will review the FEMA findings and determinations on the adequacy of implementation of state and local plans and determine the overall (onsite and offsite) state of emergency preparedness before licensing an NPP.

(7) The Department of Energy (DOE) transports Waste Isolation Pilot Plant (WIPP) shipments of radioactive waste material through the State of Mississippi, which may experience incidents that could cause a release of radioactive materials. This could happen at any time and require state agencies to implement actions to protect the health and safety of the population.

(8) Transportation of Department of Defense (DOD) radioactive materials are not announced and may have armed escorts authorized to use deadly force.

(9) Incidents involving shipments of DOD nuclear materials are classified and will be responded to and managed by DOD.

(10) Transportation of non-DOD radioactive materials by commercial conveyance is a frequent occurrence and is reported to the SEOC. The owner of the radioactive material is responsible for the clean-up of incidents, which MSDH/DRH will oversee to ensure that the clean-up meets established standards.

(11) There is one NPP in Mississippi, the Grand Gulf Nuclear Station (GGNS), located in Port Gibson, MS. A portion of NE Louisiana (Tensas Parrish) falls within the ten and 50-mile EPZs.

(12) The GGNS "Risk" County, where the NPP is located, is Claiborne County. The GGNS "Host" counties are Warren, Adams, Copiah, and Hinds Counties.

(13) One NPP in Louisiana could impact Mississippi, the River Bend Nuclear Station (RBS), located in St. Francisville, LA. A portion of SW Mississippi (Adams, Amite, Franklin, Pike, and Wilkinson Co.) falls within the 50-mile EPZ of RBS.

b. Assumptions.

(1) Local agencies will respond first to a nuclear/radiological incident.

(2) The onsite Incident Commander (IC) or designated entity at a radiological incident will notify the local emergency management agency (EMA) as quickly as possible. The local EMA will notify the MEMA SEOC/SWP.

(3) GGNS or RBS operators will notify state and local governments of an NPP incident in ample time to implement warning and protective actions for the public.

(4) It is likely that a nuclear/radiological incident involving an NPP, vehicle accident, fire, weather-related incident, nuclear site, industrial incident, or a Radiological Dispersal Device (RDD) will develop quickly. Timely communication and quick decision-making are needed to implement actions and protect the public.

(5) Some nuclear/radiological incidents develop slowly, providing sufficient time to institute effective protective measures.

(6) Radioactive materials may come from several other sources: imported materials with radioactive contamination, aircraft, ships, shipments of foreign-owned radioactive materials, and unknown sources, including abandoned radioactive materials.

(7) A radiological accident may release quantities of radioactive materials into the environment, creating a potential health hazard in areas downwind and/or downstream from the release point.

(8) A health hazard threat may require sheltering, monitoring and preparing, impounding water supplies, and/or area evacuation of people.

(9) Unknown radiological sources/incidents may not be immediately recognized until responders and/or the general public receive exposure.

(10) State officials recognize their responsibilities concerning the public's safety and well-being and implementing this emergency preparedness Annex.

3. **NUCLEAR POWER PLANT INCIDENT – CONCEPT OF OPERATIONS.** For the purpose of this document and to assist with cross-referencing, the acronym **(NUREG)** and associated components listed throughout this section refer to the NRC's *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (NUREG-0654/FEMA-REP-1), Revision 2, December 2019.*

a. Assignment of Responsibility (NUREG Section II, A.1, A.1.c, A.2, C.1, C.2.a, C.2.b). In coordination with MSDH/DRH, MEMA is responsible for managing the state's response to an incident at an NPP. As the Governor's Authorized Representative (GAR), MEMA's Executive Director is the individual responsible overall. As MEMA adheres to NIMS and ICS, the Executive Director will appoint an Incident Commander (IC) to oversee operational activities.

Mississippi Code 1972 Annotated, Title 33. Military Affairs, Chapter 15. Emergency Management and Civil Defense, Article 1. Emergency Management Law (§ 33-15-1 – 33-15-53) provides the legal basis for emergency response-related authorities, including the emergency powers of the Governor. Each state organization listed below in Section 2.a.(1), charged with emergency response, is led by a chief executive ultimately responsible for the organization's activities. § 33-15-14 further stipulates each responding organization will develop an operational plan, and § 33-15-53 mandates the assignment of designated emergency coordination officers (ECO). The ECO, representing an Emergency Support Function (ESF), is responsible for coordinating with MEMA on emergency preparedness issues, preparing and maintaining emergency preparedness and postdisaster response and recovery plans for such agency, maintaining personnel rosters to assist in disaster operations, and coordinating appropriate training for agency personnel. For a complete roster of the current state ECOs, contact the MEMA SEOC.

(1) State Tasked Organizations (NUREG Section II, A.1, A.1.a, A.1.c, C.1, C.2.a.)

Organization	Principal in Charge of Emergency Response
Governor's Office	Chief of Staff
ESF-1, Mississippi Department of Transportation	Executive Director
ESF-2, Mississippi Wireless Communications Commission	Executive Director
ESF-3, Mississippi Public Service Commission	Commissioner(s)
ESF-4, Mississippi Insurance Department	Commissioner
ESF-2, 5, 7, 14, & 15 Mississippi Emergency Management Agency	Executive Director
ESF-6, Mississippi Department of Human Services	Executive Director
ESF-8, Mississippi State Department of Health	State Health Officer
ESF-10, Mississippi Department of Environmental Quality	Executive Director
ESF-11, Mississippi Department of Agriculture and Commerce	Commissioner
ESF-12, Mississippi Public Utilities Staff	Executive Director
ESF-13, Mississippi Department of Public Safety	Commissioner
ESF-16, Mississippi Military Department	Adjutant General

(2) State Operational Roles (NUREG Section II, A.1.a, A.3, C.1, C.2.b, C.3, C.4).

(a) Governor's Office.

- Provides direction and control to ensure the health and safety of the state's population.

- If needed, declare a State of Emergency (SOE) to enhance response and

recovery.

- Requests federal assistance when needed.

- Issues executive orders, if needed.

- Participates in radiological emergency preparedness exercises and drills.

- Implement necessary protective action recommendations and issue evacuation orders, if needed, through the MEMA Executive Director and MSDH/DRH Director.

(b) Mississippi Emergency Management Agency. ESF #'s 2, 5, 7, 14, 15.

- Provides for developing and maintaining the Nuclear/Radiological Incident Annex and the Radiological Emergency Preparedness (REP) Program.

- Coordinates state and federal agencies' activities in implementing the Nuclear/Radiological Incident Annex in the event of a radiological or hostile action-based emergency.

- Provides for the activation and staffing of the SEOC.

- Provides a virtual incident situation room and dedicated conference call line for state response entities, the host (Claiborne), and risk counties (Warren, Adams, Copiah, Hinds).

- Serves as the SWP by providing 24/7/365 communications to receive any NPP, radiological, or hostile action-based emergency notification and any follow-up notification until the SEOC is activated. Once activated, updates are provided by briefings.

- Provides for adequate emergency communications.

- Assists local governments in the development and maintenance of REP plans and procedures.

- Provides for collecting and disseminating public information in coordination with local government, the utility, and other agencies.

- Provides personnel for the Joint Information Center (JIC). See section 3.c.(2)(c), *JIC*, or the MEMA External Affairs *JIC GGNS SOP*.

- Provides for developing and maintaining a comprehensive training and exercise program supporting the Nuclear/Radiological Incident Annex.

- Develops, conducts, and participates in exercises and drills.

- Provides continuity of technical, administrative, and material resources during response operations.

- Provides affected counties, state agencies, and NPPs copies of the Nuclear/Radiological Incident Annex and any subsequent revisions.

- Coordinates the allocation and use of resources during an emergency.

- Maintains Iodine Sensitivity Questionnaire for MEMA staff functioning as emergency workers.

- Provides a representative to the incident command post with Communications and decision-making authority as necessary.

(c) Mississippi State Department of Health (MSDH). ESF # 8.

- **Division of Radiological Health (DRH)**. ESF #8.

  - Acts as the lead agency for technical response.

  - Provides an independent accident assessment.

  - Provides personnel and equipment for the Radiological Emergency Response Team (RERT).

  - Advises state and local officials on implementing protective actions based on accident assessment.

  - Establishes radiological exposure controls for the general population.

  - Formulates guidelines and maintains permanent records for emergency worker exposure.

  - Establishes criteria for controlling ingress/egress to/from areas or zones surrounding an accident site.

- Develops re-entry criteria in coordination with the Environmental Protection Agency (EPA) and the Department of Health and Human Services (HHS).

- Develops exercises in coordination with MEMA and federal agencies.

- Provides radiological laboratory services **(NUREG Section II, C.4)**.

- Coordinates decontamination activities.

- Provides public information support to the MEMA Public Information Officer (PIO).

- Coordinates radiological response activities with GGNS and RBS.

- Establishes Potassium Iodide (KI) storage, distribution, and issuance policy.

- Maintains annual Iodine Sensitivity Questionnaire for MSDH staff functioning as emergency workers.

- Provides a representative to the incident command post and/or SEOC Command Staff as necessary.

- **Office of Environmental Health (OEH)**. ESF #8.

  - Provides advice to dairy operators, commercial farmers, and water supply operators on potential contamination in the affected EPZ.

  - Provides for the diversion of food and milk away from retail markets until radioisotopic analyses are performed and evaluated.

- **Division of Emergency Medical Services (EMS)**. ESF #8.

  - Provides medical triage and additional emergency medical services as needed **(NUREG Section II, C.2.d)**.

  - Provides medical assistance and/or advice on caring for contaminated and/or irradiated injured personnel.

  - Contact hospitals to determine the availability of beds for contaminated, injured, and other potential patients, including special needs and nursing home patients.

(d) Mississippi Department of Transportation (MDOT). ESF # 1.

- Executes the MDOT Radiological Emergency Response Plan.

- Coordinates appropriate activities with State and/or Federal agencies (including FAA, USCG, USDOI/Natchez Trace).

- Maintains annual Iodine Sensitivity Questionnaire for MDOT staff functioning as emergency workers.

(e) Mississippi Department of Public Safety (MDPS)/Highway Safety Patrol (MHSP). ESF #13.

- Provides notification and warning in coordination with MEMA and the operators of GGNS and RBS.

- Provides traffic and access control at pre-designated traffic control points to limit ingress and control egress from affected areas.

- Executes the MHSP Radiological Emergency Plan.

- Provides a representative to the incident command post with communication and decision-making authority to relieve Local Law Enforcement Agencies (LLEA) of incident command as required.

- Provides accident assessment support.

- Provides radiological monitoring support

- Provides backup communications.

- Maintains annual Iodine Sensitivity Questionnaire for MHSP staff functioning as emergency workers.

(f) Mississippi Department of Human Services (MDHS). ESF # 6.

- Acts as the lead agency for reception center activities.

- Assists local governments in caring for people evacuated from their homes.

- Provides food assistance to those who qualify through the Food Stamp and the Emergency Food Assistance Programs.

- Provides support to American Red Cross (ARC) shelter facility activities, as needed.

(g) Mississippi Department of Agriculture and Commerce (MDAC). ESF # 11.

- Coordinates the disposition of contaminated crops, lands, and equipment.

- Coordinates the monitoring and/or disposition of all meats and meat by-products.

- Provides, in coordination with MSDH/DRH, advice on the decontamination of crops, lands, and equipment.

- Assists in accident assessment and radiological monitoring.

- Maintains annual Iodine Sensitivity Questionnaire for MDAC staff functioning as emergency workers.

(h) Mississippi Board of Animal Health (MBAH). ESF #11.

- Coordinates the disposition of contaminated farm animals and household pets.

- Assists the MDAC with acquiring and distributing uncontaminated feed for dairy cattle, other farm animals, and household pets.

- Coordinates, with the MDEQ and other state agencies, the disposition of contaminated food, milk, and animal feed.

- Assists in accident assessment.

- Maintains annual Iodine Sensitivity Questionnaire for MBAH staff functioning as emergency workers.

- Develops directive information about animal issues related to the accident and coordinates with MEMA PIOs regarding releasing such information.

- Assists other state agencies in addressing animal decontamination and sheltering issues.

(i) Mississippi State University – Extension Service (MSU-ES). ESF #11.

- Provides for the distribution of general radiological information to farmers and livestock producers.

- Assists in providing emergency public information to farmers and livestock producers.

- Provides liaison between County Agricultural Agents and the SEOC.

- Assists in accident assessment and radiological monitoring, as needed.

- Maintains annual Iodine Sensitivity Questionnaire for MSU-ES staff functioning as emergency workers.

(j) Mississippi Department of Wildlife, Fisheries, and Parks (MDWF&P). ESF #s 9, 13.

- Assists in the disposition of contaminated wildlife and fish.

- Assists in radiological monitoring and accident assessment **(NUREG Section II. C.4)**.

- Provides backup communications.

- Provides law enforcement assistance as required.

- Provides RERT personnel to perform field activities such as the collection of samples. These activities are under the direction of the MSDH/DRH.

- Plans to cease all hunting, fishing, and occupation of areas within and surrounding the EPZ and/or IPZ. Stoppage should include areas outside restricted zone boundaries due to wildlife traveling into and out of the outlying borders of the restricted area.

- Warns and evacuates persons utilizing Mississippi state parks adjacent to or near GGNS or RBS.

- Maintains annual Iodine Sensitivity Questionnaire for MDWF&P staff functioning as emergency workers.

(k) Mississippi Department of Environmental Quality (MDEQ). ESF #10.

- Assists in radiological monitoring and accident assessment **(NUREG Section II, C.4)**.

- Assists in the reclamation of soil and water resources.

- Provides seismic information as needed.

- Maintains annual Iodine Sensitivity Questionnaire for MDEQ staff functioning as emergency workers.

(l) Mississippi Military Department (MMD). ESF # 16.

- Assists local governments and state agencies as directed by the Governor.

- Provides supplemental security needs as deemed appropriate by the Executive Director of MEMA based on the incident.

- Maintains annual Iodine Sensitivity Questionnaire for MDEQ staff functioning as emergency workers.

- Provides MEMA with the status of the 47th Civil Support Team.

- Activates in Alert Status, the 47th Civil Support Team, awaiting mission assistance **(NUREG Section II, C.4)**.

- Provide MEMA status of the Georgia National Guard, Joint Task Force 781, Chemical, Biological, Radiological, Nuclear, and high yield Explosive (CBRNE) Enhanced Response Force Package (CERFP); discusses the need for JTF 781 with MEMA **(NUREG Section II, C.4)**.

- Prepares the activation of military transport units and personnel for evacuation and re-entry requirements, if needed.

(m) Mississippi Department of Mental Health (MDMH). ESF #s 6, 8.

- Provides mental health services at shelters.
- Provides disaster assistance support.
- Provides emergency planning support.

(n) Mississippi Public Utilities Staff (MPUS). ESF #12.

- Provides resource management in locating alternate sources of energy.
- Provides technical liaison support to SEOC for energy-related emergencies.

(o) Mississippi Forestry Commission (MFC). ESF #4.

- Assists in providing emergency public information to farmers.
- Assists in accident assessment.
- Maintains annual Iodine Sensitivity Questionnaire for MFC staff functioning as emergency workers.

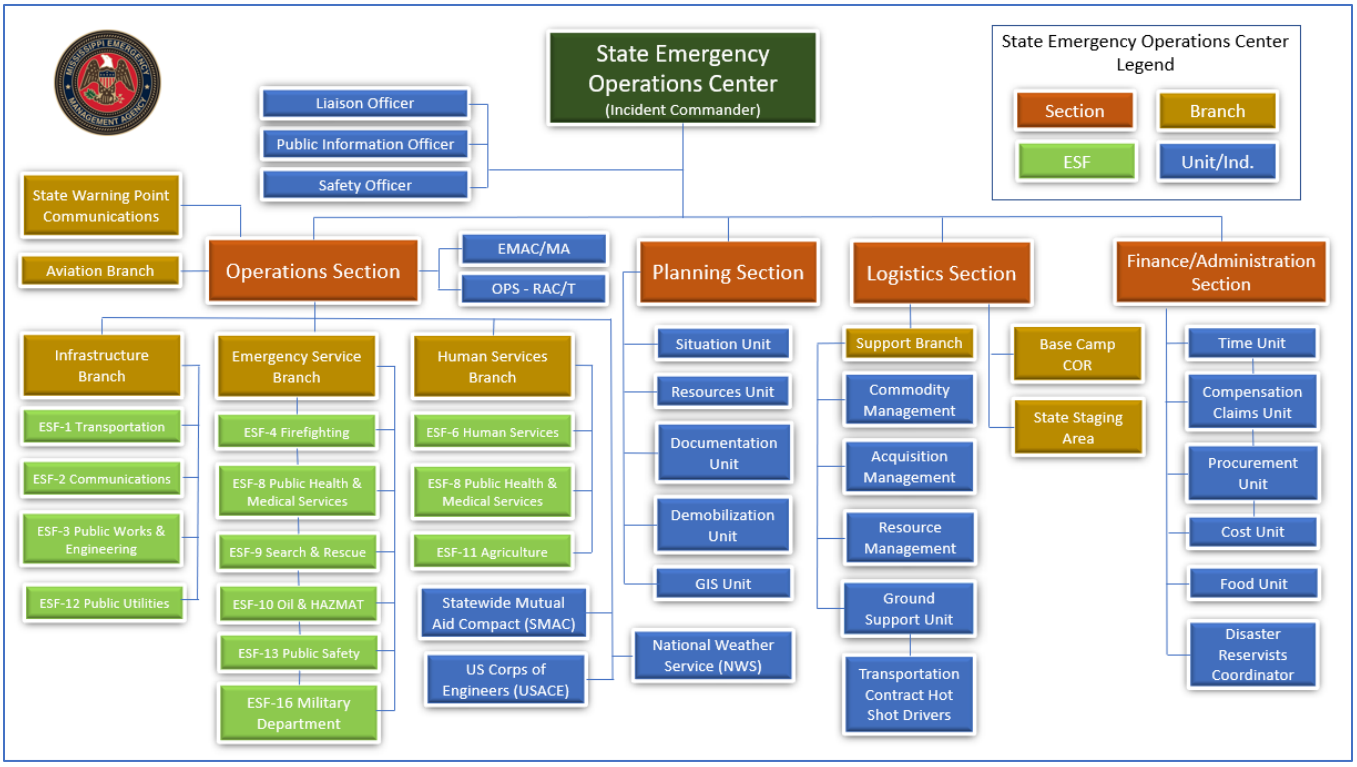
(p) Mississippi Department of Education (MDE). ESF #6.

- Directs host county school districts/boards to maintain ongoing communications with local CD/EM agencies to facilitate the use of school buildings during nuclear/radiological emergencies.
- Approves termination of school activities in the affected Risk County in the event of a nuclear/radiological emergency.

(q) State Agency PIO Support. ESF # 14. All or any freestanding units of state government will provide emergency public information support when tasked by the Governor or his designee.

(3) State Task Organization (NUREG Section II, A.1.a, A.1.b, A.3.).

(a) State Emergency Operations Center (SEOC) Organizational Chart: (next page).



(b) SEOC Key Positions (NUREG Section II, A.3, C.2.a).

- **Governor's Authorized Representative (GAR)** – MEMA Executive Director

- **Incident Commander (IC) –** MEMA Chief Operating Officer (Primary - P), MEMA Response Director (Alternate- A).

- **State Health Officer (SHO) –** MSDH Executive Director.

- **Radiological Advisor –** MSDH/DRH, Director of Radiological Health.

- **SEOC Operations Section Chief (OSC)** – MEMA Operations Bureau Director.

- **SEOC Planning Section Chief (PSC)** – MEMA Preparedness Regional Director.

- **SEOC Logistics Section Chief (LSC)** – MEMA Chief Logistics Officer.

- **SEOC Finance and Administration Section Chief (FSC)** – MEMA Chief Financial Officer (P), MEMA Director of Finance and Accounting (A).

- **SEOC Infrastructure, Emergency Services, and Human Services Branch Directors –** MEMA Assigned; see MEMA OSC for the current roster.

- **SEOC Emergency Support Function (ESF) Emergency Coordinating Officers –** Agency assigned; see the MEMA OSC for the current ECO Roster.

- **SEOC JIC Director** – MEMA Chief Communications Officer.

(4) County Operational Roles (NUREG Section II, A.1.a).

(a) County Board of Supervisors (BOS).

- Responsible for direction and control of the County response to any radiological emergency.

- Declares a state of local emergency on a Form DR-3 when conditions warrant such measures. The DR-3 will be forwarded to MEMA and is necessary for the state to assist the affected county.

