



South Texas Project Electric Generating Station, P.O. Box 189, Wadsworth, Texas 77483

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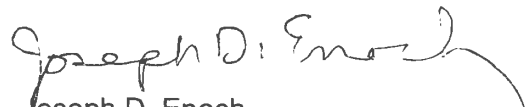
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498 and STN 50-499
South Texas Project Electric Generating Station Emergency Plan

Attached to this letter is the current South Texas Project Electric Generating Station (STPEGS) Emergency Plan with all changes incorporated and current as of April 2, 2020. The attached STPEGS Emergency Plan is being provided for information only.

There are no commitments in this letter.

If you should have any questions on this matter, please contact Walter Fulton at (361) 972-4349 or me at (361) 972-8767.


Joseph D. Enoch
Manager, Emergency Response

WF

Attachment: South Texas Project Electric Generating Station Emergency Plan

cc:

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

STI: 35008245

NOC-AE-20003722
Attachment

South Texas Project Electric Generating Station Emergency Plan

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

EMERGENCY PLAN

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Attachment 2	Implementing Procedures
Attachment 3	Glossary
Attachment 4	List of Acronyms

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EMERGENCY PLAN

SECTION A

A INTRODUCTION

The emergency preparedness program at the South Texas Project Electric Generating Station (called the Station) is designed in accordance with Code of Federal Regulations, Title 10, Part 50.47 and the guidelines of the U.S. Nuclear Regulatory Commission as established in NUREG-0654/Federal Emergency Management Agency Report-1, Rev. 1. The Station is operated and managed by the STP Nuclear Operating Company, acting as Project Manager on behalf of NRG South Texas LP, The City Public Service Board of San Antonio (CPS), and the City of Austin Texas (COA) under the South Texas Project Operations Agreement. The emergency preparedness program at the Station is concerned with hypothetical accidents that may occur at the Station that could potentially have an impact on the health and safety of the general public, Station employees, vendors, and visitors and/or protection of the environment.

A.1 Overall Objective

The overall objective of the emergency preparedness program is to provide planned actions and training which will mitigate consequences of a wide variety of accidents including response to a hostile action based event. Wide ranges of possible accident scenarios are used for a training basis following the guidelines established by the Nuclear Regulatory Commission.

Emergency Preparedness Planning has been developed to ensure an adequate level of preparedness for, and effective responses to, emergencies associated with the Station. The Emergency Plan (called the Plan) applies to emergency situations at the Station which involve actual or potential concerns for the safety of the general public or Station personnel.

The Emergency Plan and Emergency Plan Implementing and Administrative Procedures are designed to:

- Establish and define an Emergency Response Organization for dealing with the impact of the emergency;
- Provide for the protection of the health and safety of the general public;
- Provide a means of quickly identifying an accident condition and declaring the required emergency classification;

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

EMERGENCY PLAN

SECTION A

- Describe the necessary notification of Station personnel, local and State officials, the Emergency Planning Zone population, the media, and the Federal authorities and others as appropriate;
- Provide guidance on protective action recommendations to be made to the local and State governments;
- Provide guidance for onsite and offsite radiological surveys, dose assessments; and,
- Describe the techniques required for handling contaminated injured personnel.

A.2 Interfacing Plans, Procedures & Letters of Agreement

The emergency response planning and preparedness program supporting the Station is contained in three separate, but interrelated plans. These plans are the State of Texas Emergency Management Plan, the Emergency Management Plan for Matagorda County, Bay City and the City of Palacios, and the South Texas Project Electric Generating Station Emergency Plan. These Plans contain coordinated emergency response planning and preparedness instructions for events which may result in a release of radioactive material into the environs around the Station which could result in radiological exposures to the general public that exceed the Environmental Protection Agency Protective Action Guidelines. Each Plan has been prepared by the respective user and is coordinated as appropriate with the other Plans. In addition to radiological emergency planning, the Plans for the State of Texas and Matagorda County address supplemental planning programs for emergency response. The State of Texas Emergency Management Plan and Matagorda County Emergency Management Plan are in controlled file status at the Station's Operations Document Control Center.

