

# **APPENDIX A RADIOLOGICAL HAZARDS, ANNEX 25 SPECIFIC IMPACTED HAZARDS, GREENWOOD COUNTY EMERGENCY OPERATIONS PLAN**

**Primary Responsible Department: Director Emergency Management**

**Staff augmentation as directed by County Manager**

## **I. INTRODUCTION (State Overview for Background Information Only)**

- A. Information in this appendix excludes emergency planning efforts required by SC Code of Regulations 61-63 (Supp. 1996) for individual licensees who possess radioactive material. The accrual hazard to Greenwood County is very minimal. Any accident occurring would be from one of the nuclear facilities surrounding the county. The northern parts of the county may be subjected to the 50 mile radius from the Oconee Nuclear Facility. Any possible hazard to occur to other parts of the county would be weather dependent. Therefore, this plan discusses the State and local actions in case of such remote event.
- B. Radiological hazards in South Carolina include commercial nuclear power plants; the U.S. Department of Energy (DOE), Savannah River Site (SRS) - Aiken; DOE transportation of foreign and domestic research reactor spent nuclear fuel (SNF) and transuranic (TRU) waste, Westinghouse Nuclear Fuel Production Plant - Columbia, the U.S. Navy Nuclear Power Training Unit (NPTU) - Goose Creek, and the Chem-Nuclear low-level waste burial site - Barnwell.
- C.. There are four commercial nuclear power plants in South Carolina: the Oconee Nuclear Site located in Oconee County and operated by Duke Energy Corporation; the Catawba Nuclear Station located in York County and operated by Duke Energy Corporation; the V. C. Summer Nuclear Station located in Fairfield County and operated by South Carolina Electric and Gas Company; and the H. B. Robinson Steam Electric Plant located in Darlington County and operated by Progress Energy Carolinas.
- D. Commercial nuclear power plants in neighboring states that have an impact on South Carolina are the Vogtle Electric Generating Plant located adjacent to SRS in Waynesboro County, Georgia and operated by Georgia Power Company; the McGuire Nuclear Station located in Mecklenburg County, North Carolina and operated by Duke Energy Corporation; and the Brunswick Nuclear Station located in Brunswick County, North Carolina and operated by Progress Energy Carolinas.
- E. Thirteen South Carolina counties considered risk counties are located within the 10-mile plume Emergency Planning Zone of these nuclear power plants. In the event of an emergency, residents of these counties may be required to take protective actions to avoid unnecessary exposure to radiological materials. Seven South Carolina counties serve as host counties for evacuees from risk counties.
- F. Forty-one (41) South Carolina counties are located within the Ingestion Pathway Zone (a fifty (50) mile Emergency Planning Zone) of the above facilities. Should there

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be an accident with subsequent release of radioactive materials at any of these facilities, protective measures for the food and water supply will be necessary.

- G. The probability of a nuclear incident or accident occurring at these facilities that would involve the release of radioactive materials on or offsite is low. However, the possibility does exist that an incident could occur that would result in rapid action needed to protect the public from exposure to radiological materials.
- H. The DOE Savannah River Site (SRS) constitutes another major fixed nuclear facility (FNF) with potential impact on South Carolina residents. The function and mission of SRS has changed over the years from refining tritium and plutonium products for national defense, producing other special nuclear materials, and performing environmental restoration to serving the nation through safe, secure, cost-effective management of nuclear weapons stockpile and nuclear materials.
- I. The transportation of both foreign and domestic spent nuclear fuel (SNF) and other radiological materials to and from SRS constitutes another radiological hazard in South Carolina that may impact state residents. In September 1996, DOE began a prolonged campaign to ship approximately 19 metric tons of highly enriched uranium foreign research reactor (FRR) SNF to SRS. FRR SNF shipments will continue at the approximate rate of one every six to eight weeks until the entire stockpile is returned to United States control.
- J. During shipment, Foreign Spent Nuclear Fuel (FSNF) is contained in specially designed stainless steel casks, certified by the Nuclear Regulatory Commission (NRC) to provide protection and containment of contents. Moreover, the spent fuel itself consists mostly of solid metallic materials that are not readily dispersed. Therefore, large releases of radioactivity are not likely to occur even in the severest of accident conditions. While the probability of an accident involving a SNF shipment is extremely low, there is still the possibility of such an event, which would require the response of local, state, and federal radiological response agencies.

Review this annex and the EOP and develop Standard Operation Procedures (SOPs) for each task established by this appendix and the EOP. Each ESF will insure that the special needs community is factor into their SOPs. Annually review the State EOP & Department of Homeland Security Universal Task List and integrate tasks as appropriate.

### **II. MISSION**

To provide technical information and guidance concerning potential radiological hazards in Greenwood County when spent fuel is transported through the County

### **III. CONCEPT OF OPERATIONS**

- A. Under the direction of the Governor, the total and combined efforts of the state, especially the SC Emergency Management Division (SCEMD) and the SC Department of Health and Environmental Control (DHEC), and Greenwood County will utilized mitigate the effects of radiological hazards resulting from an accident. All

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radiological response organizations will be prepared to react on a 24-hour basis, and will be capable of continuous operation for a protracted period. The plans and procedures that deal with emergency response activities for radiological incidents are addressed in these publications.

- B. SNF shipments to and through Greenwood County or any other county within South Carolina. SCEMD is the state-coordinating agency for SNF advance notification to counties and emergency notification should there be an incident. Greenwood County EOC in close coordination with SCEMD will coordinate all actions recommended by SC DHEC to protect the health and safety of citizens. SC DHEC is the lead agency for responding to all transportation incidents involving radiological materials and recommending appropriate actions to protect the health and safety of citizens. SC DHEC is responsible for providing health physics shadow teams for all foreign and domestic SNF shipments. Greenwood county emergency response agencies, i.e., fire, police, and medical will provide initial response to radiological transportation incidents.

### **IV. RESPONSIBILITIES**

Director, Emergency Management

1. Coordinate notification and emergency notification.
2. Coordinate radiological hazard emergency response actions recommended by SC DHEC.

### **V. STATE AND FEDERAL INTERFACE**

- A. The principal federal agencies that provide assistance in the event of a radiological disaster or emergency are: the Federal Emergency Management Agency (FEMA), the Nuclear Regulatory Commission (NRC), the Environmental Protection Agency (EPA) and the Department of Energy (DOE). Other federal agencies that have collateral or coordinating responsibilities are identified in the National Response Plan (NRP).
- B. As provided in the Stafford Act, the federal government is authorized to respond to disasters and emergencies in order to provide assistance to save lives and protect public health, safety, and property. To facilitate the provision of federal assistance, the Federal Radiological Emergency Response Plan uses a functional approach to group the types of federal assistance, which a state is most likely to need under fifteen Emergency Support Functions (ESFs).