- Prepares a local resolution to the Governor on Form DR-4 requesting a declaration of a State of Emergency. The DR-4 will be forwarded to MEMA.

(b) Local Civil Defense/Emergency Management Agencies (CD/EMA).

- Develops and maintains the Local Radiological Emergency Preparedness Plan.

- Schedules and participates in nuclear/radiological training activities.

- Coordinates with MEMA and MSDH/DRH to implement nuclear/radiological protective action decisions.

- Activates the Local Emergency Operations Center (LEOC).

- Directs the County's response, assigns missions and tasks, and directs the course of action that controls emergency operations.

- Coordinates with MEMA PIO on disseminating all public information (Risk County only).

- Provides resource continuity within the county.

- Maintains county emergency response plans and procedures.

- Coordinates with MEMA to activate the Alert and Notification System (this only applies to the Risk County).

- Maintains annual Iodine Sensitivity Questionnaire for county employees/volunteers functioning as emergency workers.

(c) County Sheriff's Office (SO).

- Maintains the 24-hour County Warning Point, where applicable.

- Maintains communications with LEOC.

- Assists with evacuation.

- Maintains law and order within their jurisdiction.

- Provides a representative to the incident command post with communication and decision-making authority to establish and assume incident command as required.

- Establishes Traffic Control Points at pre-designated locations to limit ingress and control egress from affected areas within the county.

(d) County Department of Human Services (DHS).

- Provides direction and control for reception center activities.

- Supports the American Red Cross and other county or volunteer organizations, staffing the shelter facilities as needed.

- Provides a central location service to reunite separated family members.

(e) County Health Department.

- Assists with potential health hazards and works closely with the MSDH/DRH.

- Maintains coordination with the County Department of Human Services.

- Ensures that first aid and other medical and dental support are available at the

reception center/shelter facilities.

- Maintains stockpile of KI for distribution to emergency workers (Risk County Only).

(f) County Fire Department (FD).

- Maintains fire control services.
- Assists in radiological monitoring.
- Facilitate requirements for emergency worker decontamination stations.

(g) County Road Maintenance Department.

- Provides personnel and equipment for traffic and access control at pre-designated points within the county.
- Coordinates all response plans with the MDOT Radiological Emergency Response Plan.

(h) County Public School District.

- Provides coordination and transportation of public-school students during evacuations in the Risk County.
- Arranges for the termination of school activities and prepare for the arrival of evacuees in host counties.
- Assists the County Department of Human Services in reuniting families that have been separated during an evacuation.

(i) County Extension Service/Agricultural Agent.

- Assists in identifying farmers and livestock producers.
- Assists in delivering radiological emergency public information to farmers.
- Provides protective action information to farmers and livestock producers.

- Identifies sources and coordinates the delivery of uncontaminated feed for livestock.

(5) City Operational Roles (NUREG Section II, A.1.a).

(a) City Mayor. Responsible for directing and controlling the city's response to any radiological emergency.

(b) City Police Department (PD).

- Maintains law and order within their jurisdiction.
- Assists with evacuation.
- Maintains communication with the LEOC.

(c) City Fire Department (FD). Maintains fire control services.

(6) PrivateSector/Non-Governmental Entities Operational Roles (NUREG Section II, A.1.a).

(a) American Red Cross (ARC).

- Acts as the lead agency for shelter facility activities.
- Provides personnel and supplies to operate the shelter facilities.
- Provides LEOC support.
- Provides family member location service.
- Provides food for evacuees, as needed.
- Provides support to MDHS reception center activities within resource constraints.

(b) Salvation Army (SA). Provides support to the Reception Center and Shelter Facility operations.

(c) Radio Amateur Civil Emergency Service (RACES).

- Provides backup communications capability to State and local EOCs.

- Provides additional and/or backup communications to local EOC, Reception Centers, and Shelter Facilities.

(7) Federal Operational Roles (NUREG Section II, A.1.a).

(a) United States Nuclear Regulatory Commission (NRC).

- Acts as the Cognizant Federal Agency responsible for coordinating the onsite response during any emergency at a fixed nuclear facility.

- Provides, in coordination with FEMA, planning guidance and assistance.

- Coordinates with FEMA to determine if state and local REP plans are adequate based upon FEMA review and evaluation.

- Provides pertinent onsite technical radiological data to the Department of Energy (DOE) and/or EPA and state and local officials during emergency operations.

(b) United States Department of Energy (DOE).

- Coordinates the federal offsite radiological monitoring, assessment, evaluation, and reporting activities during the initial phases of an emergency while maintaining technical liaison with state and local agencies with similar responsibilities.

- Maintains a common set of all offsite radiological monitoring data and provides this data and interpretation, including any federal dose projections, to the NRC and the state on an expedited basis to assist in developing other protective measures and re-entry recommendations for the public during the early, intermediate, and late phases of the radiological release.

- Assists the NRC in assessing the accident potential and develops technical recommendations on protective actions with other agencies.

- Assists the state in preparing re-entry recommendations and in recovery planning.

(c) United States Environmental Protection Agency (EPA).

- Coordinates intermediate and long-term offsite radiation monitoring activities.

- Assists DOE in offsite radiological monitoring.

(d) Federal Emergency Management Agency (FEMA).

- Coordinates the offsite (non-technical) support of all federal agencies.

- Provides planning guidance and assistance in conjunction with the NRC.

- Reviews and approves state and local offsite plans and procedures for dealing with a radiological emergency at an NPP.

- Request Federal Radiological Monitoring and Assessment Center (FRMAC) assistance.

(e) United States Department of Health and Human Services (HHS).

- Assists with the assessment, preservation, and protection of human health.

- Helps ensure the availability of essential human services.

- Provides technical and non-technical assistance through advice, guidance, and resources to federal, state, and local governments.

- Develops guidelines for using a thyroid-blocking agent through the Food and Drug Administration (FDA).

- Assists in developing recommendations on protective measures for food and animal feed.

(f) United States Department of Agriculture (USDA).

- Provides radiological advice on food products.

- Provides food and food coupon support as required.

(g) United States Department of Transportation (DOT).

- Provides civil transportation assistance and support.

- Coordinates the federal civil transportation response to support emergency

transportation plans and actions.

- Provides traffic control of aircraft operating in the vicinity of fixed nuclear facilities.

(h) United States Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA).

- Provides meteorological information and resources.

- Ensures that marine fishery products available to the public are not contaminated.

(i) United States Department of the Interior (DOI).

- Provides traffic control on the Natchez Trace Parkway.

- Directs the evacuation of Rocky Springs Park adjacent to Natchez Trace Parkway.

(j) United States Department of Housing and Urban Development (HUD).

- Provides information on available housing for displaced persons and/or families.

- Assists in locating housing for the displaced population, if required.

(k) United States Coast Guard (USCG). Provides traffic control of boats and ships operating on the Mississippi River in the vicinity of GGNS or RBS.

(l) Federal Bureau of Investigation (FBI). During a hostile action-based (HAB) event at GGNS, the FBI provides a representative to the incident command post to relieve LLEA/MHP of incident command and assumes Incident Command for the HAB event as required.

(8) Utility Operational Roles (GGNS/RBS) (NUREG Section II, A.1.a, C.2.c, C.4.).

(a) Coordinates facility emergency operations plan with MEMA and the MSDH/DRH.

(b) Entergy Operations, Inc. (GGNS) and Entergy Operations, Inc. (RBS) maintain and provide current facility emergency operating plans to MEMA. Entergy will provide these to Claiborne County also.

(c) Maintains dedicated communications capabilities with the state and local emergency response agencies.

(d) Provides notification and warning to state and local emergency response offsite organizations.

(e) Provides technical liaison at the State and local EOCs.

(f) Makes protective action recommendations to the State offsite response agencies.

(g) Develops dose projections for offsite exposure to accidental releases of radioactive materials from either GGNS or RBS.

(h) Coordinates with the MSDH/DRH to assess an incident, including providing accommodations at the Emergency Operating Facility (EOF).

(i) Participates in exercises and drills.

(j) Coordinates with MEMA in the promotion of public education and information. This includes providing the Joint Information Center (JIC) with accommodations and supplies for state, local, and federal public information staff. Also, provide PIO staff to State JIC.

(k) Provides emergency response training annually for offsite organizations that support the site with emergency services.

(l) Provides and maintains an Alert and Notification System within the plume exposure pathway with activation controls in the risk county.

(m) Provides a representative to the incident command post with communication and decision-making authority to augment the incident command as required.

b. Emergency Response Organizations (NUREG Section II, B.1). The facility licensee's site-specific responsibilities for emergency response are outlined in internal GGNS and RBS documents and are not addressed herein. See GGNS or RBS Operations for more information.

c. Emergency Response Support and Resources (NUREG Section II, C.1, C.2, C.3, C.4).

(1) General. Under the Governor's direction, state and local governments' total and combined efforts are utilized to mitigate the effects of nuclear/radiological hazards or hostile actions resulting from a nuclear/radiological emergency.

In the event of a nuclear/radiological emergency, the facility/conveyance operator notifies the appropriate officials/agencies. The local and state governments will take action as appropriate. For incidents at GGNS, Mississippi will be responsible for the notification and evacuation of the populace on the east side of the Mississippi River. Louisiana will be responsible for the notification and evacuation of the populace on the west side of the river.

(2) Direction and Control.

(a) State. The ultimate responsibility for the State's emergency response to a fixed nuclear facility accident belongs to and is directed by the Governor. The MEMA Executive Director serves as the Governor's authorized representative and coordinates the emergency response. The MEMA Executive Director makes all routine decisions and advises the Governor on courses of action available for major decisions. During the response, the MEMA Executive Director is responsible for the proper functioning of the SEOC. The Director also liaises with local, state, and federal agencies. The Governor or the MEMA Executive Director can request the National Response Framework (NRF) activation through FEMA Region IV if additional federal assistance is needed.

The Southern Mutual Radiological Assistance Plan provides workforce support for an accident's field sampling and laboratory analysis activities. Participating States include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas, each state providing its resources as required and requested to support response to an accident occurring in a participatory state **(NUREG Section II, C.4)**.

Various local community services and other public and private resources are available to support local response to an accident. These resources include hospitals, nursing homes, emergency medical services, transportation companies, schools, etc. The employment of such resources will be coordinated at the county level. Also, the Jackson/Evers International Airport has been identified as the arrival point for all federal resources, and the MS State Fairgrounds and the MS State Coliseum have been identified as the location to support the deployment of federal assets.

(b) Federal.

- **Federal Emergency Management Agency (FEMA)**. FEMA is the lead Federal agency for coordinating non-technical Federal support to State/local agencies in implementing protective measures. Support provided by federal agencies through FEMA is primarily logistical support and may include telecommunications, transportation, housing, and all other types of assistance not classified as technical. The federal government maintains an in-depth capability to assist State and local governments through the National Response Framework (NRF). MEMA will request operational support through FEMA.

- **Department of Energy (DOE)**. The DOE is the lead federal agency for coordinating federal technical support to state/local agencies in the technical assessment of an accident. Support provided by federal agencies through DOE may include offsite radiological monitoring, evaluation, assessment, and reporting activities. Support provided by DOE may also include laboratory support as required and requested during an accident. Details of federal technical support are identified in the Federal Radiological Monitoring and Assessment Plan. MSDH/DRH will request technological support augmentation through DOE. **(NUREG Section II, C.4)**.

(c) Facilities.

- **Local Facilities**. The local EOC, or designated alternate facility, is the location for county and city agencies to coordinate their response actions among themselves and with state and federal agencies.

- **State Facilities**.

  - **State Emergency Operations Center.** The SEOC is the location for all key response agencies to coordinate their response actions among themselves and with local and federal agencies responding to the emergency. It is activated to a limited degree during the **Alert** classification, fully activated at any higher classification.

  - **State Warning Point.** Located within the SEOC, the SWP is the hub of all nuclear/radiological incident communications.

  - **Governor's Conference Room (GCR)**. Located within the SEOC, the Command portion of the Command & General Staff operates out of the GCR. This includes, but is not limited to, MEMA Executive Director, Incident Commander, MSDH/DRH Director, GGNS/Entergy Technical Advisor, MEMA REP Program Manager, and Situation Unit Leader.

  - **Joint Information Center (JIC)**. The JIC, located at the SEOC, is responsible for arranging the timely exchange of information among designated utility, state, local, and federal spokespersons. Equipment and facilities are available to support timely communications and information dissemination concerning plant conditions. Appropriate arrangements have been made at the JIC to deal with rumor control. The JIC is activated at an **Alert** or higher classification. During a HAB-type incident, a request for key federal agency representation, i.e., FBI Liaison or PIO, will be made.

- **Nuclear Power Plant Facilities**.

  - **Control Room**. The Control Room is the location within a fixed nuclear

facility from which the reactor and most of its auxiliary systems are typically controlled. During emergency conditions, the control room operators will make initial notifications to offsite agencies.

- **Operations Support Center (OSC)**. The OSC provides an area for operations, maintenance, health physics, and chemistry personnel to assemble and be assigned duties supporting emergency operations.

- **Technical Support Center (TSC)**. The TSC provides an area outside the control room that can accommodate management, engineering personnel, and the NRC, supporting command and control functions during emergency conditions and emergency recovery operations.

- **Emergency Operations Facility (EOF)**. The EOF provides a location from which evaluation and coordination of all utility activities related to an emergency are carried out. The facility provides information and working space to offsite groups, assesses the impact of the emergency offsite, and provides the necessary offsite support to assist the onsite emergency organization.

- **HAB Incident Command Post**. During a hostile action-based incident at GGNS, an onsite response element and command post may be established to coordinate and manage activities at or near the plant. The GGNS Integrated Response Plan contains specific details regarding locations and command and control structure. The information contained in the document is maintained as For Official Use Only (FOUO) and Law Enforcement Sensitive (LES) and is maintained under separate cover. The MEMA REP Program Manager maintains a copy of the plan.

- **Federal Facilities**.

  - **Federal Response Center (FRC)**. FEMA establishes the FRC at a state-identified location to coordinate the federal response to a radiological emergency.

  - **Federal Radiological Monitoring and Assessment Center (FRMAC)**. The FRMAC is usually located at an airport near the scene of a radiological emergency from which the DOE conducts the federal radiological monitoring and assessment offsite response. For a GGNS emergency response, this federal facility will be flown to the Jackson/Evers International Airport (JAN) and set up at the MS State Fairgrounds in Jackson. The estimated response time from an initial request from authorized state officials to facility setup should be within six (6) hours.

(3) Emergency Planning Zones. Two Emergency Planning Zones (EPZs) are identified. These zones are defined as the areas for which planning is needed to ensure that prompt and

effective actions can be taken to protect the public in the event of an accident. They have been designed to accommodate the need for actions regarding the potential degree of radiological exposure. The first is the Plume Exposure Pathway, and the second is the Ingestion Exposure Pathway.

(a) Plume Exposure Pathway. The Plume Exposure Pathway EPZ is the area within approximately a 10-mile radius of the reactor. Although the radius for an EPZ implies a circular area, the actual shape depends upon the zone's political and geographical boundary characteristics. The principal radiological exposure from this pathway would be from whole-body exposure, thyroid exposure, deposited radioactive material, and inhalation of radioactive particulates.

The 10-mile Plume Exposure Pathway EPZ for the GGNS is divided between Mississippi and Louisiana, with about two-thirds of the zone in Mississippi. Most of the Mississippi portion is in Claiborne County and an unpopulated area of Warren County. The EPZ has ten distinct areas called Protective Action Areas (PAAs). MEMA will make Protective Action Recommendations (PARs) for the general public in coordination with the MSDH/DRH for the population within these areas. RBS does not impact any part of Mississippi within its 10-mile Plume Exposure Pathway.

(b) Ingestion Exposure Pathway. The Ingestion Exposure Pathway EPZ is the area within a radius of approximately 50 miles from the reactor. The principal radiological exposure from this pathway would be from ingesting contaminated water or foods such as milk, fresh vegetables, or fish. The primary responsibility for detailed planning and emergency response for this pathway rests with the MSDH/DRH. The state and local governments will increase their readiness/response efforts according to the emergency classification level declared at the affected fixed nuclear facility.

The 50-mile Ingestion Exposure Pathway EPZ for the GGNS is divided between Mississippi and Louisiana, with about two-thirds of the zone in Mississippi, impacting 16 counties. About one-fifth of the RBS 50-mile Ingestion Exposure Pathway EPZ extends into Mississippi, affecting all of Wilkinson County and portions of Adams, Amite, Franklin, and Pike Counties.

d. Emergency Classification System (NUREG Section II, D.1, D.1.b). The NRC established a standardized method of classifying an emergency at a fixed nuclear facility. These classifications have been adopted by local, state, and federal governments to plan and respond to an NPP emergency.

The NRC requires that when an initiating condition for any of the four emergency classes exists, the NPP operator shall provide early and prompt notification (within 15 minutes of classification) to local and state officials. The following emergency classifications are used:

(1) Notification of an Unusual Event (NOUE) (NUREG Section II, D.4). A situation is in progress or already completed, which could potentially degrade the plant's level of safety or indicate a security threat to the facility. No releases of radioactive material requiring offsite actions are expected unless safety systems degrade further.

(2) Alert (NUREG Section II, D.4). Events are in progress or have occurred which have (or could) substantially degrade the plant safety; or, a security event that could threaten site personnel or damage to site equipment is in progress. Any offsite releases of radioactive material that could occur are expected to be minimal and far below limits established by the Environmental Protection Agency's (EPA) protective action guides (PAGs)

(3) Site Area Emergency (SAE) (NUREG Section II, D.4). Events are in progress or have occurred that have caused (or likely will cause) major failures of plant functions that protect the public or involve security events with intentional damage or malicious acts that could lead to the possible failure of (or prevent effective access to) equipment needed to protect the public. Any offsite releases of radioactive material are expected to remain below EPA PAG exposure levels beyond the site boundary.

(4) General Emergency (GE) (NUREG Section II, D.4). Events are in progress or have occurred which: a) have caused (or shortly will cause) substantial reactor core damage, with the potential for uncontrolled releases of radioactive material; or, b) involve security events that deny plant staff physical control of the facility. Offsite releases can be reasonably expected to exceed EPA PAG exposure levels beyond the plant site.

e. Notification Methods and Procedures (NUREG Section II, E.1, E.1.a, E.2, E.3, E.4, E.5, F.1.b, F.1.c). The SEOC disseminates emergency classification and activation notifications to the appropriate response entities via the AtHoc Mass Notifications system. The notifications are pre-scripted and delivered via e-mail, telephone, and text. The AtHoc system will continue to call recipients until the notification is acknowledged. The appropriate SEOC Branch Director will utilize alternate methods of communication in the event of failure to acknowledge a notification or SEOC activation.

The Joint Information Center (JIC) provides periodic, pre-scripted releases to the public based on the current situation or required messaging. The SEOC and JIC will appropriately modify responder and public pre-scripted messaging based on operational requirements.

(1) Notification of Response Entities.

(a) Notification of Unusual Event. In the event of an incident requiring the utility to declare a Notification of Unusual Event, offsite authorities will be notified. No further action is

required.

(b) Alert.

- When the utility is required to declare an Alert, offsite agencies will be notified.
- MEMA will activate the SEOC.
- All State agencies will put their personnel and equipment required for a further response on standby.
- MEMA will establish a dedicated phone line and Homeland Security Information Network (HSIN) Situation Room (SITRoom) and disseminate the information and timeline(s) to all stakeholders and partners.

(c) Site Area Emergency.

- The facility operator and MEMA will make a notification to all agencies.
- State agencies will complete all actions under Alert as outlined in their respective SOPs.
- If it has not already been done, the Governor will declare a State of Emergency.

(d) General Emergency.

- The facility operator and MEMA will notify offsite agencies.
- State agencies will complete all actions under Alert and Site Area Emergency as outlined in their respective SOPs.

(2) Alert Notification System (ANS) (NUREG Section II, E.2). An alert and notification system is in place per FEMA REP10. In Mississippi, the system consists of 30 fixed omnidirectional sirens located within the 10-mile EPZ in Claiborne County. Businesses, schools, hospitals, and other facilities with large numbers of people located within the 10-mile EPZ are supplied with tone-activated receivers (tone alerts). These tone alerts supplement the siren system. Two additional receivers are located in a high-noise area and are equipped with visual alarms. Claiborne County has 30 tone alert receivers. Claiborne County is responsible for activating its respective sirens and tone alert receivers. Back-up Route Alerting supplements these systems as necessary.

The ANS and procedures allow Mississippi to transmit an alert signal and an informational or instructional message via the Emergency Alert System (EAS) to 100% of the population within 15 minutes of a protective action decision.