The Station Emergency Plan contains the emergency response planning and preparedness activities for those functions that are the responsibility of the Station. These responsibilities include making emergency notifications and providing station status information to Federal, State, and local authorities and establishing supplemental support through Letters of Agreement with support organizations. Refer to Sections B.4 and B.5 for Federal, State, local, and private sector organizations that will provide supplemental support to the Station in accordance with Letters of Agreement or contract. Current signature copies of all letters of agreement are maintained in the Emergency Response Division's correspondence file.

The Station Emergency Plan outlines the policies, activities, and responsibilities of Station personnel and offsite support organizations to be used in the event of an emergency at the Station. The Plan is further supplemented by the Station Emergency Response

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EMERGENCY PLAN

SECTION A

administrative and implementing procedures. The administrative procedures address the maintenance and surveillance of the Emergency Response Program. The implementing procedures implement the Emergency Plan by describing:

- Detailed actions to be taken by individuals responding to emergency conditions.

AND

- The details addressing Emergency Action Levels, emergency classification, the notification process, dose calculation methodology, activation/staffing of the Emergency Response Facilities, and site personnel accountability.

Attachment 2 provides a listing of the Emergency Plan cross referenced to the Implementing Procedures.

In addition to the Emergency Plan implementing and administrative Procedures, additional Station procedures will be utilized and implemented during response to a declared emergency. These procedures are:

- Emergency Operating Procedures - These procedures provide instructions to Control Room personnel for coping with abnormal and emergency conditions;
- Chemistry, Radiochemistry and Station Radiation Protection Procedures - These procedures provide instructions for instrument operation, performing surveys, analyzing samples and providing guidance for the monitoring and decontamination of personnel. These procedures also define administrative controls and procedures for the use of radiological monitoring devices, protective clothing and equipment, and prescribed radiological control limits and procedures; and
- Security Procedures - These procedures provide instructions for Station security, access control, and onsite protective measures taken by security personnel, including actions taken during hostile action based events.
- Security Related Off Normal Plant Operating Procedures. These procedures provide instructions for protective measures to be taken by Operations and plant personnel during a hostile action based event.

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

EMERGENCY PLAN

SECTION A

A.3 Station Emergency Plan format:

- Section A Introduction
- Section B Assignment of Responsibility
- Section C Organizational Control of Emergencies
- Section D Emergency Classification System
- Section E Notification Methods and Procedures
- Section F Emergency Actions and Measures
- Section G Emergency Response Facilities
- Section H Accident Assessment
- Section I Protective Response
- Section J Radiological Exposure Control
- Section K Media Relations
- Section L Recovery and Reentry
- Section M Emergency Preparedness Training
- Section N Drills and Exercises
- Section O Emergency Preparedness

The sections of the Plan are narrative in style, and contain pertinent information such as maps, tables, figures, and details of the reference subject. A Table of Contents listing the sections of the Plan and the Attachments has been provided.

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EMERGENCY PLAN

SECTION A

A.4 Day-To-Day Operation

The South Texas Project recognizes the importance of proper day-to-day operation of the Station. To accomplish this, the Station considered human factors and engineering in the Control Room design, established symptomatic Emergency Operating Procedures, established a systematic approach to training, and provided an effective Emergency Response Organization composed of qualified personnel.

A.5 Station Description

The Station consists of two 3853 megawatt thermal Westinghouse Pressurized Water Reactor Nuclear Steam Supply electrical generating units. The units are essentially independent with separate Control Rooms. The site sits on a land area of approximately 12,000 acres, with a cooling reservoir utilizing 7000 acres of site property. The Station facilities occupy approximately 65 acres of the property. Figure A-1 identifies the location of the Station within Matagorda County. Figures G-1 and G-4 illustrate the site layout.

A.6 Station Location

The Station is located entirely in south-central Matagorda County, west of the Colorado River, approximately 89 air miles southwest of Houston, Texas, 12 air miles north-northeast of Palacios, and approximately 14 air miles north of the Gulf of Mexico. Matagorda County is located on a coastal plain rising from sea level to approximately 70 feet above mean sea level. The County seat, Bay City, is one of two incorporated cities within the County. The County's economy is primarily based on ranching and farm land with the major industries being agriculture, chemical production, oil and gas production, electrical generation, and commercial fishing and fisheries.

A.7 Station Population Areas

The area surrounding the Station is sparsely populated. Table A-1 contains the population distribution data within a ten (10) mile radius of the Station divided by sectors. The estimated population, based on a 2010 census, within the two (2) mile radius of the Station is 0, and within the five (5) mile radius is 355. The largest population concentration is approximately 12 miles north-northeast of the Station in Bay City, which is outside the 10-mile Emergency Planning Zone. The estimated 2010 residential population within the ten-mile radius is 3132. Table A-2 provides a distribution of population density by zones.

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EMERGENCY PLAN

SECTION A

A.8 Owner Control Area Public Access

Members of the public have access to the Owner Controlled Area (OCA) to farm, hunt, bird watch, and allow property owners access to property adjacent to or leased by the Station.

A.9 Matagorda County Airport Facilities

Matagorda County has a limited number of airfield and airport facilities. The nearest airport with an associated control zone is at Palacios, 13 air miles to the west-southwest. Palacios Airport supports no commercial passenger operations and has no other passenger facilities (i.e., rental cars, buses, etc.). The runway at Palacios can accommodate larger service aircraft. The Bay City Airport is a small aircraft field located approximately 20 air miles to the northeast. The nearest full service airport providing commercial passenger services is Houston Hobby Airport located approximately 65 air miles from the Station.

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EMERGENCY PLAN

SECTION A

TABLE A-1
Page 1 of 1
PERMANENT RESIDENT POPULATION DISTRIBUTION BY SECTOR

SECTORS	DISTANCE IN MILES										
	1	2	3	4	5	6	7	8	9	10	Total
N	0	0	5	13	0	0	12	7	24	13	74
A											
NNE	0	0	0	0	0	0	15	58	51	62	186
B											
NE	0	0	0	0	28	4	3	22	0	10	67
C											
ENE	0	0	0	0	0	3	192	214	41	8	458
D											
E	0	0	0	0	3	26	13	7	4	4	57
E											
ESE	0	0	0	128	53	135	6	17	0	21	360
F											
SE	0	0	0	19	0	0	0	79	379	10	487
G											
SSE	0	0	0	0	0	0	0	0	47	56	103
H											
S	0	0	0	0	0	0	0	0	0	0	0
J											
SSW	0	0	0	0	5	0	0	0	0	0	5
K											
SW	0	0	0	6	9	34	5	3	5	20	82
L											
WSW	0	0	0	0	20	0	4	15	23	97	159
M											
W	0	0	4	0	3	0	90	6	31	61	195
N											
WNW	0	0	0	0	27	153	200	68	7	225	680
P											
NW	0	0	0	0	32	12	53	31	57	25	210
Q											
NNW	0	0	0	0	0	0	9	0	0	0	9
R											
*Total Population	0	0	9	166	180	367	602	527	669	612	3,132

* Population source: 2010 U.S. Census Bureau / KLD Engineering, PLC.

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SECTION A

TABLE A-2

Page 1 of 1

PERMANENT RESIDENT POPULATION DISTRIBUTION BY EMERGENCY PLANNING ZONE

Zone * / **	1	2	3	4	5	6	7	8	9	10	11	Total
Population	0	49	356	74	102	707	624	0	224	823	173	3132