In the event of an Initial Notification of a **General Emergency**, the MEMA Executive Director, the MSDH/DRH Director, and Claiborne Emergency Management Director will initiate immediate coordination of siren sounding. The MEMA PIO/JIC will release an EAS message after Claiborne County activates its sirens. The EAS message will tell residents in the affected areas which protective actions are required. Subsequent decision-making will occur as in other emergency conditions.

f. Emergency Communications (NUREG Section II, F.1, F.1.a, F.1.b, F.1.c).

(1) Notification Communications. The primary means of communication between the SEOC and GGNS are an Operational Hot Line (OHL) and an offsite communication system (INFORM). Both systems are monitored 24/7/365 by the SEOC. The INFORM system and OHL are used for initial notification of the SEOC and ongoing communications during the emergency. The primary means of communication between the SEOC and RBS are INFORM and a dedicated two-way radio. Both GGNS and RBS can activate the emergency response network by simultaneous notification of each location.

The primary, alternate, contingency, and emergency (P.A.C.E.) plan for communicating with, alerting, and activating responder entities are Primary (P) - AtHoc; Alternate (A) – cellular phone; Contingency (C) – Mississippi Wireless Information Network (MSWIN) radio; and Emergency (E) – landline phone.

The AtHoc system and MSWIN are utilized (tested) daily for all MEMA SWP messages. The INFORM system is tested weekly, and the EAS, GGNS OHL, RBS radio, and MEDCOM hotline are tested monthly **(NUREG Section II, F.3)**.

The National Warning System (NAWAS) and the Radio Amateur Civil Emergency Services (RACES) may be used for emergency backup.

(2) Incident Communications. Communications during an incident vary slightly from emergency notification communications. The Command section at the SEOC operates from the Governor's Conference Room (GCR); the General Staff generally works from the SEOC Floor. The incident communications P.A.C.E. plan from the SEOC/GCR and County EOCs is (P) – HSIN SITRoom; (A) – Landline phone; (C) – Cellular phone; (E) – MSWIN radio.

The P.A.C.E. plan for medical communications to fixed (University of Mississippi Medical Center

Medical Command (MEDCOM)), mobile field medical units, and Emergency Medical Services (EMS) is (P) - MEDCOM Hotline; (A) – Cellular phone; (C) – MSWIN Radio; (E) – Landline phone **(NUREG Section II, F.2)**.

The tactical communications P.A.C.E. plan is (P) – MSWIN Radio; (A) – Cellular phone; (C) – Landline phone; (E) – Alternate radio systems/Messenger.

g. Public Education and Information (NUREG Section II, G.1).

(1) Public Education. The MEMA REP program publishes and disseminates, to all residents of the risk county, an annual *Public Information Calendar* to help educate the public on several vital areas:

(a) What to do in case of an emergency at GGNS (sirens, monitor and prepare, shelter-in-place, evacuation);

(b) How to receive information during an emergency (radio stations/frequencies and emergency management phone numbers);

(c) Protective Actions (emergency actions, animals, protection of food, water, and commodities, plans for school children and residents with special needs);

(d) Protective Action Areas (maps and information on protective action areas, evacuation routes, reception centers.

The MEMA REP Program also annually produces and disseminates educational flyers to farmers and agricultural outlets on protective actions for farm products and animals. **(NUREG Section II, G.1)**

(2) Public Information. MEMA coordinates public information during an NPP emergency through its PIO and the JIC. MEMA will enlist the services of PIOs from other state agencies to support this function. The primary responsibility of the public information staff is to work with authorities and the media to provide accurate and timely information and instructions to the public. This includes coordinating with the state as to what statements should be furnished to the press, what actions are to be taken by the involved public, what is happening, what is expected to happen, and advising the public of any recommended protective actions. During a hostile action-based event at GGNS, the information will be coordinated through federal, state, and/or local law enforcement authorities.

Public information activities are coordinated from the JIC during a radiological emergency with

representatives from the affected county, state, utility, responding federal agencies, and the press. The JIC GGNS Incident Standard Operating Procedures (SOP) establishes the procedures for emergency public information relating to the incident. Its goal is to distribute vital information to the affected population efficiently and effectively. JIC GGNS Incident SOP is updated, and procedures are exercised annually **(NUREG Section II, G.2, G.3, G.3.a, G.5)**.

State/Local/Utility Rumor Control (Public Inquiries) is consolidated in JIC. The PIOs will respond or refer the question(s) to the appropriate PIO for a response. The correct response will be provided to JIC personnel for future use **(NUREG Section II, G.4)**.

h. Emergency Facilities and Equipment (NUREG Section II, H.6, H.9, H.11).

(1) Claiborne County Emergency Operations Center.

(a) Primary: 2033 Mississippi Highway 18 East, Port Gibson, MS 39150

(b) Alternate: TBD

(2) State Emergency Operations Center.

(a) Primary: 1 MEMA Drive Pearl, MS 39208

(b) Alternate: 1055 Mendell Davis Drive, Byram, MS 39272

(3) Radiological Monitoring. Health Physicists from MSDH/DRH will act as RERT members. They will be mobile to conduct radiological monitoring as required, report on contamination levels and dose measurements, and perform environmental sampling as needed. Also, in coordination with the EOF Coordinator, the individual team captains will be responsible for the dosimetry of emergency workers under their supervision and evaluating their measured exposure. **(NUREG Section II, H.9)**.

(4) Radiological Monitoring/Detection Equipment (NUREG Section II, H.11, H.11.a, H.11.b, H.13).

(a) MSDH/DRH. The MSDH/DRH maintains radiological detection instruments, equipment, and supplies necessary to ensure personnel can respond safely to a radiological emergency. Some instruments, equipment, and supplies are allocated as backups for state and county agencies to serve as a supply reserve or replacement in case of failure. MSDH/DRH personnel record all operational checks and calibrations of such equipment. Response checks are performed on all radiological emergency response equipment per national standards or the manufacturer's instructions, whichever is more frequent. A sticker on the equipment and internal documents within MSDH/DRH indicates documentation for these response checks.

(b) Other State Government. Each State agency responsible for radiological monitoring, sample collection, or analysis will supply and maintain its specialized equipment and modes of transportation. MEMA will furnish basic radiological monitoring and dosimetry equipment. After each exercise or drill, the MSDH/DRH will inspect, inventory, and operationally check all RERT emergency response equipment. The calibration of emergency monitoring equipment utilized by the RERTs will be performed annually by the MSDH/DRH. All other radiological monitoring and dosimetry equipment used by the REP program will be maintained and annually operationally checked by MEMA.

(c) Local Government. MEMA will supply and maintain radiological monitoring equipment and dosimetry for local monitors.

(d) Facility Operator. Fixed nuclear facilities are required to have redundant meteorological equipment available with remote interrogation capabilities. Information from these capabilities shall be made available to the RAAO and/or RDA for accident assessment. Additionally, the operator will provide sufficient radiological monitoring equipment for its radiological assessment teams. State Government Officials will also use meteorological information from the National Weather Service and near-site television in accident assessment and evaluation.

(5) Emergency Kits (NUREG Section II, H.12). Each RERT is assigned an emergency kit for which an inventory of its contents and quantities of each item is kept inside every kit. Emergency workers will receive dosimetry and other instruments/materials from pre-issued kits from the SEOC or Civil Defense and Emergency Management (CD/EM) personnel at a local EOC. Local emergency workers will be provided with dosimetry and other instruments/materials from local supplies and augmented by the state as needed. Radiological survey meters will be available when needed. Each emergency worker will receive the following:

(a) One SRD (Range: 0 to 20 R)

(b) One SRD (Range 0 to 200 mR)

(c) One permanent exposure recording device such as a Thermo Luminescent Dosimeter (TLD) or film badge.

i. Accident Assessment (NUREG Section II, I). GGNS will perform an initial accident assessment as soon as possible after the incident. The MSDH/DRH will verify the radiological assessment and perform continuing accident assessment and evaluation until it is no longer required.

(1) Emergency Environmental Sampling (NUREG Section II, I.2, I.5). The MSDH/DRH will supervise air sampling, surface waters, cisterns, open wells, edible agriculture commodities, milk, fish, soil, pasture grass, and animal feed. The following state agencies will, when requested by the EOF Coordinator, conduct Field Monitoring Team (FMT) functions as follows:

(a) Mississippi Department of Environmental Quality.

- Air, Water, and Soil Sampling

(b) Mississippi State Department of Health/Division of Radiological Health.

- Water sampling of potable and non-potable water sources
- Air sampling for particulate and radioiodine
- Direct radiation monitoring
- Raw milk sampling
- Soil sampling
- Sample analysis

(c) Mississippi Department of Wildlife, Fisheries, and Parks.

- Fish and animal sampling
- Water sampling of surface water

(d) Mississippi Department of Agriculture and Commerce.

- Carcass Sampling
- Critical food processor, distributor and retailer sampling

(e) Mississippi State University-Extension Service.

- Pasture feed and animal sampling

(f) Mississippi Board of Animal Health.

- Pasture feed and animal sampling

(2) Emergency Sampling Requirements (NUREG Section II, I.6, I.7). Each sampling entity will coordinate with MSDH/DRH to ensure methods, equipment, and expertise are available to make timely assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. MSDH/DRH will coordinate the development of post-plume PARs for comparison to current federal guidance.

MSDH/DRH will ensure the ability, or request support, to detect and measure radioiodine concentrations in the air in the plume exposure pathway EPZ as low as 10-7 μCi/cc (microcuries per cubic centimeter) under field conditions. The sample collection process will consider the sample flow rate, collection efficiency of the sample media used to collect the sample, duration of the sample, counter efficiency, and background radiation, including interference from the presence of noble gases **(NUREG Section II, I.7)**.

(3) Emergency Sampling Procedures (NUREG SectionII, I.8). In responding to a radiological emergency or nuclear accident, the following guidelines will be used for environmental sampling priorities:

(a) Continuous Sampling.

- **Air Sample Stations.** Remove and change all routine air particulate and charcoal filters as soon as possible. Be prepared to change air samplers daily. Activate all standby air sampling stations (ERAMS/RadNet).

- **Precipitation Collectors.** Collect precipitation at all collection stations as soon as possible after a reported accident at GGNS. Record the amount of precipitation.

(b) Grab Samples – Surface Water. Collect at least a one-gallon surface water sample from at least two downstream locations as soon as possible. Samples must be taken every two to four hours for the first 24 hours following a release. Collect surface water samples from at least one upstream location. Prepare for large-volume sampling and composites.

(c) Potable Water Samples. Collect at least a one-gallon drinking water sample from all the potable water sample stations as soon as possible.

(d) Raw Milk Sampling. Gaseous releases may be the critical pathway. Collect at least a one-gallon raw milk sample at each potentially affected dairy as soon as possible. Sample the dairy every two days. Sample water from the source used to water livestock. Sample pasture grass and/or feed.

(e) Vegetation and Crop Sampling. Obtain samples of critical food crops and other vegetation, such as small gardens (i.e., those for individual use), as soon as possible after the plume has passed.

(f) Air Sampling. As soon as possible, initiate air sampling of the plume (particulate and gases).

(g) Particulate Disposition. As soon as possible, collect samples of filter media (i.e., air intakes on automobiles or operating air conditioners), swipes of vehicle (esp. those of evacuees) surfaces, and roadways.

(h) Direct Radiation Measurements. Take direct radiation measurements of samples and the environs at every sample point when possible. Take other specific measurements as directed.

(4) Sample Analysis (NUREG Section II, H.13, I.8).

(a) Radioisotopic analysis of samples collected in an affected area during a radiological emergency will be performed by the MSDH/DRH at the fixed MSDH/DRH Laboratory. If the number of samples is too large to allow processing expediently, provisions have been made with the EPA for assistance from their labs in Montgomery, Alabama, and Las Vegas, Nevada, to assist in the analyses. Mobile laboratories of DOE will also assist in sample analysis if needed. Reports of analytical results will be sent to the Radiological Accident Assessment Officer (RAAO) at the SEOC and the State Health Officer. Public Health orders will be issued based on the results of the analyses.

(b) MSDH/DRH maintains and operates a fixed radiological laboratory. The fixed radiological laboratory can be fully operational (i.e., prepared to receive potentially contaminated samples) within 90 minutes after notification of an incident.

(c) To accurately determine potential dose commitments to the thyroid resulting from airborne radioiodine, all radiological monitoring teams will be equipped with air sampling devices capable of collecting radioiodine in the presence of noble gases.

(d) The RERTs will perform exposure rate measurements with portable survey instruments.

(5) Additional Assessment and Monitoring Support (NUREG Section II, I.9, I.10).

(a) 47th Civil Support Team (CST), Mississippi National Guard. The 47th CST is a

24/7/365 asset that will identify CBRN agents and substances, provide plume modeling, assess current and projected consequences, advise on response measures, and assist with requests for additional support.

(b) Southern Mutual Radiological Assistance Plan (SMRAP).

- When it is determined that an accident at GGNS cannot be adequately controlled with resources available to state radiological response personnel, a request will be forwarded to the Governor for the additional resources needed. The request will contain the following information:

    - Description of the problem.
    - Type of resources needed.
    - Which state has the resources.
    - Where the resources need to be delivered.
    - Clear direction to an assembly point or point of delivery.
    - Estimated time the resources will be needed.
    - If resources include people, what arrangements have been made for housing, etc.

- If the Governor concurs with the need for assistance as requested, he will contact the Governor of the SMRAP state with the resources and request the specified assistance.

- Concurrent with the above actions, the MSDH/DRH's EOF Coordinator and RAAO will inform radiological personnel in the SMRAP State to alert them of the pending formal request.

(c) Nuclear/Radiological Incident Annex (NRIA).

- The NRIA to the National Response Framework (NRF) covers any emergency that has or is expected to have, an offsite radiological impact, which could require a response by the federal government. In the event of a radiological emergency, 20 federal agencies with various statutory responsibilities have agreed to coordinate their efforts at the emergency scene under the umbrella of the NRF to ensure that any federal involvement/response is managed, coordinated, organized, and integrated with the affected State/local government.

- The NRIA will be activated when the NRC has been notified that a radiological emergency has occurred and that an authorized person has requested federal assistance. Mississippi-authorized persons are the MSDH/DRH Director/RAAO for radiological emergency federal assistance and the MEMA Director for non-radiological emergency federal assistance.

- The request for federal assistance will specify the federal resources requested and the expected arrival time at the specified fixed nuclear facility emergency.

- The NRIA assigns to DOE the responsibility to provide federal offsite monitoring and assessment results to the NRC and affected state(s).

- The following personnel/equipment resources are available through DOE upon activation of the NRIA and will be provided on request:

  - Radiological monitoring and environmental specialists with supporting equipment.

  - Aerial radiological monitoring equipment.

  - Fixed and mobile laboratory support.

  - Remote handling equipment.

  - Technical assistance in predicting the dispersion of radioactivity into the environment.

  - Medical consultation on the treatment of injuries complicated by radioactive contamination.

  - Technical support for emergency public information.

  - Communications with Federal response organizations.

- DOE established the Federal Radiological Monitoring and Assessment Center (FRMAC). Upon receipt of a request for federal resources from authorized state personnel, the FRMAC will deploy to the Mississippi State Fairgrounds. The Fairgrounds have electrical and water infrastructure for mobile facilities and generators. It is also the location of the Mississippi Coliseum, which has space and amenities for additional federal staff. The FRMAC provides an operational framework for coordinating all federal offsite radiological monitoring and assessment efforts to support the NRC and state(s) requests for federal assistance. This support will include:

- Providing FRMAC liaisons to the NRC and state(s).

- Gathering radiological information and data that includes:

  - Plume and deposition predictions.

  - Air and ground concentrations.

  - Deposition patterns of isotopic concentrations, exposure rates, and dose projections.

  - Isotopic concentrations of ground deposition and environmental samples (water, milk, soil, air, etc.).

  - Assurance of data quality.

  - Current meteorological conditions and weather forecasts.

- Providing the data collection results, sample analysis, evaluations, assessments, and interpretations, as requested.

- Compiling a complete database containing all offsite radiological monitoring and sampling data and ensuring the technical integrity of the data.

- Providing technical assistance to the extent resources are available.

- Providing data to support the protective action recommendation decision-making process.

j. Protective Response (NUREG Section II, J.2, J.6, J.7). An operational fixed nuclear facility has the potential for certain radiological accidents. The U.S. EPA has established EPA 400/R-17/001 - "PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents" as a set of Protective Action Guides (PAGs). These guides were established for whole-body beta-gamma radiation exposure and thyroid gland exposure due to the presence of radioactive iodine. For planning purposes, the actions stated for a given PAG are considered mandatory; however, under actual accident conditions, guidance values are subject to unpredictable conditions and/or constraints, and judgment is to be exercised before initiating a particular action.

(1) Protective Actions. Protective Action Recommendations (PARs) and Protective Action Decisions (PADs) generate protective actions, which are outlined according to the

emergency classification:

(a) Notification of Unusual Event. Both State and local governments are notified by the facility utilizing the Operational Hot Line. Recipients of the message should inform those officials designated in their procedures, then standby until closeout or escalation.

(b) Alert. State and local EOCs are activated, and all agencies, including school districts/departments, are notified. MEMA and GGNS will activate the JIC, and state and local government public information staff will report. Some precautionary actions may occur locally, depending on plant conditions, as reported in the initial and follow-up notifications. These include closing recreational areas, determining special needs transportation requirements, and alerting school bus drivers to be on standby for precautionary transfers.

(c) Site Area Emergency. All state and local officials and agencies will be notified and directed to report to their respective EOCs if they have not already done so. The MSDH/DRH will activate the FMTs and deploy them to the field for accident assessment operations. The local government may be advised to shelter the general public in the downwind areas. The risk county will implement the precautionary transfer of school children and the special needs population. Local traffic and access control points will be activated. MDOT and MHP will activate their personnel and prepare to operate the state traffic control points.

NOTE: Should any protective action for the general public be implemented, the siren system will be activated, and an EAS message will be broadcast within 15 minutes of the decision to implement a protective action. The MEMA Executive Director may modify protective actions for hostile action-based events at GGNS based on current physical security and radiological conditions at the plant. These actions will be coordinated between the state and Claiborne County.

(d) General Emergency. All state and local officials will be notified and directed to report to their respective EOCs if they have not already done so. MSDH/DRH will continue to assess the offsite radiological dose, either projected or actual. Recommendations from the utility and the MSDH/DRH will be evaluated, and a protective action decision will be made by the MEMA Director, the MSDH/DRH Director, and the Port Gibson/Claiborne County EMA Director. Once the decision is made, the MEMA Director will coordinate with the local government to ensure the sirens are activated, and the appropriate EAS message is broadcast within 15 minutes.

The general population within the affected protective action areas will be directed to either evacuate or shelter. Appropriate traffic and access control points will be activated. Periodic joint media briefings will be conducted at the JIC to keep the public informed of the status of the plant. If the public is evacuated, they will be advised to go to designated reception centers outside the

Plume Exposure Pathway EPZ in Vicksburg, Utica, Hazlehurst, or Natchez. They will be monitored at the reception centers and decontaminated if necessary. If needed, evacuees may be taken or directed to shelter facilities.

(2) Protective Action Areas (NUREG Section II, J.2).

(a) Protective Action Area 1 includes the GGNS site and is that area between the Big Black River and Bayou Pierre west of Old Grand Gulf Road.

(b) Protective Action Area 2A includes the area between the Big Black River and Bayou Pierre, west of Highway 61 to Old Grand Gulf Road.

(c) Protective Action Area 2B includes the area between the Big Black River and Bayou Pierre east of Highway 61.

(d) Protective Action Area 3A includes the area between Bayou Pierre and Little Bayou Pierre west of the Natchez Trace Parkway.