* Population source: 2010 U.S. Census Bureau / KLD Engineering, PLC

** Includes resident in geo-political EPZ boundary

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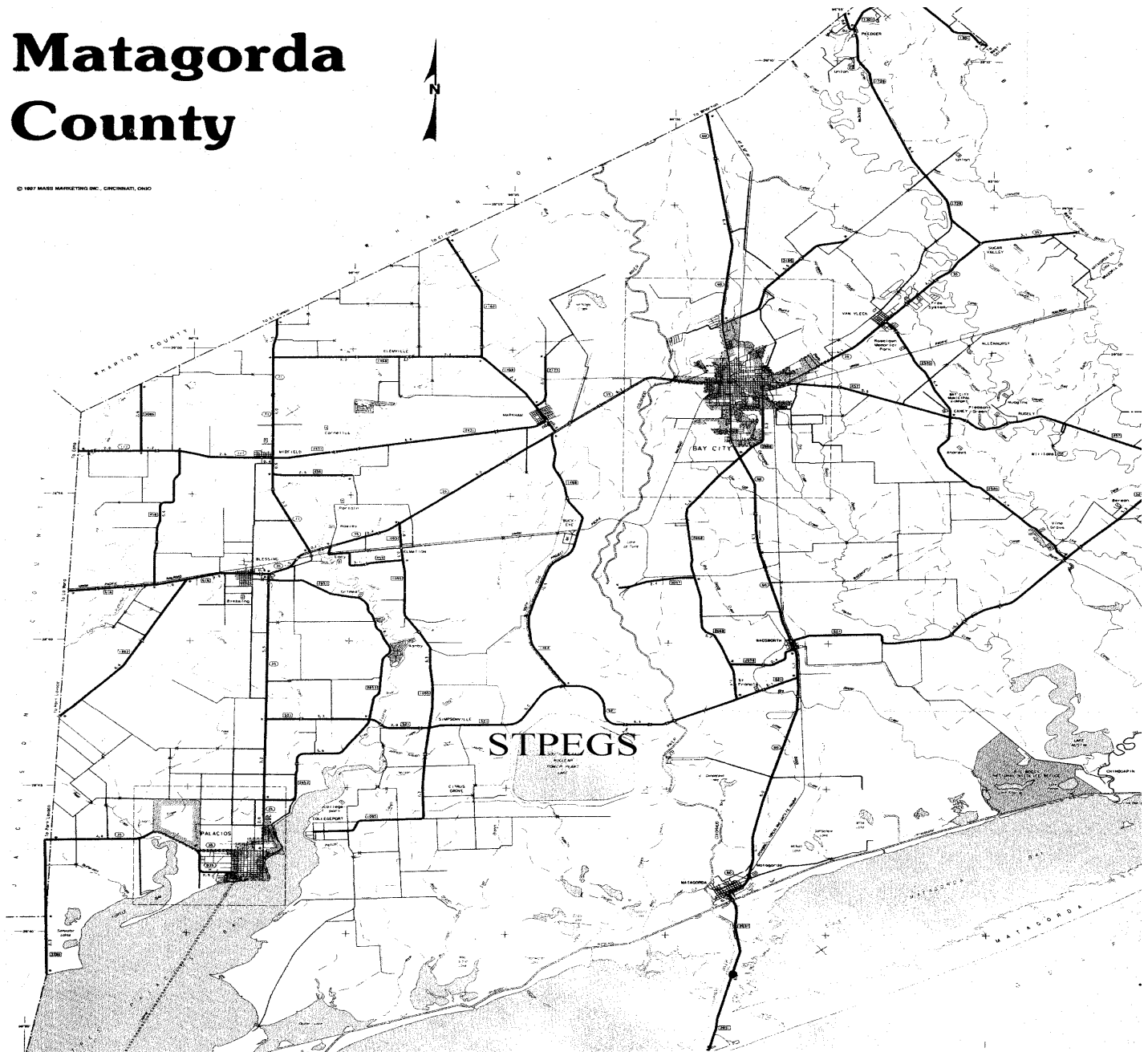
FIGURE A-1

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STPEGS LOCATION WITHIN MATAGORDA COUNTY

Matagorda County

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SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

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SECTION B

B ASSIGNMENT OF RESPONSIBILITY

In case of an emergency at the Station that requires activation of the Station Emergency Response Organization, various State, local, Federal and private sector organizations will contribute to the emergency response effort. This section describes the responsibilities of those organizations. Table B-1 lists the responsible primary organizations and the title of the individual in charge.