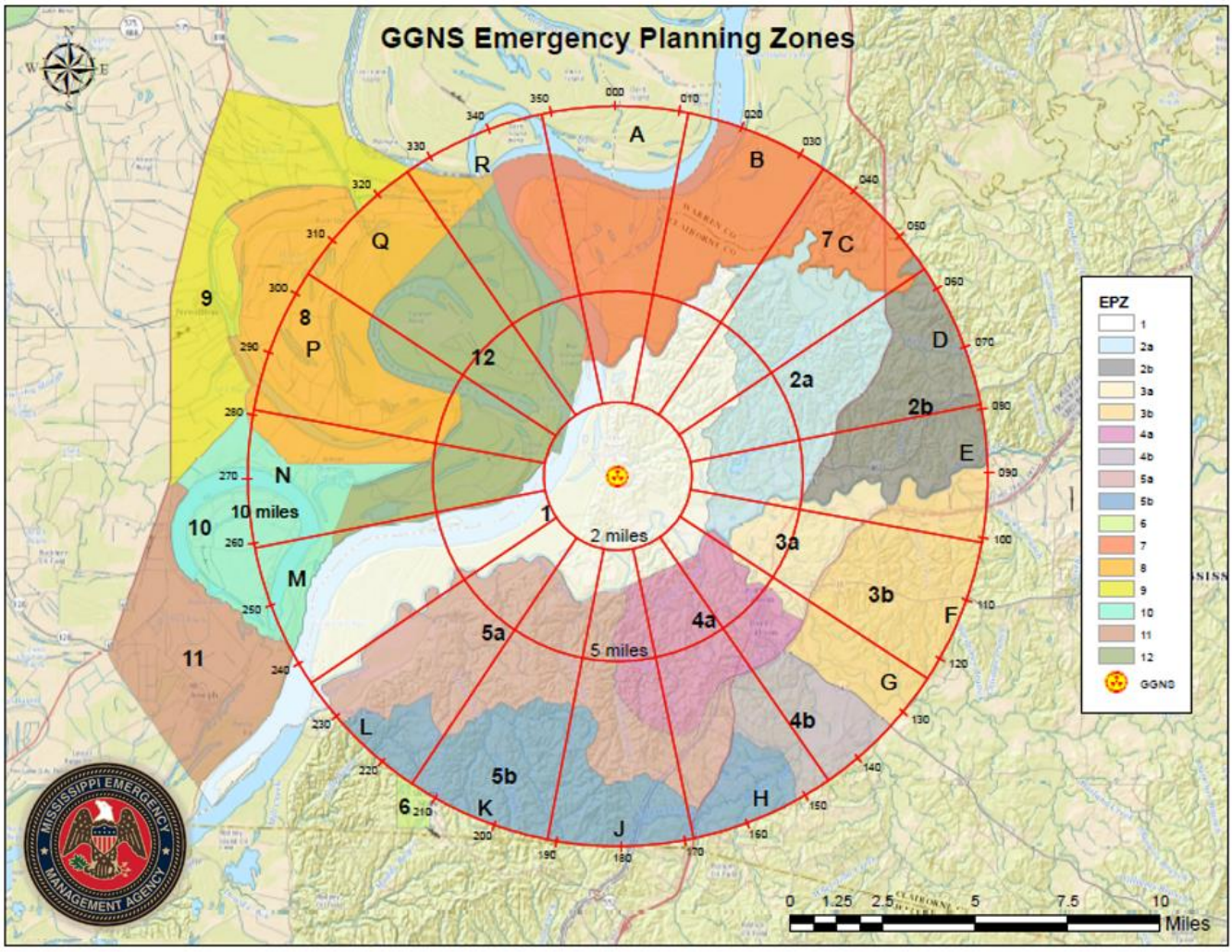
(e) Protective Action Area 3B includes the area between Bayou Pierre and Little Bayou Pierre east of the Natchez Trace Parkway.

(f) Protective Action Area 4A includes the area between Little Bayou Pierre and Widows Creek south and east of Bayou Pierre to the Natchez Trace Parkway, including Port Gibson.

(g) Protective Action Area 4B includes the area between Little Bayou Pierre, south and east of the Natchez Trace Parkway, and north of Gordon Station Road.

(h) Protective Action Area 5A includes the area between Bayou Pierre and Russum-Westside Road east to Widows Creek.

(i) Protective Action Area 5B includes the area south of the Russum-Westside Road from the Ferry Road east to Gordon Station Road.



(j) Protective Action Area 6 includes all of Alcorn State University.

(k) Protective Action Area 7 includes the area north of the Big Black River and east of the Mississippi River.

(3) Evacuation Time Estimates (NUREG Section II, J.2, J.8, J.8.b, J.11.c). Evacuation time estimates for each of the evacuation analysis areas are presented below. These estimates represent the time required to empty each analysis area, including the time required for initial notification. The various evacuation scenarios represent peak populations during summer or fall periods. The evacuation times, however, would also be representative of early spring and winter conditions since the preparation time associated with the transport-dependent permanent population is the primary factor influencing the total EPZ evacuation time.

It is assumed that any home-to-work travel within the EPZ occurs during the previously identified mobilization and preparation periods. It is also assumed that the actual evacuation begins with the

departures from the school, workplace, recreation area, or residence at which they are located when the evacuation order is issued.

A summary of the simulated evacuations for each of the analyses is as follows:

(a) Analysis Area 1 (Evacuation of Protective Action Area 1). For Analysis Area 1 (360°, 0-2-mile evacuation), a maximum of 135 minutes would be required to evacuate the population under fair weather conditions. Most vehicles evacuating this area are associated with the Grand Gulf Nuclear Station employment. However, the preparation/mobilization times related to the transport-dependent residents, which take up to 135 minutes, are the major influence on the evacuation time. Protective Action Area 1 evacuation could be completed within 140 minutes during adverse weather conditions.

(b) Analysis Area 2 (Evacuation of Protective Action Areas 1 and 2A). Analysis Area 2 represents the 90° northeast sector evacuation, from 0 to approximately 5 miles. For all fair-weather conditions, evacuation of this area can be completed within 140 minutes. Under adverse weather conditions, Areas 1 and 2A evacuation will take approximately 145 minutes due to reduced roadway capacities. The preparation and mobilization times are the most significant factors in determining the total time required to evacuate the area.

(c) Analysis Area 3 (Evacuation of Protective Action Areas 1, 3A, 4A, and 5A. Analysis Area 3 (90° southeast sector, 0 to 5 miles) includes evacuation of the town of Port Gibson and a significantly higher population than Analysis Areas 1 and 2. The maximum time required to evacuate this area under all fair-weather conditions is 140 minutes. Any queuing experienced on network roadways dissipates well before all vehicles have loaded onto the network. Evacuation under adverse weather conditions would increase the total evacuation time to 145 minutes for Analysis Area 3.

(d) Analysis Area 4 (Evacuation of Protective Action Areas 1, 2A, 2B, and 7). The Analysis Area 4 simulation includes the entire 90° northeast sector, from 0 to 10 miles. The maximum evacuation time during all fair-weather conditions is 140 minutes, while the adverse weather conditions would result in a peak evacuation time of 145 minutes. The population within this area is only slightly higher than the population included in Analysis Area 2 (0-5 miles, 90° NE); therefore, the total evacuation time is the same as in Analysis Area 2.

(e) Analysis Area 5 (Evacuation of Protective Action Areas 1, 3A, 3B, 4A, 5A, 5B, and 6). Analysis Area 5 includes the entire 90° southeast sector from GGNS to the EPZ boundary. The town of Port Gibson is included in this analysis area.

Under all fair-weather conditions, evacuation could be completed within 145 minutes. Roadway

capacity reductions during adverse weather thunderstorms increase the evacuation time to 150 minutes. Evacuation of this area is the determining factor in the total time required to evacuate the entire EPZ.

(f) Analysis Area 6 (Evacuation of Protective Action Areas 1,12,8 and 9). For the Analysis Area 6 evacuation (90°, northwest sector, out to the 10-mile EPZ), vehicles could be evacuated within 140 minutes for all three fair weather conditions. This area includes the Town of Newellton and several hunting and fishing camps. Adverse weather conditions for Analysis Area 6 would increase evacuation times by up to 145 minutes.

(g) Analysis Area 7 (Evacuation of Protective Action Areas 1, 12, 10, and 11). Analysis Area 7 includes the 90° southwest sector from the GGNS to the EPZ boundary. This case involves several major population components, including the town of St. Joseph, the KOA, and the Newellton Country Club. Maximum fair-weather evacuation times of 140 minutes would occur during weekday, weeknight, and weekend periods. During adverse weather conditions, the areas included in Analysis Area 7 could be evacuated within 145 minutes.

(h) Analysis Area 8 (Evacuation of the entire EPZ). The maximum time required to evacuate the entire EPZ under all fair-weather conditions is 145 minutes. To a large extent, the preparation/mobilization times associated with the transport-dependent population define the maximum evacuation time for the EPZ. Any vehicle queuing along roadways dissipates before all vehicles have begun to evacuate from the EPZ.

During adverse weather conditions, it would take approximately 150 minutes to evacuate the entire EPZ. This increased time is due to reduced roadway capacities anticipated during adverse weather thunderstorm conditions.

Evacuation Time Estimates						
Analysis Area	**Protective Action Area(s)**	**Description**	**Evacuation Time Estimates (minutes)**			
			Weekday	**Night**	**Weekend**	**Adverse Weather**
1	1	360º, 2 mile	135	135	135	140
2	1, 2A	90º, Northeast, 5 mile	140	140	140	145
3	1, 3A, 4A, 5A	90º, Southeast, 5 mile	140	140	140	145
4	1, 2A, 2B, 7	90º, Northeast, 10 mile	140	140	140	145
5	1, 3A, 3B, 4A	90º Southeast, 10 mile	145	145	145	150
6	1, 12, 8, 9	90º, Northwest, 10 mile	140	140	140	145

Evacuation Time Estimates						
Analysis Area	**Protective Action Area(s)**	**Description**	**Evacuation Time Estimates (minutes)**			
			Weekday	**Night**	**Weekend**	**Adverse Weather**
7	1, 12, 10, 11	90°, Southwest, 10 mile	140	140	140	145
8	All Areas	360°, Entire EPZ	145	145	145	150

(4) Protective Action – Decision-Making Process (NUREG Section II, J.9). The GGNS incident decision-making process engages all stakeholders and partners. The primary method of communication is via telephone and/or a HSIN SITroom. The MEMA Planning Section Situation Unit Leader will establish the SITroom and open a phone line from the MEMA GCR. As PARs are introduced, and PADs are developed, the discussions and concurrence will occur via phone or the live SITRoom. From there, the responsible parties will conduct the required actions according to established timelines. PADs will always include and have the agreement from the MEMA Executive Director, MSDH/DRH Director, and the Claiborne County EMA Director. Additionally, the MEMA and Claiborne County EMA PIOs will attend all PAD processes or be provided a detailed briefing immediately following the PAD process. PAD information will be synthesized and distributed to the JIC for press conferences and/or public release.

(5) Evacuation Routes (NUREG Section II, J.2, J.10, J.10.a, J.11.c., J.11.d). Evacuation signs have been placed in 135 locations within the Protective Action Areas. The signs say, "Evacuation Route" and show a directional arrow. They are 18" in diameter. A narrative description of the GGNS evacuation routes is listed below:

(a) Protective Action Area 1. US Highway 61 North to Vicksburg (Warren County). Proceed to the reception center at Warren Central High School.

(b) Protective Action Areas 2A and 2B. US Highway 61 North or Mississippi Route 462 East to Vicksburg (Warren County). Proceed to the reception center at Warren Central High School.

(c) Protective Action Areas 3A and 3B. Mississippi Highway 18 East to Utica (Hinds County). Proceed to the reception center at Hinds Community College - Utica Campus.

(d) Protective Action Areas 4A and 4B. Mississippi Route 547 South to Mississippi Highway 28 East to Hazlehurst (Copiah County), then North on Interstate 55 to Exit 65, go right, then turn left onto Epps Lane and proceed to the reception center at Joe L Johnson Safe Room in Gallman, MS.

(e) Protective Action Areas 5A and 5B. Mississippi Route 552 East to US Highway 61 South to Natchez (Adams County). Proceed to the reception center at Louis Gunning Safe Room.

(f) Protective Action Area 6. Mississippi Route 552 east to US Highway 61 South to Natchez (Adams County). Proceed to the reception center at Louis Gunning Safe Room.

(g) Protective Action Area 7. US Highway 61 North to Vicksburg (Warren County). Proceed to the reception center at Warren Central High School.

(6) Evacuee Population Estimate (NUREG Section II, J.10.b). Shown below is the estimated evacuee population by protective action area. The transient population includes recreational areas, hunting and fishing camps, GGNS workforce, and Alcorn University students. Numbers represent an average of seasonal fluctuations. Data as of 2012.

Estimated Evacuation Population				
Area	**Permanent Resident Population**	**Estimated Transient Population**	**Total Estimated Evacuee Population**	**Evacuate To**
1	191	800	991	Warren County
2A	216	150	366	Warren County
2B	87	110	197	Warren County
3A	950	75	1025	Hinds County
3B	300	100	400	Hinds County
4A	2491	75	2566	Copiah County
4B	253	65	318	Copiah County
5A	234	120	354	Adams County
5B	223	100	323	Adams County
6	136	2919	3055	Adams County
7	0	150	150	Warren County
TOTALS	5,081	4,799	10,048	

(7) Protective Action Implementation (NUREG Section II, J.11, J.11.a, J.11.b, J.11.c, J.11.d, J.11.e, J.11.f). Each PAD has a corresponding group of protective actions necessary to protect the general public and/or emergency workers. Protective actions range from taking no action to the evacuation of affected areas. The appropriate protective actions for the general public, special needs populations, and emergency workers will be recommended by MSDH/DRH to

MEMA and local government. Implementing the protective action is the responsibility of MEMA, other state agencies, and local government.

(a) Monitor and Prepare. Given the time, "monitor and prepare" may be the first PAD issued. Monitor and prepare is a protective action recommendation/decision that allows families to unite and take appropriate actions to prepare for possible evacuation.

(b) Shelter-in-place. The next protective action may be "shelter-in-place." Depending on the situation, size, and scope of the incident, it may be better for citizens to stay home and take shelter rather than try to evacuate. Citizens will be advised to turn off fans, air conditioners, and forced-air heating units that bring air in from the outside, close and lock all windows and doors, and close fireplace dampers.

(c) Evacuation. The Governor may order evacuation upon the recommendation of the MSDH/DRH Director and MEMA Director. This decision will be made after careful deliberation and coordination with Claiborne County officials. The sirens will be activated at a prescribed time, followed by an EAS message providing instructions to the affected protective action areas. While local government is primarily responsible for implementing the evacuation, the state will provide resources upon request and assist in the operation.

(d) Alert and Notification. The Alert and Notification System is discussed in section 3.e. *Notification Methods and Procedures*, and 3.g. *Public Education and Information*.

(e) Reception Centers (NUREG Section II, J.2, J.11.d). All evacuees are asked to report directly to their respective Reception Centers to register when ordered to evacuate. There are four Reception Centers identified in the GGNS Emergency Public Information Brochure.

- **Warren County:**
    - Warren Central High School
      1000 Hwy 27, Vicksburg, MS
    - Backup – Beechwood Elementary School
      999 Hwy 27, Vicksburg, MS
- **Adams County:**
    - Louis Gunning Safe Room
      323 Liberty Road, Natchez, MS
    - Backup – Natchez High School Gym

319 Sergeant Prentiss Drive, Natchez, MS

- **Copiah County:**
  - Joe L. Johnson Safe Room
    1060 Epps Lane, Hazlehurst, MS
  - Backup – Hazlehurst Middle School
    112 School Drive, Hazlehurst, MS
- **Hinds County:**
  - Hinds Community College,
    Utica Campus, Utica, MS
  - Backup – Unidentified at time of publication (will utilize SMAC agreements with other county jurisdictions).

(f) Reception Center Operations (NUREG Section II, J.13). Detailed reception center procedures are in each host county REP Plan. It will be the responsibility of the host county where the Reception Center is located, through its local Department of Human Services (DHS), to establish and operate the Reception Center. The Mississippi Department of Human Services (MDHS) will coordinate with county efforts at Reception Centers to ensure that state resources not readily available in the county are provided. Reception Centers offer indoor facilities to process evacuees as well as sanitary facilities. Each is separated into three distinct operations/stations: Monitoring, Decontamination, and Registration. They have sufficient parking areas for temporary parking for clean and contaminated evacuee vehicles.

One of the most critical functions of the Reception Center is the accurate registration of evacuees so they may be contacted once they have passed through the Reception Center for shelter. Accurate records must be maintained to notify evacuees' reentry to their homes, notify of emergencies concerning them, account for the fiscal aspects of evacuation, and establish legal claims that might arise from the evacuation. Registration forms and location rosters will be maintained at Reception Centers per existing MDHS procedures. Host counties, through their local DHS, are responsible for maintaining records and contact with evacuees for control and reentry purposes.

(g) Access and Functional Needs (NUREG Section II, J.11.a). The method of transportation of mobility-impaired people and Access and Functional Needs populations is detailed in the Claiborne County REP Plan. Support transportation such as buses and ambulances

are available in neighboring communities such as Natchez and Vicksburg. Letters of Agreement (LOA) with these supporting resources are included in the above-referenced plan. The Merit Health River Region Hospital in Warren County will support the evacuation if hospitalization is required.

- The Access and Functional Needs population will be transported to the Host County Reception Centers.

- The Access and Functional Needs population will be monitored and decontaminated upon arrival at the reception center. All personnel and equipment entering the reception center must be monitored, including wheelchairs, walkers, etc.

- After monitoring and decontamination, the population will be escorted to registration and registered by the Host County DHS.

- Access and Functional Needs population requiring medical attention will be transported to the nearest support hospital. Access and Functional Needs population not requiring medical attention (examples include blind, deaf, wheelchair-bound, etc.) will be sheltered if they so desire.

(h) Medical and Public Health (NUREG Section II, J.11.a). The Patient's Choice Hospital in Port Gibson is a 32-bed hospital with an average in-patient load of 5 to 8 people. Arrangements have been made to transport these patients to the Natchez Regional Hospital.

There is one active nursing home with approximately 60 beds and one assisted living facility with approximately 68 beds in Claiborne County within the 10-mile EPZ. Arrangements have been made to transport these people to Natchez Regional Medical Center in Natchez, Adams County.

(i) Household Pet and Services Animals. See the Mississippi Board of Animal Health and ESF #11 (Animals, Agriculture, and Natural Resources) for updated information on evacuation support for household pets and service animals.

(j) Transportation (NUREG Section II, J.11.a). The Port Gibson/Claiborne County Civil Defense Director is responsible for coordinating all public transportation resources required for use in an evacuation.

(k) Public Safety (NUREG Section II, J.11.a).

- The Claiborne County Fire Department will provide fire services during the evacuation period.

- The Claiborne County Sheriff's Office and the Port Gibson Police Department, supplemented by the Mississippi Highway Patrol, will provide for law and order, traffic, and access control during evacuation.

- During the evacuation, the Claiborne County Road Management Department will assist with traffic and access control augmented by the Mississippi Department of Transportation (MDOT).

- Deputies will transport any prisoners in the Claiborne County Jail to the Warren County Jail at Site Area Emergency ECL.

(l) GGNS Onsite Evacuation. Based on plant conditions, an evacuation of GGNS onsite personnel could be ordered at an Alert, SAE, or GE. GGNS onsite personnel are to follow prescribed evacuation routes out of the area as outlined in the GGNS Emergency Plan. Provisions are made to consider weather conditions, traffic, and/or radiological impediments. No assistance is required from MEMA to conduct licensee evacuation.

(m) Potassium Iodine (KI) (NUREG Section II, J.11.b). Based on the conditions at the time of a fixed nuclear facility accident, the State Health Officer (SHO) will consider certain criteria for administering potassium iodide (KI) and may recommend its use for emergency workers. Risk and protective factors associated with the use of KI will be considered. The SHO will advise MEMA on this matter at the time of the accident. Accident assessment information such as the expected duration and type of release and the areas affected will be considered along with reaction time available and support logistics.

- **Communication**. KI will be issued to emergency workers only on the express order of the (SHO) or their designee. The order to take KI will be given by the SHO through the SEOC down through each emergency response agency/organization to the emergency workers.

- **Projected Dose Rate**. The doses to be administered shall conform to the applicable standards of the USDA. Using KI will not be generally considered at a projected dose of less than 5 Rem child thyroid dose. However, the accident's circumstances may indicate that KI is administered as a precautionary measure. See the Threshold Thyroid Radioactive Exposures and Recommended Doses of KI for Different Risks Groups chart on the next page:

Threshold Thyroid Radioactive Exposures and Recommended Doses of KI for Different Risk Groups					
	Predicted Thyroid gland exposure (cGy)	**KI dose (mg)**	**Number or fraction of 130 mg tablets**	**Number or fraction of 65 mg tablets**	**Milliliters (mL) of oral solution, 65 mg/mL*** **
Adults over 40 years	> 500	130	1	2	2 mL
Adults over 18 through 40 years	> 10	130	1	2	2 mL
Pregnant or Lactating Women	> 5	130	1	2	2 mL
Adolescents, 12 through 18 years*	> 5	65	½	1	1 mL
Children over 3 years through 12 years	> 5	65	½	1	1 mL
Children over 1 month through 3 years	> 5	32	Use KI oral solution**	½	0.5 mL
Infants birth through 1 month	> 5	16	Use KI oral solution**	Use KI oral solution**	0.25 mL

* Adolescents approaching adult size (> 150 lbs or > 70 kg) should receive the total adult dose (130 mg).

** Potassium iodide oral solution is supplied in 1 oz (30 mL) bottles with a dropper marked for 1, 0.5, and 0.25 mL dosing. Each mL contains 65 mg potassium iodide.

*** See the Home Preparation and Dosing Instructions for Making KI Solution using KI Tablets for the Emergency Administration of Potassium Iodide to Infants and Small Children

Source: https://www.fda.gov/drugs/bioterrorism-and-drug-preparedness/frequently-asked-questions-potassium-iodide-ki#What%20dosages

- **Storage and Distribution.**

  - ThyroSafe is the brand name of the KI tablets procured by the MSDH for emergency workers. A box of ThyroSafe consists of 20 tablets of 65 milligrams in size; the dose

is two tablets per day while a radioiodine threat exists.

- ThyroSafe will be stored in sufficient quantities and distributed only to properly credentialed and authorized Emergency Workers.

- The storage life of KI is approximately five years. Upon expiration, the MSDH resupplies KI storage locations. The expired KI is collected and transferred to MSDH for proper disposal methods. KI will be stored at the following locations:

Storage Location	Quantity
MSDH/DRH Office, Jackson	244 boxes
Claiborne County Health Dept., Port Gibson	300 boxes
Port Gibson/Claiborne County EOC	300 boxes
MDOT Testing Lab, Jackson	4 boxes
MDOT Port Gibson Maint. HQs	2 boxes
MDOT Hazlehurst Maint. HQs	2 boxes
MDOT Vicksburg Maint. HQs.	2 boxes
Natchez Trace Parkway	4 boxes
MHP Jackson District HQs	50 boxes
MHP Brookhaven District HQs	41 boxes

- KI will be issued to emergency workers from the following locations:

Distribution Locations	Quantity
MEMA SEOC, Jackson	100 boxes*
MSDH/DRH, Jackson	100 boxes
Port Gibson/Claiborne County EOC	300 boxes
Claiborne County Health Dept., Port Gibson	300 boxes

* At SAE, 100 boxes will be transferred from the MSDH/DRH Office to the SEOC.

(n) Radiological Monitoring/Decontamination (NUREG Section II, J.11.d). Reception/host counties provide radiological monitoring and decontaminating for the general public and emergency workers. This activity will occur at the reception centers before being assigned to shelter facilities. If additional decontamination is necessary, arrangements will be made to transport affected persons to River Region Health System, Inc. Emergency workers conducting radiological monitoring and decontamination will maintain adequate records and will report all necessary survey information, resource shortages, and the need for contaminated waste disposal to MSDH/DRH.

(o) Access Control and Route Contingencies (NUREG Section II, J.11.e, J.11.f). If an evacuation of all or any part of the 10-mile EPZ is ordered, there are occasions when members of the general public may have to reenter for brief periods. Law enforcement officers will control re-entry at designated access control points. Local government will make provisions for re-entry control to ensure that radiological exposure is minimized and the evacuated area remains secure. Local road maintenance and Sheriff's departments, MDOT, and MHP are responsible for evacuation and re-entry route clearance, re-routing, and other contingencies.

Nineteen TCPs (thirteen State and six local) will be set up to effectively limit ingress/egress to/from the GGNS 10-mile EPZ within Port Gibson/Claiborne County. These TCPs will impact federal, state, and local roadways. Three state TCPs are set up at SAE within the EPZ. The three SAE TCPs are withdrawn at GE, and seven GE TCPs are established on the 10-mile EPZ periphery to affect EPZ traffic flow. Three additional GE TCPs are established on the Natchez Trace Parkway to limit its use only to emergency vehicles. Six local TCPs are set up at SAE around Port Gibson to remain in position through GE and withdrawn upon the completion of the evacuation.

(p) Precautionary Protective Actions (NUREG Section II, J.11.g). Some precautionary actions may occur locally, depending on plant conditions, as reported in the initial and follow-up notifications. These include closing recreational areas, determining special needs transportation requirements, and alerting school bus drivers to be on standby for precautionary transfers. During an SAE, the risk county will implement the precautionary transfer of school children and the special needs population.

(8) Protection from Exposure Pathway Ingestion (NUREG Section II, J.12). State and local agencies will evaluate whether foods grown or produced within the affected area must be interdicted per the FDA PAGs and evaluate drinking water systems within the plume deposition area. If necessary, instructions and assistance in decontaminating animals, food, and property will be provided. Contaminated food will be isolated to prevent its introduction into the marketplace. Government officials will determine whether condemnation and disposal are appropriate.

(9) Exclusion Zones and Relocation Planning (NUREG J.14, J.14.a). Once a radiological incident at GGNS or RBS is terminated with the facility in a stable condition and no further offsite releases occur or are expected, the MSDH/DRH RAAO will verify that the incident has reached termination and recommend the initiation of recovery operations to the MEMA Director, who will notify each of the state and federal agencies and local governments responding to the incident. Re-entry will be based on radiation levels according to EPA-400/R-17/001 guidelines. Should levels exceed 2 Rem/yr projected dose, re-entry permanently may not be allowed, and relocation operations will be implemented.

(a) Establishment of Isodose-Rate Lines/Exclusion Zone Identification (NUREG Section II, J.14.b). MSDH/DRH will initiate recovery operations surveys by the RERTs, supported by state and federal agencies with an assigned responsibility. The RERTs, in coordination with the MDAC and the MDEQ, will initiate surveys and environmental sampling of the affected areas using survey and sampling techniques prescribed by the RERT manual (under a separate cover). The results of these surveys will be forwarded to the RAAO for assessment and evaluation. Based on the assessments and evaluation, MEMA will be advised of recommended courses of action and initiate public advisories through the JIC after consultation with the Governor's Office. MEMA continues to implement the required recommendations at the state level.

As soon as federal or other assistance is available for aerial and ground monitoring, a concentrated effort should begin establishing isodose-rate lines on maps and identify boundaries of the exclusion zone/relocation area. Standard maps should be developed for all response organizations to record monitoring data.

(b) Relocation Priorities (NUREG Section II, J.14.c, J.14.d). The RAAO will evaluate the total population and emergency worker exposure during the incident and recovery operations using the methodology described in EPA-400/R-17/001 and integrating the projected dose throughout the incident. Relocation operations will be recommended should the RAAO determine from all monitoring and assessment data that the dose projection will exceed 2 Rem/yr in any area. This means locating housing, moving permanent residents, and closing the area to entry on a long-term or permanent basis.

(c) Exclusion Area Access Control (NUREG Section II, J.14.d). Access Control Points (ACPs) are located at key intersections on the periphery of the exclusion zone. The primary purpose of the ACP is to advise the general public of the emergency condition, thereby preventing unauthorized persons' unnecessary trips into the restricted area. Entry will be allowed only to those with an Exclusion Area Pass issued by the MSDH/DRH. Anyone needing an Exclusion Area Pass will be instructed to obtain it at the SEOC in Pearl, MS.

(d) Relocation Support (NUREG Section II, J.14.e. J.14.f). If the public is evacuated, they will be advised to go to designated reception centers outside the Plume Exposure Pathway EPZ in Vicksburg, Utica, Hazlehurst, or Natchez. At the reception centers, they will be monitored and, if necessary, decontaminated. If it is determined the evacuees must relocate from a contaminated area, they may be taken or directed to shelter facilities if needed. Follow-on long-term recovery operations will start through a Disaster Recovery Center (DRC) to address evacuee needs and assist with relocation. This will require federal assistance from HUD and HHS.

k. Radiological Exposure Control (NUREG Section II, K.2). MSDH is the lead agency for radiological exposure control, chaired by the SHO. MSDH is the decision-making organization for protecting public health and safety during a radiological emergency. During immediate action conditions and on a day-to-day basis, DRH acts for the MSDH and will declare or implement the necessary protective actions to protect the public and emergency workers. Federal and GGNS workers will provide their radiological exposure controls.

(1) Radiological Exposure Control Measures for the General Public. Personnel radiological monitoring will be conducted using the Portable Portal Monitor and/or handheld Survey Meter. Individuals will be surveyed for contamination per established procedures. Decontamination shall be performed if the radiological contamination levels exceed two (2) times that of the local background. All evacuees will be monitored and certified as below limits before entering shelters.

(2) Radiological Exposure Control Measures for Emergency Workers (NUREG Section II, K.2.a, K.2.b, K.3. K.3.a, K.4). When a radiological accident occurs, emergency workers may be called upon to perform functions within risk areas ranging from public notification to lifesaving missions. Persons assisting with radiological monitoring and decontamination at reception centers, including volunteers, will be included in radiological exposure control measures used for emergency workers. (Note: Emergency workers are those engaged in public service activities and place themselves under different criteria for protection than the general public.)

Before or at the time that protective response measures are recommended to the public, emergency workers will initiate steps to protect against radiation exposure. Specific authorization of the MSDH SHO is necessary for emergency workers to exceed the EPA PAGs for the general population **(NUREG Section II, K.2)**. Specific measures taken at the time will include the following:

(a) Each emergency worker will be provided with dosimetry when they report for duty. State emergency workers will receive dosimetry and other instruments/materials from pre-issued REP Kits/Boxes from the SEOC or Civil Defense and Emergency Management (CD/EM) personnel at a local EOC. Local emergency workers will be provided with dosimetry and other instruments/materials from local supplies and augmented by the state as needed **(NUREG Section II, K.3)**. Each Self-Reading Dosimeter (SRD) will be read every 30 minutes, with readings recorded on the individual's Personal Radiation Exposure Card (REP-1) **(NUREG Section II, K.3.a)**.

(b) TEDE (whole-body) exposure limit for emergency workers other than lifesaving missions is 5 Rem. To reduce stress and fatigue effects and minimize the time required to complete tasks, respiratory protection for emergency workers will not be advised. To compensate

for the difference between the external gamma exposure (as read on the SRD) and the TEDE, which includes the external gamma exposure plus any exposure from inhaled radionuclides, the exposure recorded on the SRD will be multiplied by a factor of five (5). Thus, exposure of 1R on the SRD will be interpreted as a TEDE of 5 Rem. **(NUREG Section II., K.4)**

- Any emergency worker receiving a discernible exposure on the SRD will be instructed to report to their supervisor for reassignment outside the EPZ until exposure can be verified.

- If an emergency worker registers an **exposure of 1R** on the SRD, ***he shall be instructed to leave the risk area and immediately report to a designated decontamination location.*) 1R will be referred to as the Turn Back Value**.

- Any emergency worker receiving an **exposure of 1R** on the SRD **after completing the decontamination procedures** shall have a whole-body count performed at either the River Region Medical Center location or designated Entergy Fixed Nuclear Facility (FNF) site to determine any additional assessment of receiving significant exposure from internally deposited isotopes.

- Any emergency worker receiving a dose (TEDE) of 10 Rem or above may be instructed to seek medical treatment at the nearest facility capable of dealing with radiation exposure cases.

(c) Emergency worker guidelines are based on cumulative dose constraint levels. These are based on the assumption that doses acquired in response to a radiological incident would be "once in a lifetime" and that future radiological exposures would be substantially lower.

Recommendations in the table below provide a guideline level of 5 rem (50 mSv) for worker protection and alternative emergency worker guidelines for specific activities where doses above 5 rem (50 mSv) cannot be avoided. For most radiological incidents, radiation control measures (e.g., minimizing time, maximizing distance, using shielding) will prevent doses from reaching the 5 rem (50 mSv) occupational exposure guideline while performing typical emergency response activities such as transportation, firefighting, and medical treatment of contaminated victims at hospitals. However, when victims are injured or trapped in high radiation areas or can only be reached via high radiation areas or to protect critical infrastructure, exposure control options may be unavailable or insufficient, and doses above 5 rem (50 mSv) may be unavoidable.

Decisions to take response actions that could result in doses above 5 rem (50 mSv) can only be made at the time of the incident, considering the actual situation. Only after as low as reasonably achievable (ALARA) measures have been applied to the fullest extent and the SHO has authorized

an increase in occupational limits to the Governor or GAR and subsequently approved will exposure to excessive occupational limits be authorized **(NUREG Section II, K.2)**. In such situations, incident commanders and other responders must understand the risk of such exposures to make informed decisions. The emergency worker guidelines for life and property-saving activities in Table G-1 are provided to assist such decision-making. These guidelines apply to doses incurred throughout an emergency and are assumed to be once in a lifetime. After the early phase, no more lifesaving missions would likely be needed. However, some critical infrastructure/key resources or lifesaving missions may arise in the intermediate phase, where these guidelines would apply.

Emergency Worker Guidelines		
Guideline	**Activity**	**Condition**
5 rem	All occupational exposures	All reasonably achievable actions have been taken to minimize dose.
10 rem [a]	Protecting critical infrastructure necessary for public welfare (e.g., a power plant)	Exceeding 5 rem is unavoidable, and all appropriate actions are taken to reduce the dose. Monitoring is available to project or measure the dose.
25 rem [b]	Lifesaving or protection of large populations	Exceeding 5 rem is unavoidable, and all appropriate actions are taken to reduce the dose. Monitoring is available to project or measure the dose.
>25 rem	Lifesaving or protection of large populations	All conditions above and only for people fully aware of the risks involved (see Tables 3-2 and 3-3)

a. For potential doses >5 rem, medical monitoring programs should be considered.

b. In the case of a very large incident, such as an IND, incident commanders may need to consider raising the property and lifesaving emergency worker guidelines to prevent further loss of life and massive spread of destruction.

This guidance does not address or impact site cleanups occurring under other statutory authorities such as the United States Environmental Protection Agency's (EPA) Superfund program, the Nuclear Regulatory Commission's (NRC) decommissioning program, or other federal or state cleanup programs.

Emergency personnel may be exposed to increased radiation during the unique catastrophic event of a GGNS GE, resulting in a firestorm and widespread destruction of structures. The emergency intervention needed to prevent further destruction and loss of life may increase exposure. Exceeding the emergency worker guidelines in Table G-1 may be unavoidable in responding to such events. Emergency workers must be fully informed of the risks of exposure they may experience for all exposures, including numerical estimates of the risk of delayed health effects.

To the extent feasible, they must be trained on actions to be taken. Each emergency worker should make an informed decision as to how much radiation risk they are willing to accept to complete a particular mission.

l. Medical and Public Health Support (NUREG Section II, L. L.4). Designated primary and backup hospitals provide treatment and care for contaminated injured individuals. The term "contaminated injured means (1) contaminated and otherwise physically injured; (2) contaminated and exposed to dangerous levels of radiation; or (3) exposed to dangerous levels of radiation. GGNS will arrange medical transportation and medical service needs for any affected plant personnel.

(1) Medical Services (NUREG Section II, L.1, L.4). Selected hospitals provide medical services for treating and caring for contaminated injured individuals. Letters of Agreement have been obtained with these hospitals. Primary and backup medical services will be provided by:

(a) Primary: Merit Health River Region, 2100 Hwy. 61 North, Vicksburg, MS 39183
BED CAPACITY: 341

(b) Backup: Riverland Medical Center, 1700 EE Wallace Boulevard, Ferriday, LA 71334
BED CAPACITY: 60

(2) Ambulances (NUREG Section II, L.4) . Arrangements have been made with ambulance services to provide medical transportation for members of the general public who may be exposed to dangerous radiation levels at GGNS. Because the early symptoms of persons exposed to dangerous radiation levels are usually limited to vomiting and nausea, ambulances may not be required to transport all affected persons to the appropriate medical facility. In those instances, non-specialized public and private vehicles may be used. Letters of Agreement have been obtained with these organizations. Primary and any additional ambulance service needed will be provided by:

(a) Primary: American Medical Response Ambulance Service, Natchez, MS (Claiborne County)

(b) Additional: MS Dept. of Health, Bureau of EMS/TRAUMA, Jackson, MS

(3) Other Private-Sector Medical Facilities (NUREG Section II, L.3). Several other hospitals and ambulance services in Mississippi can provide medical support for any contaminated injured individual from an NPP emergency if primary and backup resources are exhausted. Letters of Agreement have been obtained with these entities.

(4) Other Government-Owned Medical Facilities (NUREG Section II, L.3). Government-owned facilities are available to provide radiological emergency services. These services are available if the magnitude or uniqueness of a radiological incident exceeds in-house and commercially available capabilities. They include:

(a) Radiation Emergency Assistance Center, Training Site (REACTS), Oak Ridge, TN

(b) National Disaster Medical System (NDMS), Rockville, MD

m. Recovery, Re-entry, and Post-Accident Operations (NUREG Section II, M).

(1) Recovery, Re-Entry, and Return Plan (NUREG Section II, M.1). The MEMA Office of Preparedness, Central Regional, REP Program, in coordination with MSDH/DRH, maintains the Draft Recovery, Re-Entry, and Return Plan. The plan is templated and ready to be updated with incident-specific data. The plan has provisions for reentry into restricted areas, including exposure and contamination control. A method for coordinating and implementing decisions regarding temporary reentry into restricted (exclusion) areas is outlined.

(2) Recovery Concept of Operations (NUREG Section II, M). An accident for which this annex is designed is those with offsite consequences. Responsibility for onsite recovery operations is not intended to be addressed.

(a) General (NUREG Section II, M.4). MSDH/DRH will continue to be the lead agency during the recovery phases of operations. MEMA will continue to coordinate the support required of other state and federal response organizations. The primary mission is to save lives; protect the health and safety of the general population, response and recovery workers, and the environment; restore critical infrastructure capacity; re-establish an economic and social base; and support community efforts to overcome the physical, psychological, and environmental impacts of a radiological incident.

(b) Responsibilities (NUREG Section II, M.5, M.6, M.7, M.8).

- MSDH/DRH will initiate recovery operations surveys by the RERTs, supported by state and federal agencies with an assigned responsibility. The RERTs, in coordination with the MDAC and the MDEQ, will initiate surveys and environmental sampling of the affected areas. The results of these surveys will be forwarded to the RAAO for assessment and evaluation. Based on the assessments and evaluation, MEMA will be advised of recommended courses of action and initiate public advisories through the JIC after consultation with the Governor's Office. MEMA continues to implement the required recommendations at the state level.

- The RAAO will evaluate the total population and emergency worker exposure during the incident and recovery operations using the methodology described in EPA-400/R-17/001 and integrating the projected dose throughout the incident.

- MEMA will be prepared to coordinate or request any assistance the local government may need to return to normal activities.

(c) Re-Entry Concept of Operations (NUREG Section II, M.5).

(a) After the relocation area is established, people will need to re-enter for various reasons, including recovery activities, property retrieval, security patrol, operation of vital services, and, in some cases, care and feeding of farm and other animals. It may be possible to quickly decontaminate access to vital institutions and businesses in certain areas so that adults can occupy them for living (i.e., institutions such as nursing homes and hospitals) or employment. Clearance for occupancy of such areas will require dose reduction to meet exposure limits (EPA 1987b). Dose projections should include external exposure from deposited material and inhalation of resuspended deposited material for the planned exposure. People working in areas inside the relocation area should operate under the controlled conditions established for occupational exposure (EPA 1987b). The emergency worker dose limitation does not need to include ongoing doses from living in a contaminated area outside the relocation area. It is also unnecessary to consider the previous dose from the plume or ground shine during the early phase of the radiological incident.

(b) Re-entry operations occur due to an evacuation of some segments of the EPZ. This may be as little as one Protective Action Area or as much as the entire EPZ. Reentry operations can be categorized into two phases: short-term reentry and return.

(c) Short-Term Reentry may begin during the response to the emergency for emergency reasons such as the care of livestock. This activity must be carefully controlled to ensure the security of the evacuated area and the safety and health of the individuals who require re-entry. Each person desiring reentry must be permitted into the area by authorized officials and should be escorted or badged for identification and dose assessment. Name, time of entry and exit, and purpose should be logged at the entry point. All personnel who re-enter the evacuated area should be directed to exit by the same route. Each individual should be briefed on the existing radiological hazards and the possible long-term consequences and advised to enter at their own risk. Their signature on a log at the point of entry indicates that they have received this briefing.