B.1 Overall Responsibility

The Station has the responsibility for developing and maintaining an effective Emergency Plan. This is accomplished through the establishment of formal Emergency Plan implementing procedures, providing adequate training for the Emergency Response Organization per Section M of this Plan, establishing and maintaining emergency response facilities and equipment, and the establishment of appropriate partnerships with Federal, State, local government agencies and private organizations as identified in this section. The following tasks are part of the Station's responsibility:

- Recognize and declare the existence of an emergency condition.
- Classify the event in accordance with the methodology described in Section D of this Plan.
- Notify the appropriate Station personnel and offsite authorities.
- Request additional support through County State, Federal and private agreements.
- Establish and maintain effective communications within the Station and with offsite response groups as described in Section E of this Plan.
- Continuously assess the status of the accident and periodically communicate the status information to the appropriate response groups and Federal authorities. This includes the collection and evaluation of onsite and offsite radiological monitoring data.
- Take protective measures onsite and recommend protective actions to offsite authorities.
- Monitor and control radiation exposures of personnel responding to the emergency and under the direction of the Station. Provide emergency information to the public through periodic press briefings in conjunction with State and local officials.
- Keep the Station Owners informed of the situation at the site.

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B.2 State of Texas Responsibility

State of Texas has developed a Radiological Emergency Management Plan as an integral part of the State of Texas Emergency Management Plan. The State of Texas Emergency Management Plan outlines the State organization for emergency activities. The Texas Division of Emergency Management (DEM) is tasked with administering a program of Comprehensive Emergency Management. Designed to reduce the vulnerability of the citizens and communities of this State to damage, injury, and to loss of life and property by providing a system for the mitigation of, preparedness for, response to and recovery from natural or man-made disasters including fixed nuclear facilities. Established in the Office of the Governor by the Texas Disaster Act of 1975 (Government Code, Chapter 418) and direction of the Director of the Texas Office of Homeland Security (OHS). Office of Homeland Security Director appoints the State Coordinator to manage the Texas Division of Emergency Management on a daily basis, and the Coordinator reports to the Director of the Office of Homeland Security. The Texas Disaster Act of 1975, as amended, authorizes the creation of local organizations for emergency management, provides the Governor and executive heads of governing bodies of the State certain emergency powers, and provides the rendering of mutual aid among the political subdivisions of the State, with other states, and with the Federal Government. The Chairperson of the Texas Emergency Management Council is responsible for establishing an emergency organization capable of operation over a protracted period. The duties and responsibilities of the principal and support agencies of the State of Texas are summarized below. A detailed discussion of the State's response is contained in the Texas Emergency Management Plan.

B.2.1 Department of State Health Services (DSHS)

The Department of State Health Services is the Lead State agency responsible for responding to all peacetime radiological emergencies throughout Texas. Under the procedure established by the Texas Emergency Management Plan and as reaffirmed in a Letter of Agreement, the Department of State Health Services responds to all types of radiological emergencies throughout the State. The Texas Division of Emergency Management, upon notification by the Station of a Site Area Emergency or General Emergency, will notify key member agencies of the Emergency Management Council. The State Operations Center (SOC) is operational 24 hours a day, seven days a week. During radiological emergencies, the Department of State Health Services will be the Lead State agency for the assessment of radiological impact and damage to the environment. Once notified of a Site Area Emergency or General Emergency (or an Alert or Unusual Event which is likely to involve an offsite release), the Department of State Health Services will establish a communication link (telephone) from their office in Austin, Texas with Station dose assessment personnel. The Department of State

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Health Services estimates that it will take about one hour to activate their office after notification. The Department of State Health Services is able to make dose projections in their Austin, Texas office from data provided by the Station. If the situation warrants, the Department of State Health Services will dispatch Radiological Emergency Response Teams to the Station. The Department of State Health Services has estimated the onsite response time to emergencies at the Station to be approximately 4 hours, and the full Emergency Response Team response time to field locations around the Station to be approximately 8 hours.

B.2.2 Texas Division of Emergency Management

The Texas Division of Emergency Management has broad legal authority, in case of an emergency at the Station, to take actions deemed necessary to protect the health and safety of Texas citizens. This authority includes, but is not limited to, control of public and private transportation corridors, and utilization of all public facilities in support of efforts to protect life and property. The Texas Division of Emergency Management manages the State Operations Center (SOC), which is located at the Department of Public Safety Headquarters in Austin, Texas. The Department of Public Safety Sub District Office (Pierce, Texas), located approximately 45 miles from the Station, is the headquarters of the Disaster District serving the area around the Station.