(d) A return may be recommended by MSDH/DRH when there is no longer a radiological threat to the area. The EPA-400/R-17/001 recommendation for the first year is <2 Rem/yr dose for long-term reentry to an affected area. When reentry is recommended, the MEMA

Director, with the concurrence of the Governor's Office, will make a public information announcement to this effect. State and local law enforcement agencies will assist traffic flow back into the area like evacuation was controlled. Representatives from county gas, water, and fire departments and the local electrical utility should precede the general public into the area to ensure the availability and safety of needed utilities. Consideration must be given to disposing of spoiled food and/or agricultural products from homes and groceries and replenishing supplies.

n. Exercises and Drills (NUREG Section II, N, N.1, N.1.a). Radiological and hostile action emergency response exercises and drills are designed to test the adequacy of coordination and content of radiological emergency preparedness plans and procedures. Exercises and drills include selected mobilization of state and local personnel and resources adequate to verify the offsite response capabilities to an accident. External critique and evaluation personnel from FEMA are requested for each required event.

(1) Exercises (NUREG Section II, N.1, N.2, N.3.c.1, N.3.c.2). An exercise tests and evaluates the integrated capability of the emergency response organization and a major portion of the basic elements of the emergency preparedness plan. The state is responsible for FEMA for exercise activities offsite, and the utility is responsible to the NRC for onsite exercise activities. The state will test all major elements of this plan during a federally evaluated biennial exercise within eight years. Biennial offsite exercises will be combined with the utility's annual on-site exercise. The utility is required to have at least one exercise or drill every eight years to be conducted off-hours, between the hours of 1800 and 0400; it is optional for the OROs to participate in this. Exercise scenarios will be conducted per the FEMA REP Manual, 2019 guidance. A hostile action-based (HAB) exercise with full participation will be conducted at least once every eight-year cycle. Participants will be sufficient for carrying out the security measures the exercise scenario requires.

(a) Plume Exposure Pathway Exercise (NUREG Section II, N.2.a). The state will conduct a plume exposure pathway exercise biennially. These exercises will include the mobilization of the licensee, state, and local government personnel and resources and implementing emergency plans to demonstrate response capabilities within the plume exposure pathway EPZ.

(b) Ingestion Exposure Pathway Exercise (NUREG Section II, N.2.b). The state will conduct an ingestion exposure pathway exercise at least once every eight years. These exercises include mobilizing state and local government personnel and resources and implementing emergency plans to demonstrate response capabilities to releasing radioactive materials requiring post-plume phase protective actions within the ingestion exposure pathway EPZ.

(2) Exercise Scenario Development (NUREG Section II, N.3). During each eight-year exercise cycle, biennial, evaluated exercise scenario content is varied to provide the opportunity to demonstrate the essential skills and capabilities necessary to respond. MEMA, working with MSDH/DRH and GGNS, is responsible for developing the exercise rotational schedule.

Note: If OROs elect to participate in a joint exercise with a no/minimal radiological release scenario, part of the planning for the exercise will include identifying capabilities and other activities/processes that may not be evaluated under such a scenario and determining appropriate alternative demonstration and evaluation venues so that the OROs have appropriate opportunities to meet their assessment requirements. Planners may not use a "no/minimal release" scenario in consecutive exercises.

In addition to the Plume Exposure and Ingestion Exposure Pathway exercises listed above, the following exercise scenario elements will be included:

(a) Hostile Action-Based (HAB) (NUREG Section II, N.3.a). Hostile action directed at GGNS. This scenario may be combined with either a radiological release scenario or a no/minimal radiological release scenario, but a no/minimal radiological release scenario should not be included in consecutive HAB exercises at GGNS.

(b) Rapid Escalation (NUREG Section II, N.3.b). An initial classification of, or rapid escalation to, an SAE or GE.

(c) No/Minimal Release of Radioactive Materials (NUREG Section II, N.3.c). No release or unplanned minimal release of radioactive material, which does not require public protective actions. This scenario element is used only once during each eight-year exercise cycle.

(d) Resource Integration (NUREG Section II, N.3.d). Integration of offsite resources with onsite response.

(3) Drills (NUREG II, N.1, N.1.a). A drill is a supervised instruction period to test, develop, and improve skills. Drills will be supervised by a qualified instructor who will provide immediate feedback on performance. Drills include:

(a) Medical Services Drills (NUREG II, N.4.b). Medical services drills are conducted annually at each medical facility designated in the emergency plan. These drills involve a simulated, contaminated emergency worker and/or member of the general public and contain provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility).

(b) Laboratory Drills (NUREG II, N.4.c). Laboratory drills are conducted biennially at each laboratory designated in the emergency plan. These drills involve demonstration of handling, documenting, provisions for record keeping, and analyzing air, soil, and food samples, as well as quality control and quality assurance processes. These drills also involve an assessment of the laboratory's capacity to handle daily and weekly samples and the volume of samples that can be processed daily or weekly.

(c) Environmental Monitoring Drills (NUREG II, N.4.d). Environmental monitoring drills are conducted annually. These drills include direct radiation measurements in the environment, collection and analysis of all sample media (e.g., water, vegetation, soil, and air), and provisions for record keeping.

(d) Ingestion Pathway and Post-Plume Phase Drills (NUREG II, N.4.e). Ingestion pathway and post-plume phase drills are conducted biennially. These drills involve sample plan development, analysis of lab results from samples, assessment of the impact on food and agricultural products, protective decisions for relocation, and food/crop embargos.

(e) Communications Drills (NUREG II, N.4.f). Communications amongst and between emergency response organizations, including those at the state, local, and Federal level, the FMTs, and nuclear facility within both the plume and ingestion exposure pathway EPZs, are tested at the frequencies determined in evaluation criterion F.3. Communications drills include the aspect of understanding the content of messages and can be done in conjunction with the testing described in evaluation criterion F.3.

(4) After Action Reports (NUREG Section II, N.1.b). After each incident, event, exercise, or drill, an AAR/IP will be conducted. This Agency has established an AAR/IP process to include the actual AAR, an Improvement Plan, and an AAR/IP Program Management initiative. The MEMA AAR/IP program will be HSEEP compliant, with the information basis derived from and supportive of the "Mission Areas" and "Core Capabilities" outlined in the National Preparedness Plan.

Three types of AARs will be accomplished: incident-dependent, hot wash, informal, or formal. Improvement plans will be written, utilizing established improvement plan templates/forms.

(a) Hot Wash (Informal). A Hot Wash is a facilitated discussion held immediately after an event/exercise among event/exercise participants. It captures feedback about any issues, concerns, or proposed improvements players may have about the event/exercise. The Hot Wash allows players to voice their opinions on the event/exercise and performance. Although recommended, a Hot Wash is not a requirement in the overall AAR/IP process.

(b) Informal AAR/IP. Leaders use informal AAR/IPs as on-the-spot coaching tools while reviewing individual and organizational performance during or immediately after execution. Informal after-action reviews involve all personnel involved. These AAR/IPs provide immediate feedback to individuals, leaders, and organizations after execution. Ideas and solutions leaders gathered during informal AAR/IPs can be applied immediately as the organization continues operations. Successful solutions can be identified and transferred as lessons learned.

(c) Formal AAR/IP. Leaders plan formal AAR/IPs when they complete an event or realize they have the need, time, and resources available. During formal AAR/IPs, the AAR/IP facilitator (unit leader or other facilitator) provides an overview of the operation and focuses the discussion on topics the AAR/IP plan identifies. At the conclusion, the facilitator reviews identified and discussed key points and issues and summarizes strengths and weaknesses. An example is the product produced by FEMA after a full-scale GGNS exercise: *Final After Action Report, GGNS Radiological Emergency Preparedness Exercise.*

(5) Improvement Plans. During the evaluation and review phase, participant Leaders should reach a consensus on identified strengths and areas for improvement and develop a set of improvements that directly address core capability gaps. This information is recorded in the AAR/IP and resolved by assigning the implementation of concrete corrective actions, which are prioritized and tracked as part of a corrective action program, to the responsible parties. This process constitutes the improvement planning phase and the final step in conducting an exercise.

o. Radiological Emergency Response Training (NUREG Section II, O, and P). Training for response personnel is designed to enhance comprehension of radiological emergency response plans and to orient personnel to their specific response functions concerning the overall protective actions. Responsibilities include:

(1) State (NUREG Section II, O.1, P.1. P.2, P.3).

(a) Mississippi Emergency Management Agency. Coordinates with the MSDH/DRH to provide initial training and annual retraining of personnel implementing a GGNS emergency response. The MEMA REP Training Coordinator initiates and coordinates ongoing training plans and programs in support of response planning and carries out this responsibility in coordination with the MEMA REP Program Manager.

(b) Mississippi State Department of Health/Division of Radiological Health. Supports the development of and conducts radiological response training and provides technical guidance and assistance. MSDH/DRH Trains the RERT personnel, including the support members. MEMA and MSDH/DRH support each other’s training activities.

(c) Other State Agencies. Agencies with assigned duties under the basic plan participate and/or assist in training sessions as appropriate.

(2) Local Government.

(a) Local governments are responsible for assuring personnel assigned to response organizations with an emergency worker designation are scheduled to attend training.

(b) Locals coordinate their training for initial and refresher basic radiological monitoring courses. This will involve scheduling training sessions with the MEMA REP Training Coordinator **(NUREG Section II, P.1)**.

(3) Utility.

(a) GGNS provides training for hospital staff in support of the Mississippi Radiological Emergency Preparedness Program. GGNS also provides support training for transportation personnel in support of this plan.

(b) RBS provides training for affected Louisiana parishes. MEMA is responsible for training those counties affected by RBS within Mississippi. This will primarily consist of REP basic and ingestion pathway-type courses.

p. Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans (NUREG Section II, P.2, P.3, P.4, P.5, P.10). MEMA is responsible for developing and maintaining the Nuclear/Radiological Incident Annex. The Executive Director of MEMA has the overall authority and responsibility for radiological emergency response planning. The MEMA REP Program Director is responsible for developing and updating this Annex and coordinating with the other response organizations. Each agency/organization with responsibilities under this Annex is responsible for ensuring that its plan and procedures are reviewed and updated annually. All changes/updates will be submitted to MEMA for review and comment. MEMA coordinates all revision efforts and ensures that all agencies annually receive and review the Annex and individual Annex support plans.

Each agency/organization with responsibilities under this portion of the Annex is responsible for reviewing responsible radiological staff/ECO/contact information annually and providing the MEMA REP Program Director with periodic updates. The MEMA REP Program Director will notify the SWP and update the AtHoc Mass Notification distribution list and the SEOC ECO List.

4. RADIOLOGICAL TRANSPORTATION INCIDENT – CONCEPT OF OPERATIONS.

a. Waste Isolation Pilot Plant (WIPP) Program Overview. In 1979, Congress authorized the U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP). The WIPP facility, located 26 miles southeast of Carlsbad, N.M., was constructed during the 1980s. Congress limited WIPP to the disposal of defense-generated transuranic (TRU) wastes. In 1998, the U.S. Environmental Protection Agency (EPA) certified WIPP for safe, long-term disposal of TRU wastes.

WIPP is permitted to dispose of TRU waste transported to WIPP by a certified transportation program using licensed packages. All TRU waste shipped to WIPP from DOE waste generator sites must be characterized by a WIPP-certified program in compliance with WIPP's disposal, packaging, and transportation requirements, as outlined in WIPP's waste acceptance criteria (WAC).

(1) TRU Waste. WIPP permanently disposes of TRU waste, the byproduct of the nation's nuclear defense program. TRU waste consists of tools, rags, protective clothing, sludges, soil, and other materials contaminated with radioactive elements, mostly plutonium. These man-made elements have atomic numbers greater than uranium on the periodic table of elements (thus "trans-uranic" or beyond uranium).

(2) WIPP Shipment Routes. U.S. Department of Transportation (DOT) regulations require radioactive materials to be shipped on the interstate highway system unless states designate other routes. WIPP shipment protocols were developed through cooperative efforts with states and tribal governments. The WIPP route in Mississippi is designated as I-20, with the shipments entering the state in Lauderdale County in the east and exiting from Warren County in the west. The shipments pass through several large municipalities, including Meridian, Jackson, and Vicksburg.

(3) WIPP Shipment Monitoring. DOE developed the Transportation Tracking and Communication System (TRANSCOM) to track DOE shipments of high-visibility radioactive materials and to maintain communication with the drivers as a public safeguard. This system monitors trucks that transport TRU waste to WIPP for disposal. TRANSCOM personnel monitor WIPP shipments around the clock from a secure control center, using satellite and terrestrial communications to pinpoint the location of shipments en route. The MEMA SWP also monitors WIPP shipments via TRANSCOM that will traverse the state.

b. Other Radiological Transportation. In addition to WIPP shipments, other less sensitive radioactive waste shipments are routinely transported throughout the state. Most of these waste shipments emanate from nuclear power plants in Mississippi and Louisiana. MEMA permits these

shipments and sends notifications via the AtHoc Mass Notification System for situational awareness and tracking. Non-WIPP radiological transportation routes are not limited to interstate highways.

c. Assignment of Responsibility. In coordination with MSDH/DRH, MEMA is responsible for managing the state's response to a radiological transportation incident. As the Governor's Authorized Representative (GAR), MEMA's Executive Director is the individual responsible overall.

Mississippi Code 1972 Annotated, Title 33. Military Affairs, Chapter 15. Emergency Management and Civil Defense, Article 1. Emergency Management Law (§ 33-15-1 – 33-15-53) provides the legal basis for emergency response-related authorities, including the emergency powers of the Governor. Each state organization listed below in Section 4.d, charged with emergency response, is led by a chief executive ultimately responsible for the organization's activities. § 33-15-14 further stipulates each responding organization will develop an operational plan, and § 33-15-53 mandates the assignment of designated emergency coordination officers (ECO). The emergency coordination officer is responsible for coordinating with MEMA on emergency preparedness issues, preparing and maintaining emergency preparedness and postdisaster response and recovery plans for such agency, maintaining personnel rosters to assist in disaster operations, and coordinating appropriate training for agency personnel. For a complete roster of the current state ECOs, contact the MEMA SEOC.

(1) Program Management. The WIPP Program Manager/Coordinator manages, plans, integrates, and implements the National Waste Isolation Pilot Program at the state level. The Program Manager/Coordinator is responsible for assuring the administrative and operational aspects of the program. Specific responsibilities include, but are not limited to:

(a) Maintaining and updating the MEMA WIPP work plan and related plans and procedures described herein.

(b) Coordinate activities related to the MEMA WIPP and FY Work Plan.

(c) Prepare and submit the yearly SSEB FY Work Plan and the monthly budget request.

(d) Representing MEMA to the Southern States Energy Board and National Transportation Safety meetings.

(e) Lead for planning, training, and exercising partner agencies, counties, and cities along the WIPP shipment route.

(f) Works with the MEMA SWP to maintain and monitor shipments using the TRANSCOM system.

(g) Works with the MEMA Operations Section Chief or Deputy Operations Section Chief to ensure updated WIPP transport schedules are posted within the MEMA SWP, concealed from public view.

(h) Ensure adequate personnel are properly trained to monitor the WIPP transport's approach, entry, travel, and exit from Mississippi without incident.

(i) Review assistance and emergency response strategies for a transportation incident involving radioactive shipments.

(j) Gather, coordinate, and monitor needed resources for the program and serve as a liaison between other partnership agencies.

(2) Direction and Control. Under the Governor's direction, state and local governments' total and combined efforts are utilized to mitigate the effects of radiological hazards or hostile actions resulting from a radiological emergency.

In the event of a radiological emergency, the conveyance operator notifies the appropriate officials/agencies. The local and state governments will take action as appropriate. MEMA is responsible for incident notification.

(a) State. The ultimate responsibility for the State's emergency response to a radiological transportation incident belongs to and is directed by the Governor. The MEMA Executive Director serves as the Governor's authorized representative and coordinates the emergency response. The MEMA Executive Director makes all routine decisions and advises the Governor on courses of action available for major decisions. During the response, the MEMA Executive Director is responsible for the proper functioning of the SEOC. The Director also liaises with local, state, and federal agencies. The Governor or the MEMA Executive Director can request the National Response Framework (NRF) activation through FEMA Region IV if additional federal assistance is needed.

Various local community services and other public and private resources are available to support local response to an accident. These resources include hospitals, emergency medical services, etc. The employment of such resources will be coordinated at the county level.

(b) Federal.

- **Federal Emergency Management Agency (FEMA)**. FEMA is the lead Federal agency for coordinating non-technical Federal support to State/local agencies in implementing protective measures. Support provided by federal agencies through FEMA is primarily logistical support and may include telecommunications, transportation, housing, and all other types of assistance not classified as technical. The federal government maintains an in-depth capability to assist State and local governments through the National Response Framework (NRF). MEMA will request operational support through FEMA.

- **Department of Energy (DOE)**. The DOE is the lead federal agency for coordinating federal technical support to state/local agencies in the technical assessment of an accident. Support provided by federal agencies through DOE may include radiological monitoring, evaluation, assessment, and reporting activities. MSDH/DRH will request technological support augmentation through DOE.

(3) State Tasked Organizations.

Organization	Principal in Charge of Emergency Response
Governor's Office	Chief of Staff
ESF-2, 5, 7, 14, & 15 Mississippi Emergency Management Agency	Executive Director
ESF-8, Mississippi State Department of Health	State Health Officer
ESF-10, Mississippi Department of Environmental Quality	Executive Director
ESF-13, Mississippi Department of Public Safety	Commissioner
ESF-16, Mississippi Military Department	Adjutant General

(4) State Operational Roles.

(a) Governor’s Office.

- Provides direction and control to ensure the health and safety of the state's population.
- If needed, declare a state of emergency to enhance response and recovery.
- Requests federal assistance when needed.
- Issues executive orders, if needed.
- Implement necessary protective action recommendations and issue evacuation orders, if needed, through the MEMA Executive Director and MSDH/DRH Director.

(b) Mississippi Emergency Management Agency (MEMA).

- Provides for the development and maintenance of the WIPP SOP.

- Coordinates state and federal agency activities in implementing this Annex and the WIPP SOP in the event of a radiological transportation emergency.

- Provides for the activation and staffing of the State Emergency Operations Center (SEOC).

- Serves as the State Warning Point by providing 24-hour communications to receive any transportation-based radiological emergency notification and any follow-up notification until the SEOC is activated. Once activated, updates are provided by briefings.

- Provides for adequate emergency communications.

- Assists local governments in the development and maintenance of WIPP plans and procedures.

- Provides for collecting and disseminating public information in coordination with local government, the utility, and other agencies.

- Provides personnel for the Joint Information Center (JIC).

- Provides for developing and maintaining a comprehensive training and exercise program supporting the WIPP Program.

- Develops, conducts, and participates in exercises and drills.

- Provides continuity of technical, administrative, and material resources during response operations.

- Provides affected counties, state, and federal agencies with copies of this Annex, WIPP SOP, and any subsequent revisions.

- Coordinates the allocation and use of resources during an emergency.

- Provides a representative to the incident command post with communications and decision-making authority as necessary.

(c) Mississippi Department of Public Safety (MDPS).

- **Mississippi Highway Safety Patrol (MHSP).**

- Provides for notification and warning in coordination with the Mississippi Emergency Management Agency.

- Provides traffic and access control at pre-designated traffic control points to limit ingress and control egress from affected areas.

- Executes the MHSP Radiological Emergency Plan.

- Provides a representative to the incident command post with communication and decision-making authority to relieve LLEA of incident command as required.

- Provides accident assessment support.

- Provides radiological monitoring support.

- Provides backup communications.

- Provide WIPP shipment escort, if required.

- Participate in WIPP planning, training, and exercise events.

- **Mississippi Department of Public Commercial Transportation Enforcement Division (CTED)**. Support the MHSP tasks listed above and:

  - Provide a cadre of Commercial Vehicle Safety Alliance (CVSA) certified Level VI Inspectors.

  - Ensure Level VI inspectors maintain certification by attending required refresher courses.

  - Conduct Level VI vehicle and driver fitness inspections.

  - Conduct unexpected stop WIPP compliance inspections.

  - Conduct radiological surveys.

  - Provide WIPP shipment safety and security support.

  - Provide route and safe parking area inspection and security.

  - Participate in WIPP planning, training, and exercise events.

(d) Mississippi State Department of Health (MSDH).

- **Division of Radiological Health (DRH)**.
  - Acts as the lead agency for a technical response.
  - Provides an independent accident assessment.
  - Provides personnel and equipment for the RERT.
  - Advises state and local officials on implementing protective actions based on accident assessment.
  - Establishes radiological exposure controls for the general population.
  - Formulates guidelines and maintains permanent records for emergency worker exposure.
  - Establishes criteria for controlling ingress/egress to/from areas or zones surrounding an accident site.
  - Develops exercises in coordination with MEMA.
  - Provides radiological laboratory services.
  - Coordinates decontamination activities.
  - Provides public information support to MEMA PIO.
  - Coordinates radiological response activities with local, state, and federal entities.
  - Provides a representative to the incident command post as necessary.
- **Division of Emergency Medical Services (EMS)**.
  - Provides medical triage and additional emergency medical services as needed.
  - Provides medical assistance and/or advice on caring for contaminated and/or irradiated injured personnel.
  - Contact primary and backup hospitals to determine the availability of beds for contaminated, injured, and other potential patients, including special needs and nursing home patients.

(e) Mississippi Department of Environmental Quality (MDEQ).

- Assists in radiological monitoring and accident assessment.
- Assists in the reclamation of soil and water resources.

(f) Mississippi Military Department/47th Civil Support Team.

- Assists local governments and state agencies as directed by the Governor.
- Provides supplemental security needs as deemed appropriate by the Executive Director of MEMA based on the incident.
- Assists in radiological monitoring and accident assessment.
- Provide planning and technical assistance as needed.

(5) Local Operational Roles.

(a) County Board of Supervisors.

- Responsible for direction and control of the County response to any radiological emergency.
- Declares a state of local emergency when conditions warrant such (DR-3).
- Prepares a local resolution to the Governor requesting a State of Emergency declaration (DR-4).

(b) Local Civil Defense/Emergency Management Agencies (CD/EMA).

- Develops and maintains the Local Radiological Emergency Preparedness Plan.
- Participates in planning, training, and exercise activities.
- Coordinates with MEMA and MSDH/DRH to implement protective action decisions.
- Activates the Local Emergency Operations Center (LEOC).
- Directs the County's response, assigns missions and tasks, and directs the course of action that controls emergency operations.

- Coordinates with MEMA PIO on disseminating all public information.
- Provides resource continuity within the county.
- Maintains county emergency response plans and procedures.

(c) County Sheriff's Office (SO).

- Maintains the 24-hour County Warning Point, where applicable.
- Maintains communications with LEOC.
- Assists with evacuation as necessary.
- Maintains law and order within their jurisdiction.
- Provides a representative to the incident command post with communication and decision-making authority to establish and assume incident command as required.
- Establishes Traffic Control Points (TCPs) to limit ingress and control egress from affected areas within the county.

(d) County Health Department.

- Assists with potential health hazards and works closely with the MSDH/DRH.
- Maintains coordination with the County Department of Human Services.

(e) County Fire Department (FD).

- Maintains fire control services.
- Assists in radiological monitoring.
- Facilitate requirements for emergency worker decontamination stations.

(f) County Road Maintenance/Department.

- Provides personnel and equipment for traffic and access control.
- Coordinates all response activities with the incident command post.

d. Shipment Notification Methods and Procedures.

(1) WIPP Shipments. The SWP receives inbound WIPP shipment notifications from the USDOE/TRANSCOM Communication Center. TRANSCOM is the USDOE's unclassified Tracking and Communication Web Application used to monitor and track the progress of all WIPP shipments. TRANSCOM is a satellite-based system allowing two-way communications with drivers and immediate emergency response guidance information, if necessary. Authorized TRANSCOM users, such as USDOE shippers, carriers, federal, state, and local governments, can access the web-based application from a PC or mobile device.

The SWP disseminates WIPP shipment notifications to the *WIPP Shipment Communications Group* via the AtHoc Mass Notifications system. The notifications are pre-scripted and can be delivered via e-mail, telephone, and text. There are five notifications per shipment: 1. Inbound shipment is approximately two hours from the state line; 2. Crossed the state line; 3. Entered the Jackson (JXN) metro area; 4. Exited the Jackson metro area; 5. Exited the state.

(2) Other Radiological Shipments. Notifications of other radiological shipments come to MEMA as a "Notice of Radiological Shipment(s)." The SWP processes the notice, assigns a file and permit number, and issues the permit to the requestor. The notice provides descriptions of the shipper, carrier, locations (from, to), route, and waste (composition and radioactive isotope).

The SWP disseminates radiological shipment notifications to the *RAD Waste Shipment State Group* via the AtHoc Mass Notifications system.

e. Public Information. As necessary, the JIC, located at the SEOC, is responsible for arranging the timely exchange of information among designated conveyor, shipper, federal, state, and local spokespersons. Equipment and facilities are available to support timely communications and information dissemination. Appropriate arrangements have been made at the JIC to deal with rumor control.

f. Emergency Response. In an emergency response, USDOE will assist with Federal statutes and regulations (USDOE/CBFO 98-3103 TRU Waste Transportation Plan) to support state, tribal, and local authorities. State, tribal, and local governments have the primary responsibility and authority to respond to and manage emergencies within their jurisdiction. Establishing the incident command system will be in accordance with the plan, protocols, and procedures of the state, tribe, or local jurisdiction in which the incident occurs and in accordance with the National Incident Management System (NIMS). Based on the nature of the incident and the elements involved, the USDOE may send additional USDOE resources to the scene while following its communication procedures. Resources may include but are not limited to a USDOE Public Information Officer

(PIO), Radiological Assistance Program (RAP) Teams, Incident/Accident Response Team (IART), and other specialized emergency response personnel.

The likelihood of a release from a breached package in a WIPP incident is low. However, until it can be confirmed by the Level VI inspector that there is no danger of radiation, then the scene must be treated as if the threat is present.

g. Level VI Inspections. A Level VI Inspection is an inspection for select radiological shipments, which includes inspection procedures, enhancements to the North American Standard Level I Inspection, radiological requirements, and the North American Standard Out-of-Service Criteria for transuranic waste and highway route controlled quantities (HRCQ) of radioactive material.

All vehicles and carriers transporting HRCQ of radioactive material are regulated by the U.S. Department of Transportation (USDOT) and required to pass the North American Standard Level VI Inspection.

Vehicles, drivers, and cargo must be defect-free by the Level VI Inspection standard before leaving their point of origin. While en route, the Level VI out-of-service criteria are applied.

A special nuclear symbol decal was developed for vehicles meeting the Level VI Inspection criteria. The decal is affixed at the shipment's origin point and removed at the destination. It is valid for only one trip.

h. Level VI Certification. Under a cooperative agreement with the USDOE, CVSA offers Level VI Inspection certification courses for inspectors to become trained and certified to conduct inspections of drivers and vehicles transporting transuranic waste and highway route-controlled quantities shipments of radioactive material. This Level VI Inspection training is only available to jurisdictional inspectors certified in North American Standard Part A (driver) and Part B (vehicle) and General Hazardous Materials.

i. Training and Exercises. The Land Withdrawal Act (LWA) requires that USDOE emergency response training programs provided by WIPP comply with 29 CFR 1910.120. USDOE's Transportation Emergency Preparedness Program (TEPP) includes training resources, model response procedures, needs assessments, and exercise plans. Some of these resources are available on the TEPP website, while others are available from USDOE's regional coordinators. Classes address caring for accident victims, guarding the public welfare, protecting the environment, ensuring responders' safety, and meeting the requirements of 29 CFR §1910.120(q). This training supplements other HAZMAT emergency response training offered by the states and tribes. The courses offered are:

(1) Training.

(a) Emergency Communications 911 Dispatcher Briefing. A four-hour briefing and awareness session to introduce the dispatch staff to the terminology and units of measure used for radioactive materials, but more importantly, it gives them a set of questions to ask whenever a caller uses the word radioactive.

(b) First Responder. Training is accomplished with the Modular Emergency Radiological Response Transportation Training (MERRTT). It was developed in conjunction with the WIPP External Emergency Management staff and the USDOE's Transportation Emergency Preparedness Program (TEPP) as a nationwide effort to ensure training consistency in responding to incidents involving radiological materials.

(c) Compressed Modular Emergency Radiological Response Transportation Training (MERRTT). A one-day,8-hour course, including the basics of radioactive material transportation and the dangers to responders and response actions. This course can be a refresher or stand-alone for experienced Hazardous Materials Response Teams.

(d) Command and Control. A series of courses intended for persons capable of becoming the on-scene commander and individuals who will be functioning under the command structure of the major elements of the command system.

(e) Train-The-Trainer. A 24-hour program is generally taught in Carlsbad, New Mexico, so students can tour the WIPP site and see - firsthand - why the facility was selected for a permanent nuclear waste repository.

(f) Medical Management. An eight-hour course intended for hospital emergency room doctors, technicians, and nurses who may be required to treat a potentially contaminated patient with TRU radiological material.

(g) Medical Examiner/Coroner Course. Provides techniques for identifying the hazard to persons that may handle a radiologically contaminated body and how to prevent further contamination. The techniques and proper processes for documentation of the event and successful decontamination of the body will be demonstrated.

(2) Exercise. Full-Scale Exercise (FSEs) will utilize the TEPP MERRTT course to prepare local responding organizations and medical facilities. All local organizations and agencies preparing to participate in the FSE must complete the MERRTT training before participating in the FSX. All FSE Training will include members of partner organizations and WIPP Stakeholders. The TTX will focus mainly on the county jurisdiction that is hosting the event and will consist of

invited members from neighboring counties. Equipment and small incident training will focus on departmental responses. Neighboring WIPP states may be included in some FSE and TTX training. These exercises will help encourage and strengthen a positive working relationship between the various agencies in the community and the State who would respond to a WIPP or any radiological transportation emergency.

(3) Training and Exercise Cycle.

(a) One FSE biennially. This will occur in years opposite the GGNS FSE.

(b) Every four (4) years, the biennial FSE will be a WIPPTRX FSE.

(c) Yearly Specialized Training (i.e., Level VI Training, Dispatcher Training, etc.)

(d) MERRTT, TMERRT, Hospital, and Coroner training will be upon the request of the jurisdictions.

State agencies, Tribes, Counties, and Municipalities can request WIPP training for their particular entity on an “as needed” basis.

j. Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans. This Annex will be continuously reviewed and exercised to evaluate the state's and political subdivisions' ability to execute response and recovery operations and support local and municipal emergency management agencies.

MEMA is responsible for developing and maintaining the Nuclear/Radiological Incident Annex. The Executive Director of MEMA has the overall authority and responsibility for radiological emergency response planning. The REP Program Manager is responsible for developing and updating the NPP portion of the Annex. The WIPP Program Manager is responsible for developing and updating the radiological transportation portion of the Annex.

MEMA will revise and publish this Annex on a biennial basis. The revision will include testing, reviewing, and updating the document and its procedures. This Annex will be updated to incorporate new federal, state, local, or municipal directives, legislative and procedural changes based on lessons learned from exercises and actual incidents. This Annex will be rewritten every four (4) years, if necessary. Each agency/organization with responsibilities in this Annex is responsible for reviewing radiological staff/ECO/contact information annually and providing the REP and WIPP Program Managers with periodic updates. The Program Managers will notify the SWP and update the AtHoc Mass Notification distribution list and the SEOC ECO List.

Directors of primary state agencies are responsible for maintaining internal policies, plans, SOPs, checklists, and resource data to ensure a prompt and effective response to a disaster in support of this Annex. For training purposes and exercises, the MEMA Executive Director may activate this Annex as deemed necessary to ensure high operational readiness.

This Annex applies to all state agencies, state boards, state commissions, and state departments assigned emergency responsibilities and to all elements of local government in accordance with current law and Executive Orders (EOs).

5. AUTHORITIES AND REFERENCES (NUREG Section II, P.6, P.7, P.8).

a. Authorities.

(1) Federal NPP.

(a) NUREG 0654/FEMA REP-1, Rev 2, December 2019, "Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." https://www.nrc.gov/docs/ML1934/ML19347D139.pdf

(b) FEMA P-1028, December 2019 "FEMA: Radiological Emergency Preparedness Program Manual." https://www.fema.gov/media-library-data/1577108409695-4e49a0a56c8c62695dcc301272a1eda7/FEMA_REP_Program_Manual_Dec_2019.pdf

(c) Public Law 96-295, NRC Appropriations Bill. https://www.govinfo.gov/content/pkg/STATUTE-94/pdf/STATUTE-94-Pg780.pdf

(d) 44 CFR Part 350. https://www.law.cornell.edu/cfr/text/44/part-350

(e) 10 CFR Part 50. https://www.nrc.gov/reading-rm/doc-collections/cfr/part050/full-text.html

(f) Public Law 920, Civil Defense Act of 1950, as Amended. https://www.hsdl.org/?view&did=456688

(2) Federal Transportation:

(a) US Dept of Energy TRU Waste Transportation Plan USDOE/CBFO-98-3103 Revision.
https://wipp.energy.gov/library/TRUwaste/DOE-CBFO-98-3103_Rev5_Final.pdf

(b) US Dept of Energy Manual 460.2-1A, Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A.
https://www.directives.doe.gov/directives-documents/400-series/0460.2-DManual-1a/@@images/file

(c) The Southern States Energy Board (SSEB) Transportation Planning Guide for the U.S. Department of Energy's Shipments of Transuranic Waste (SSEB Guide).
https://rampac.energy.gov/docs/default-source/DOEInfo/Attachment-3.pdf

(d) Title 49 Code of Federal Regulations Part 172, 173, 177, 300-399.
https://www.ecfr.gov/current/title-49

(e) Title 49 Code of Federal Regulations Subpart I – Class 7 (Radioactive) Materials.
https://www.ecfr.gov/current/title-49

(3) State.

(a) Mississippi Emergency Management Law of 1980, Section 33-15, Mississippi Code 1972, Annotated.
https://codes.findlaw.com/ms/title-33-military-affairs/

(b) Mississippi Radiation Protection Law of 1976, Section 45-14, Mississippi Code 1972, Annotated.
https://codes.findlaw.com/ms/title-45-public-safety-and-good-order/#!tid=N3073F730ABDD11DBB5DDAC3692B918BC

(4) Local. Port Gibson/Claiborne County Joint Ordinance/Resolution, April 3, 1978.

b. References.

(1) Federal.

(a) FEMA P-1028, January 2016, Program Manual: Radiological Emergency Preparedness.

https://www.fema.gov/media-library-data/1577108409695-4e49a0a56c8c62695dcc301272a1eda7/FEMA_REP_Program_Manual_Dec_2019.pdf

(b) FEMA GM IT-1, A Guide to Documents Related to the REP Program.

(c) FEMA GM 5, Agreements Among Governmental Agencies and Private Parties.

(d) FEMA GM 8, Regional Advisory Committee Coordination with Utilities.

(e) FEMA GM 16, Standard Regional Reviewing and Reporting Procedures for State and Local REP Plans.

(f) FEMA GM 21, Acceptance Criteria for Evacuation Plans.

(g) FEMA GM 22, Record-Keeping Requirements for Public Meetings.

(h) FEMA GM 24, Radiological Emergency Preparedness for Handicapped Persons.

(i) U.S.EPA 400/R-17/001, PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents.
https://www.philrutherford.com/Emergency_Response/EPA-400-R-17-001.pdf

(j) EPA 1987b, Environmental Protection Agency [EPA]. Radiation Protection Guidance to Federal Agencies for Occupational Exposure. Federal Register, 52, 2822-2834; 1987.
https://www.epa.gov/sites/production/files/2015-08/documents/52-fr-2822.pdf

(2) State.

(a) State of Mississippi Comprehensive Emergency Management Plan (CEMP), January 01, 2024
https://68rd9e.a2cdn1.secureserver.net/wp-content/uploads/2022/01/2022-CEMP-Base-Plan-Appendices.pdf

(b) MEMA Response Framework, June 01, 2023
https://msmema.sharepoint.com/:b:/r/Shared%20Documents/MEMA%20Downloads/MEMA%20Publications/Response%20Framework/MEMA%20Response%20Framework%20-%2001JUN23.pdf?csf=1&web=1&e=clcjmT

(c) MEMA External Affairs, Joint Information Center, Grand Guld Nuclear Station Standard Operating Procedure, 01 March 2023

(d) MEMA Nuclear Power Plant Radiological Emergency Preparedness Standard Operating Procedures, 01 January 2024

(e) MEMA Waste Isolation Pilot Plant Program Standard Operating Procedures, 01 September 2023

6. DEFINITIONS AND ACRONYMS.

a. Definitions. This list of definitions is not intended to be all-inclusive. Other definitions may appear within this plan where they are used.

(1) Access Control Point. A pre-designated location staffed by county or state law enforcement to prevent entry into the risk area during an accident. These points will be located on or immediately beyond the perimeter of the risk area.

(2) ALARA. Refers to keeping radiation exposure As Low As Reasonably Achievable.

(3) Alert. An Emergency Classification Level where events are in progress or have occurred that indicate an actual or potential degradation of the plant's level of safety or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of intentional malicious efforts of a hostile act. Any releases of radioactive material are expected to remain on-site and limited to small fractions of the EPA PAG exposure levels.

(4) Application. A request to the Agency for a permit to transport radioactive waste.

(5) Background Radiation. Ionizing radiation from within the body and from the natural environment to which individuals are always exposed.

(6) Carrier. A common, contract, private, or governmental carrier of property by motor vehicle, railroad, aircraft, or vessels, including barges.

(7) CBRN Response Emergency Response Force Package (CERFP). To provide immediate CBRN incident response capabilities to the governor, including incident site search of collapsed buildings and structures, conducting rescue tasks to extract trapped casualties, providing mass decontamination, performing medical triage and initial treatment to stabilize patients for transport to medical facilities by the Incident Commander, and the recovery of CBRN incident fatalities.

(8) Civil Support Team (CST). Support civil authorities at a domestic Chemical, Biological, Radiological, and Nuclear high-yield Explosives (CBRNE) incident site by identifying CBRNE agents/substances, assessing current or projected consequences, advising on response measures, and assisting with appropriate requests for additional follow-on state and federal military forces. Units can also provide immediate response for intentional and unintentional CBRN or hazardous material (HAZMAT) releases and natural or man-made disasters that result in, or could result in, catastrophic loss of life or property.

(9) Committed Dose Equivalent (CDE). A measurement of the radiation dose received by an organ is assessed from an external effective dose and the committed dose to the affected organ. The thyroid dose is measured as CDE.

(10) Contaminated Injured. A person who is contaminated and otherwise physically injured, contaminated, and exposed to dangerous levels of radiation or is exposed to dangerous levels of radiation.

(11) Contamination. Radioactive material on structures, areas, objects, or personnel surfaces.

(12) Critical Infrastructure/Key Resources (CI/KR). Systems, resources, and networks, whether physical or virtual, are so vital to the United States that the incapacity or destruction of such systems and resources would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

(13) Currie. A unit of quantity of radioactivity. One Curie (Ci) is that quantity of radioactive material, which decays at the rate of 3.7 x 1010 transformations per second (tps) (37 GBq). Commonly used submultiples of the curie are the millicurie and the microcurie. One millicurie (mCi) = 0.001 curie = 3.7 x 104tps.

(14) Decontamination. The reducing or removing radioactive material from a structure, area, object, or person.

(15) Decontamination Center. A location with shower facilities and a large parking area used to monitor evacuees for radiological contamination and to decontaminate evacuees and their belongings, if necessary. Several of these centers may be established on the periphery of the hazard area. They may also act as reception centers.

(16) Decontamination Survey. The process of monitoring persons and vehicles to determine the presence and/or level of contamination. Such surveys will be performed using Portal Monitors, Geiger-Mueller Survey Meters, or similar devices.

(17) Disposal Facility. That portion of a land disposal site which is used for the isolation of radioactive waste from the biosphere.

(18) Dose Rate. The amount of radiation an individual can receive per unit of time.

(19) Dosimeter. Also called a self-reading dosimeter (SRD), it visually indicates a person's exposure to radiation over a specified period.

(20) Emergency Alert System (EAS). Radio and/or TV stations authorized by the Federal Communications Commission (FCC) to operate in a controlled manner during an emergency.

(21) Emergency Classification Levels (ECLs). The nuclear power plant operator must classify the accident according to the established classification system, i.e., Unusual Event, Alert, Site Area Emergency, or General Emergency. State and local emergency response organizations will use this classification system as a basis for emergency actions per the appropriate emergency operations plan.

(22) Emergency Operations Center (EOC). The physical location at which the coordination of information and resources to support domestic incident management activities occurs typically. An EOC may be a temporary facility located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction. EOCs may be organized by major functional disciplines (e.g., Federal, State, regional, city, tribal) or some combination thereof.

(23) Emergency Operations Facility (EOF). A facility operated by a fixed nuclear facility to evaluate and control emergencies and coordinate responses.