The Texas Department of Public Safety provides the State with law enforcement services in emergency conditions. This includes but is not limited to disaster reconnaissance, emergency traffic control, and execution of evacuation control. These activities are conducted in support of local government, in accordance with the State of Texas basic Emergency Management Plan, and Annex E, Evacuation, and Annex G, Law Enforcement. The Department of Public Safety Commanding Officer in Sub-District 2C Pierce, Texas serves as Chairperson of the Disaster District Committee. The Department of Public Safety provides statewide communications service for direction of disaster operations. Requests for assistance from the County Emergency Operations Center are forwarded to the Disaster District Sub 2C in Pierce. Requests that exceed the District's ability to respond will be forwarded to the State Operations Center (SOC) in Austin.

Response time for Department of Public Safety personnel from the Disaster District Office in Pierce to the Station is approximately 2 hours.

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B.3 Matagorda County Responsibility

Matagorda County, Texas, has developed an Emergency Management Plan to provide for emergency operations within Matagorda County, Texas, including Bay City, Palacios, and the unincorporated towns within the County proper. The Matagorda County and city governments are responsible to their respective citizens to do everything possible to save lives, minimize damage, alleviate suffering and to help restore and rehabilitate property and society in the event of a natural disaster, man-made incident, or national emergency, including nuclear attack or threat thereof. Existing forms of local government are utilized in the formulation and implementation of this Plan. The organization and operational concepts set forth in this Plan are promulgated under the Texas Disaster Act of 1975, as amended, the Matagorda County Commissioner Court order of 1983 (reissued 1994), and other laws and ordinances detailed in the Matagorda County Emergency Management Plan. The Matagorda County Emergency Management Plan is a stand-alone document that supports the State of Texas Emergency Management Plan and the Station Emergency Plan. Under the Matagorda County Emergency Management Plan, the County Judge, the Commissioners and Mayors, as chief elected officials are responsible for all emergency measures within their respective jurisdictions, including recommending shelter and or evacuation of members of the public and establishing and operation of Reception Center(s) for registration of residents and site employees evacuated because of a nuclear power plant event as needed. Existing agencies of government in Matagorda County, Bay City, and Palacios will perform emergency activities related to those performed in normal operations. The basic functions of County/City officials are to coordinate activities for efficiency and effectiveness and to assure that any skills not normally available in existing County/City governments are obtained from other resources. The County is the lead governmental entity in an emergency. Should the need arise for State assistance, the County Emergency Management Director has the authority to request assistance from State Disaster District Sub 2C in Pierce, Texas. This responsibility is assigned to the County Emergency Management Director and is not a delegable authority. The Emergency Management Coordinator is appointed by the County Judge. The primary responsibility of the Emergency Management Coordinator is to coordinate emergency response within the county and serve as communications liaison with the Texas Division of Emergency Management and the Disaster District Committee for day-to-day operations and through the Disaster District during emergencies. A detailed assignment of emergency response actions and responsibilities are defined in the Matagorda County Emergency Management Plan. Figure B-1 indicates the interface of State of Texas and local and civil authorities' Emergency Management Organizations. Other Local, State, and Federal Agencies

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B.4 Other Local, State, and Federal Agencies

Additional local, State, and Federal agencies and departments and their responsibilities that provide outside support to the Station in the event of a declared emergency are:

B.4.1 Bay City Police Department

The Bay City Police Department, by Letter of Agreement will respond to any emergency/drill/or exercise including a hostile action event at the Station as requested. This response includes armed law enforcement officers and law enforcement vehicles. Under the control and coordination of the Matagorda County Sheriff's Office or the National Incident Management System (NIMS) Incident/Unified Command System (ICS) (UCS), officers will perform law enforcement protective actions, assist in traffic/access control, evacuations, and route alerting. Bay City Police headquartered approximately 17 road miles northeast of the Station can respond to the Station in approximately one hour. This service is available 24 hours per day.

B.4.2 City of Palacios Police Department

The City of Palacios Police Department, by Letter of Agreement, will respond to any emergency/drill/or exercise including a hostile action event at the Station as requested. This response includes armed law enforcement officers and law enforcement vehicles. Under the direction and control of the Matagorda County Sheriff's Office, ICS, or UCS, officers will perform law enforcement protective actions, assist in traffic/access control, evacuations, and route alerting. Palacios Police headquartered approximately 18 road miles southwest of the Station can respond to the Station in approximately thirty minutes. This service is available 24 hours per day.