(24) Emergency Planning Zone (EPZ). The area around a nuclear facility for which planning is required to ensure that prompt and effective action will be taken to protect the public in the event of an accident. A primary EPZ (the plume exposure pathway) will consist of all cities, villages, and townships within approximately a 10-mile radius of the facility, within which procedures for shelter and evacuation are major concerns. A secondary EPZ (the ingestion exposure pathway) will consist of all counties, including the jurisdictions they encompass, within approximately a 50-mile radius of the facility, within which procedures for monitoring food and water contamination are major concerns. The principal exposure from this pathway would be from ingesting contaminated water or foods, such as milk, livestock feed, or fresh vegetables. The time of potential exposure could range in duration from hours to months. The EPZ is divided into protective action areas to simplify the communication of evacuation orders to the public.

(25) Emergency Worker. An individual with an essential mission within the Plume

Exposure Pathway 10-mile EPZ to protect the health and safety of the public who could be exposed to ionizing radiation from the plume on its deposition.

(26) Emergency Worker Decontamination Station. A specific location designed to decontaminate emergency workers and their equipment separate from the general public.

(27) Evacuation. The orderly movement of people from a potential radiological hazard to areas outside the 10-mile EPZ.

(28) Evacuation Time Estimate (ETE). The estimated time needed to evacuate the public from affected areas of the plume exposure pathway EPZ.

(29) Exposure. A measure of the ionization by X-ray or gamma radiation produced in air. Roentgen (R) is a unit of exposure. The term dose, sometimes used interchangeably with exposure, refers to absorbed radiation.

(30) Federal Radiological Monitoring and Assessment Center (FRMAC). It is a federal asset available on request by the Department of Homeland Security (DHS) to respond to nuclear and radiological incidents as described in the National Response Framework (NRF). FRMAC is an interagency organization with representatives from various federal, state, and local radiological response organizations. The purpose of the FRMAC is to assist the state, tribal, and local governments in their mission to protect the health and well-being of their citizens with verified radiation measurements; interpretations of radiation distributions based on Environmental Protection Agency (EPA), Food and Drug Administration (FDA), or local Protective Action Guidelines; and characterization of overall radiological conditions.

(31) Field Monitoring Team (FMT). A team of specifically trained first responders dispatched to the plume or ingestion exposure pathway EPZ during an accident to perform radiological environmental sampling and surveys.

(32) General Emergency (GE). An Emergency Classification Level indicating events are in process or have occurred which involve actual or imminent substantial core degradation or melting of reactor fuel with the potential for or actual loss of containment integrity or Hostile Action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.

(33) High-Level Radioactive Wastes. Liquid wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuel and solids into which such liquid wastes have been converted.

(34) Host County. Generally, a county outside the plume exposure pathway EPZ of a fixed nuclear facility, through prior agreement, will provide resource support to a Risk county in the event of an accident.

(35) Hostile Action. An act toward a nuclear power plant or its personnel that includes using violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This consists of an air, land, or water attack using guns, explosives, projectiles, vehicles, or other devices to deliver destructive force.

(36) Incident Commander. The individual responsible for all incident activities, including developing strategies and tactics and ordering and releasing resources. The IC has overall authority and responsibility for conducting and managing all incident operations at the site.

(37) INFORM Software. Electronic off-site communication system using secure internet ports to deliver emergency event notifications. The notification forms originate from the Control Rooms or Emergency Operation Facilities.

(38) Ingestion Exposure Pathway. The area surrounding a fixed nuclear facility where the principal exposure from an accident would be from ingesting contaminated water or foods. An area around an NPP with a radius of approximately 50 miles.

(39) Initial Notification. The first notification by a fixed nuclear facility to state and local agencies and the Nuclear Regulatory Commission of one of the four-event classifications.

(40) Internal Radiation. Radiation (alpha and beta particles and gamma radiation) resulting from radioactive substances in the body. Important sources are iodine 131 in the thyroid gland, strontium 90, and plutonium 239 in the bone.

(41) Ionizing Radiation. Any radiation capable of displacing electrons from atoms, producing ions (i.e., radiation produced by X-ray equipment).

(42) Joint Information Center (JIC). A facility that coordinates all incident-related public information activities. It is the central point of contact for all news media at the incident scene. Public information officials from all participating agencies should collocate at the JIC. All public information releases are made by a "Joint Public Information Team" (JPIT) comprising representatives from the local, state, and federal government and the utility.

(43) Level VI Inspector. An individual who has achieved certification through CVSA to perform Level VI inspections.

(44) Licensee. Holder of or applicant for a fixed nuclear facility license.

(45) Low-Level Radioactive Waste. Material that is not:

(a) Irradiated reactor fuel,

(b) Transuranic waste,

(c) High-level radioactive waste or

(d) Mine or mill tailings.

(46) Low Specific Activity Material. Any of the following:

(a) Uranium or thorium ores and physical or chemical concentrates of those ores.

(b) Unirradiated natural or depleted uranium or unirradiated natural thorium.

(c) Tritium oxide in aqueous solutions provided the millicuries (185 MBq) per milliliter; concentration does not exceed 5.0.

(d) Waste material in which the activity is essentially uniformly distributed and in which the estimated average concentration per gram of contents USDOEs does not exceed:

- 0.0001 millicurie (3.7 kBq) of radionuclides for which the A_2 quantity indicated in Appendix A of 10 CFR 71 is not more than 0.05 curie (1.85 GBq);

- 0.005 millicurie (185 kBq) of radionuclides for which the A_2 quantity indicated in Appendix A of 10 CFR 71 is more than 0.05 curie (1.85 GBq), but not more than 1 curie (37 GBq); or

- 0.3 millicurie (11.1 MBq) of radionuclides, for which the A_2 quantity indicated in Appendix A of 10 CFR 71 is more than 1 curie (37 GBq).

(e) Objects of nonradioactive material externally contaminated with radioactive material provided that the radioactive material is not readily dispersible and the surface contamination, when averaged over an area of 1 square meter, USDOEs not exceed 0.0001 millicuries (220,000 disintegrations per minute) (3.7 kBq) per square centimeter of radionuclides for which the A_2 quantity indicated in Appendix A of 10 CFR 71 is not more than 0.05 curie (1.85

GBq), or 0.001 millicuries (2,200,000 disintegrations per minute) (37 kBq) per square centimeter for other radionuclides.

(47) Millirem (mRem). One-thousandth of a Rem; the measurement generally describes natural background exposure to radiation.

(48) Milliroentgen (mR). One thousandth of a Roentgen; 1000 milliroentgen equals one Roentgen.

(49) Monitor and Prepare. A protective action recommendation that allows families to unite and take appropriate actions to prepare for evacuation readiness.

(50) Normal form radioactive material. Radioactive material which has not been demonstrated to qualify as "special form radioactive material."

(51) Notification of Unusual Event (NOUE). An Emergency Classification Level indicating events are in progress or have occurred, which indicate potential degradation in the level of safety of the nuclear power plant or a security threat to the facility. Protection has been initiated. Events are in process or have occurred that indicate a potential degradation of the plant's level of safety or a security threat to facility protection. No releases of radioactive material requiring an offsite response or monitoring are expected.

(52) Offsite. Anything outside the exclusion area of a fixed nuclear facility (outside the boundary of the onsite area).

(53) Offsite Response Organization. Local, State, and Federal agencies/organizations outside the Owner Controlled Area that may respond to an incident at the nuclear power plant.

(54) Onsite. Anything inside the exclusion area of a fixed nuclear facility (within the FNFs boundaries).

(55) Owner-Controlled Area. All company property immediately surrounding the protected area's security fence. Access is generally limited to people on official business.

(56) Permit. The written authorization issued by the Agency for the transportation of radioactive waste.

(57) Plume. Generally, a gaseous atmospheric release from a fixed nuclear facility may contain radioactive noble gases and volatile solids in an accident or emergency.

(58) Plume Exposure Pathway. The process of directly exposing people to radiation. The principal exposures from this pathway would be whole-body external exposure to gamma radiation from the plume and deposited materials and inhalation exposure from the passing plume. The duration of principal exposures could range in length from hours to days. The EPZ for this pathway consists of a 10-mile radius area around a fixed nuclear facility.

(59) Portal Monitor. A stand-alone whole-body personal contamination monitor. The FEMA standard for the detection capability in a portal monitor is one microcurie of Cesium 137.

(60) Precautionary Transfer. The movement of specifically targeted population groups, such as special needs populations and school children, relocating them early to ease traffic congestion and limit exposure before any release of radioactive material.

(61) Projected Dose. A calculated or estimated dose that the population at risk may potentially receive due to an accident if protective actions are not taken.

(62) Protected Area. This is the area inside the security fence. All of this area can be considered "the nuclear power plant." You must have a badge issued to you by Security to go into the Protected Area.

(63) Protective Action. A specific action that may be taken to minimize or eliminate a hazard to the health and safety of people within a risk area. Protective actions identified in this plan are access control, sheltering, monitoring, and preparing evacuation and respiratory protection, which may be implemented individually or in combination.

(64) Protective Action Areas (PAA). An area within the plume exposure pathway EPZ where protective action or actions may be necessary during an accident.

(65) Protective Action Guide (PAG). Projected radiological dose or dose commitment values to individuals in the general population that warrant taking protective action.

(66) Protective Action Recommendation (PAR). Advice to the state on emergency measures it should consider in determining the public's action to avoid or reduce their radiation exposure.

(67) Protective Response. The implementation of a protective action or combination of protective actions by governmental agencies during an accident to eliminate or reduce radiation exposure to the public.

(68) RAD (Radiation Absorbed Dose). The unit of measurement for energy deposited in

any material from any form of radiation.

(69) Radiation. Gamma rays, x-rays, alpha and beta particles, high-speed electrons, protons, neutrons, and other nuclear particles, and electromagnetic radiation consisting of associated and interacting electric and magnetic waves.

(70) Radiation Dose. The quantity of radiation absorbed by the body or any portion of the body without regard for the type of radiation.

(71) Radiation Exposure Record. The card issued to emergency workers for recording their radiation exposure readings from an SRD.

(72) Radioactive Materials. Materials containing atoms having excess energy. It contains excited, unstable atoms that are disintegrating, emitting radiation.

(73) Radioactive Waste. Radioactive material such that decontamination for unrestricted use is not practicable, and the material must be disposed of under prescribed conditions. This includes irradiated nuclear reactor fuel, high-level radioactive, transuranic, and low-level radioactive wastes.

(74) Radiological Monitor. An individual trained to measure, record, and report radiation exposure and exposure rates, provide limited field guidance on radiation hazards associated with operations to which he is assigned, and perform operator's maintenance on radiological instruments.

(75) Radiological Monitoring. Using sampling and radiation detection equipment to determine the radiation levels in an area or on an individual.

(76) Rapidly Progressing Severe Accident. A significant reactor event with immediate or near-immediate offsite radiological consequences.

(77) Reception Center. A pre-designated site outside the plume exposure pathway EPZ where evacuees will be registered, monitored for contamination, decontaminated if necessary, and directed to shelters if desired.

(78) Rem (Roentgen Equivalent Man). The unit of measurement for energy deposited in a human body that accounts for the differences in the radiation's effect on living tissue.

(79) Respiratory Protection. Those actions taken during an accident intended to minimize the inhalation of airborne contamination.

(80) RH TRU Waste. **R**emote **H**andled TRU Waste. Waste that emits more penetrating radiation than CH TRU waste and must be handled and transported in lead-shielded casks.

(81) Risk County. A county located within an NPP's plume exposure pathway EPZ.

(82) Site Area Emergency (SAE). An Emergency Classification Level indicating events are in process or have occurred that result in actual or likely major failures of nuclear power plant functions needed for the protection of the public or Hostile Action that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to likely failure of, or (2) that prevent effective access to the equipment needed for the protection of the public. Releases are not expected to exceed EPA PAG exposure levels beyond the site boundaries.

(83) Special Form Radioactive Material. Radioactive material which satisfies the following conditions:

(a) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

(b) The piece or capsule has at least one dimension not less than 5 millimeters (0.197 inches), and

(c) It satisfies the test requirements specified by the U.S. NRC. A special form encapsulation designed in accordance with the NRC requirements in effect on June 30, 1985, must meet the requirements of this definition applicable at the time of its design or construction.

(84) Spontaneous Evacuation. A type of evacuation is when residents leave their homes or the area alone without warning.

(85) Survey Meter. A portable instrument used in radiological monitoring to detect and measure ionizing radiation.

(86) Thermo Luminescent Dosimeter (TLD). A dosimetry badge used to measure exposure to ionizing radiation.

(87) Thyroid Blocking Agent. A chemical compound is taken to prevent or reduce the absorption by the thyroid of radioiodine. Potassium iodide (KI) is the typical blocking agent.

(88) Thyroid Exposure. Exposure of the thyroid gland to radioactive isotopes of iodine that have been inhaled or ingested. Exposure to the thyroid is measured in CDE.

(89) Total Effective Dose Equivalent (TEDE). A measurement of radiation dose received based upon the total direct gamma exposure to the whole body from external sources (Effective Dose Equivalent-EDE) and the dose commitment one will incur from the inhalation of radionuclides (Committed Effective Dose Equivalent-CEDE). The EDE and CEDE added together to give the TEDE.

(90) TRU Waste. Transuranic Waste. Material containing alpha-emitting radioactive elements having an atomic number greater than ninety-two (92) in concentrations greater than ten (10) nanocuries. There are two categories of TRU waste: CH and RH. Generally, TRU waste consists of clothing, tools, rags, residues, debris, soil, and other items contaminated with radioactive elements, mostly plutonium. *See CH AND RH TRU Waste*

(91) Traffic Control Point. A pre-designated location staffed by county or state law enforcement to facilitate efficient traffic movement through a specific area.

(92) TRANSCOM. Transportation Tracking and Communications System. A satellite-based communication system with the main offices based in the CBFO.

(93) Type A Quantity. A quantity of radioactive material, the aggregate radioactivity of which does not exceed A_1 for special form radioactive material or A_2 for normal form radioactive material, where A_1 and A_2 are given in Appendix A of 10 CFR 71 or may be determined by procedures described in Appendix A of 10 CFR 71.

(94) Type B Quantity. A quantity of radioactive material greater than a Type A Quantity.

(95) Waste Isolation Pilot Plant (WIPP). WIPP is the abbreviation for the Waste Isolation Pilot Plant, a U.S. Department of Energy (DOE) facility in southeastern New Mexico, 26 miles southeast of Carlsbad.

(96) Whole Body Exposure. An exposure of the human body to radiation, in which the entire body is exposed to ionizing radiation rather than an isolated part. The head and trunk are equivalent to exposure to the entire human body. Whole-body exposure is measured in TEDE.

b. Acronyms. This list of acronyms is not intended to be all-inclusive. Other acronyms may appear within this plan.

ACP – Access Control Point
ALARA – As Low as Reasonably Achievable
ANS – Alert Notification System
ARC – American Red Cross

ARCA – Area Recommended for Corrective Action
ARFI – Areas Recommended for Improvement
CBFO – The Carlsbad Field Office of the USDOE
CBRN – Chemical, Biological, Radiological, Nuclear
CDC – Centers for Disease Control
CDE – Committed Dose Equivalent
CD/EMA – Civil Defense/Emergency Management Agency
CERFP – CBRN Emergency Response Force Package
CFR – Code of Federal Regulations
COE – Corps of Engineers (Federal)
CST – Civil Support Team
CVSA – Commercial Vehicle Safety Alliance
DHS – Department of Human Services
DMS – Department of Mental Health (State)
DOD – Department of Defense (Federal)
DOE – Department of Energy (Federal)
DOI – Department of the Interior (Federal)
DRD – Direct Reading Dosimeter
DRH – Division of Radiological Health, MSDH (State)
DWFP – Department of Wildlife, Fisheries, and Parks (State)
EAS – Emergency Alert System
ECL – Emergency Classification Level
EMS – Emergency Medical Services, MSDH (State)
EMT - Emergency Medical Technical
EOC – Emergency Operations Center
EOF – Emergency Operations Facility
EOP – Emergency Operations Plan
EPA – Environmental Protection Agency (Federal)
EPI – Emergency Public Information
EPZ – Emergency Planning Zone
ERAMS – Environmental Radiation Ambient Monitoring System
EWDS – Emergency Worker Decontamination Station
FAA – Federal Aviation Administration (Federal)
FBI – Federal Bureau of Investigation (Federal)
FD – Fire Department
FDA – Food and Drug Administration (Federal)
FEMA – Federal Emergency Management Agency (Federal)
FMT- Field Monitoring Team
FNF – Fixed Nuclear Facility
FRC – Federal Response Center

FRMAC - Federal Radiological Monitoring and Assessment Center
FSE – Full Scale Exercise
NRF – National Response Framework
FRMAC – Federal Radiological Monitoring and Assessment Center
GE – General Emergency
GGNS – Grand Gulf Nuclear Station
GM – Guidance Memorandum
GOHSEP – Governor's Office of Homeland Security and Emergency Preparedness (LA)
HAB – Hostile Action Based
HHS – Health and Human Services (Federal)
HRCQ – Highway Route Controlled Quantity
HUD – Housing and Urban Development (Federal)
ICP – Incident Command Point
ICS – Incident Command System
IEP – Ingestion Exposure Pathway
JOC – Joint Operations Center
JIC – Joint Information Center
JTF – Joint Task Force
KI – Potassium Iodide
LA-SAFE – Louisiana State Analytical & Fusion Exchange
LDEQ – Louisiana Department of Environmental Quality
LE – Law Enforcement
LEOC – Local Emergency Operations Center
LEPC – Local Emergency Planning Committee
LERN – Louisiana Emergency Response Network
LHLS/EP – Louisiana Office of Homeland Security and Emergency Preparedness
LSP – Louisiana State Police
LWA – Land Withdrawal Act
LWIN – Louisiana Wireless Information Network
MBAH – Mississippi Board of Animal Health (State)
MCP – Mobile Command Point
MDAC – Mississippi Department of Agriculture and Commerce (State)
MDA/ED – Mississippi Development Authority/Energy Div. (State)
MDOT – Mississippi Department of Transportation (State)
MDHS – Mississippi Department of Human Services (State)
MEMA – Mississippi Emergency Management Agency (State)
MFC – Mississippi Forestry Commission (State)
MHP – Mississippi Highway Patrol (State)
MMD – Mississippi Military Department (State)
MREPP – Mississippi Radiological Emergency Preparedness Plan

MSDH – Mississippi State Department of Health (State)
MSU-ES – Mississippi State University – Extension Service (State)
NAWAS – National Warning System
NOAA – National Oceanic and Atmospheric Administration (Federal)
NIMS – National Incident Management System
NRC – Nuclear Regulatory Commission (Federal)
NOUE – Notification of Unusual Event
NUREG – Nuclear Regulation
NWS – National Weather Service (Federal)
OEM – Office of Emergency Management, MSDH (State)
OHP – Office of Health Protection, MSDH (State)
OPS – Operations
ORO – Offsite Response Organization
OHSEP – Office of Homeland Security and Emergency Preparedness
OSC – Operations Support Center
OSHA – Occupational Safety and Health Administration
PAA – Protective Action Area
PAG – Protective Action Guide
PAR – Protective Action Recommendation
PI – Public Information
PIO – Public Information Officer
RAAO – Radiological Accident Assessment Officer
RACES – Radio Amateur Civil Emergency Service
RAC – Radiation Assessment Coordinator
RAD – Radiation Absorbed Dose
RAP – Radiological Assistance Program
REM – Radiological Emergency Manager (GGNS)
REP – Radiological Emergency Program (State)
RBS – River Bend Nuclear Station
REAC/TS – Radiation Emergency Assistance Center/Training Site (Federal)
RECO – Radiation Exposure Control Officer
Rem – Roentgen Equivalent Man
REP – Radiological Emergency Preparedness
RERT – Radiological Emergency Response Team
RIMC – Radiological Instrument Maintenance and Calibration
RM – Radiological Monitor
RO – Radiological Officer
SAE – Site Area Emergency
SAIDG – State Agency Information Directors Group
SEOC – State Emergency Operations Center

SHO – State Health Officer
SIP – Shelter in Place
SMRAP – Southern Mutual Radiological Assistance Plan
SOP – Standard Operating Procedure
SRD – Self-Reading Dosimeter
SSEB – Southern States Energy Board
TCP – Traffic Control Point
TEDE – Total Effective Dose Equivalent
TLD – Thermo Luminescent Dosimeter
TOC – Tactical Operations Center
TTX – Tabletop Exercise
USCG – United States Coast Guard (Federal)
USDA – United States Department of Agriculture (Federal)
VOAD – Voluntary Organizations Active in Disaster
WIPP – Waste Isolation Pilot Plant