B.4.3 City of Palacios Volunteer Fire Department

The City of Palacios Volunteer Fire Department, by Letter of Agreement, will respond with fire-fighting support, and rescue services in case of an emergency/drill/or exercise including a hostile action event at the Station as requested. This response will include firefighters, firefighting equipment, and properly equipped vehicles under ICS or UCS coordination. Palacios Volunteer Fire Department located approximately 18 road miles from the Station can respond in approximately thirty minutes. This service is available 24 hours per day.

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B.4.4 The Bay City Volunteer Fire Department

The Bay City Volunteer Fire Department, by Letter of Agreement, will provide firefighting support and rescue services in case of an emergency/drill/or exercise including a hostile action event at the Station as requested. This response will include firefighters, firefighting equipment, and properly equipped vehicles under ICS or UCS coordination. The Bay City Volunteer Fire Department located approximately 17 road miles from the Station can respond to emergencies at the Station in approximately one-hour. This service is available 24 hours per day.

B.4.5 Matagorda County Volunteer Fire Departments

Matagorda County Volunteer Fire Departments by memorandum of understanding with Matagorda County will provide firefighting personnel, basic firefighting equipment, and firefighting vehicles as requested to emergency events at the Station including hostile action based events. These departments will be coordinated by ICS or UCS.

- Blessing Volunteer Fire Department
- Sargent Volunteer Fire Department
- Matagorda Volunteer Fire Department
- Markham Volunteer Fire Department
- Van Vleck Volunteer Fire Department
- Wadsworth Volunteer Fire Department
- Midfield Volunteer Fire Department
- Tres Palacios Oaks Volunteer Fire Department

B.4.6 The Matagorda County Hospital District

The Matagorda County Hospital District, by Letter of Agreement, will provide medical care for both conventional and radiological injuries that occur in emergency or drill/exercise situations at the Station. The Matagorda County Hospital District provides services via two hospitals in the district, Matagorda Regional Medical Center, located approximately 20 road miles from the Station in Bay City, and Palacios Community Medical Center located approximately 16 road

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miles from the Station in Palacios. The Matagorda Regional Medical Center maintains a fully staffed Emergency Room that is equipped with a decontamination facility within the emergency room area to handle emergencies arising at the Station. Matagorda Regional Medical Center in Bay City shall serve as the primary response organization with secondary support provided by Palacios Community Medical Center. These services and facilities are available 24 hours per day.

The Matagorda County Hospital District, by Letter of Agreement, will provide facilities on the Matagorda Regional Medical Center campus in Bay City for use as a reception center in case of an accident at the Station.

B.4.7 Emergency Alert System Sources

- Emergency Alert System source, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), by Letter of Agreement, shall serve as the primary Emergency Alert System source for the Station by having the capability of providing 24 hour per day Emergency Alert service, including activation of the alert radios.
- Other local Radio Stations are required to broadcast emergency messages as mandated by Federal Communication Commission requirements.

B.4.8 Matagorda County Sheriff's Office

The Matagorda County Sheriff's Office by letter of agreement will assist the Station in responding to an emergency. The Emergency Management Plan for Matagorda County identifies the responsibilities for the Sheriff's Office as law enforcement, evacuation/traffic control, communications, warning/notifications and maintenance of the Matagorda County Emergency Operations Center. The Matagorda County Sheriff's Office will respond to requests to provide assistance during emergency or drill/exercise situations that develop at the Station to include hostile action based events. The Matagorda County Sheriff's Office has the capability to respond to a request for assistance from the Station in approximately thirty minutes, on a 24 hours a day basis. In case additional law enforcement resources are needed, as in the case of a hostile action based event at the Station, the Matagorda County Sheriff's Office has an agreement with Wharton County Sheriff's Office to supply armed officers and law enforcement vehicles to assist with law enforcement duties, traffic/access control, evacuation, and route alerting as requested. Coordination of these duties would be by ICS or UCS.

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B.4.9 United States Coast Guard (Corpus Christi)

The United States Coast Guard, by Letter of Agreement will provide vessel traffic control on the Colorado River and other navigable waters in the vicinity of the Station by the use of marine warnings, and if necessary, aircraft and surface craft during emergency situations that may develop at the Station. The Coast Guard responds to requests, from the Matagorda County Sheriff's Office, for assistance from Corpus Christi District. Estimated time of response for the Coast Guard is within approximately four hours, on a 24 hours a day basis.

B.4.10 United States Coast Guard (Galveston)

The United States Coast Guard, by Letter of Agreement will provide vessel traffic control on the Colorado River and other navigable waters in the vicinity of the Station by the use of marine warnings, and if necessary, aircraft and surface craft during emergency situations that may develop at the Station. The Coast Guard responds to requests, from the Matagorda County Sheriff's Office, for assistance from Galveston District. Estimated time of response for the Coast Guard is within approximately four hours, on a 24 hours a day basis.

B.4.11 Resources of Other Federal Agencies

The resources of Federal agencies appropriate to the emergency condition will be made available in accordance with the Federal Radiological Emergency Response Plan. The Station Emergency Director is specifically authorized to request Federal assistance on behalf of the Station under the provisions of the Federal Radiological Emergency Response Plan. The Station Emergency Director requests Federal assistance by contacting the NRC. In addition to the NRC, agencies other than those with a Letter of Agreement with the Station that may become involved are the Department of Energy, the Federal Emergency Management Agency, and the Environmental Protection Agency. In case of a hostile action based event at the Station the Federal Bureau of Investigation (FBI) will assume command of law enforcement/investigation activities. These Agencies have the capability of responding to a declared emergency at the Station in approximately twelve hours, on a 24 hours a day basis.

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B.4.12 Federal Emergency Management Agency

The Federal Emergency Management Agency, Region VI, is responsible for overall coordination of the offsite Federal response effort. The senior Federal Emergency Management Agency official from Region VI will carry out the functions and responsibilities outlined in NUREG-0981.

The Region VI Emergency Response Team will, in addition to the region office response, provide support to State and County authorities in the area of resource coordination, logistics, and telecommunications. The senior Federal Emergency Management Agency official, or designee, will notify the appropriate Federal agency capable of meeting a Specific State or County government need. The Federal Emergency Management Agency can respond to a declared accident at the Station in approximately ten hours.

B.4.13 Nuclear Regulatory Commission (NRC)

The Nuclear Regulatory Commission - The NRC is notified of an incident via the Emergency Notification System telephone line, the initial NRC response is to ascertain the status of the plant and monitor Station activities. The NRC will assess offsite radiological effects and will develop projection of onsite and offsite effects for use by other Federal, State, and local agencies, as appropriate.

To ensure reports can be made, NRC Headquarters Operations Center maintains a 24-hour emergency telephone and duty officer. The NRC Region IV Response Team, located in Arlington, Texas, has the capability of responding in approximately five hours. The leader of this response team will normally be the Region IV Regional Administrator, assuming the role as NRC Director of Site Operations, when so directed by the NRC Chairperson.

B.5 Private Sector Organizations

Private Sector and Contract Organizations include various groups that will provide support and services to the Station as follows:

B.5.1 Westinghouse Electric Company

Westinghouse Electric Company has established a contract with the Station to provide general services related to nuclear steam supply operation during and following an accident situation. Westinghouse provides a capability to respond on a 24 hour a day basis.

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B.5.2 Memorial Hermann Hospital System

Memorial Hermann Hospital System - by Letter of Agreement, serves as a referral source for long-term care of radiological injuries. Memorial Hermann Hospital System is available 24 hours per day for consultation or treatment of personnel who have been internally contaminated or may have received an acute dose of radiation. Memorial Hermann Hospital System located in Houston, Texas is approximately 70 air miles from the Station.

B.5.3 Lyondell Chemicals, LP and OXEA Corporation

Lyondell Chemicals, LP (Matagorda Operations) and OXEA Corporation (Bay City Plant) - by separate Letters of Agreement, will notify the Station of emergencies occurring at their plants which could involve offsite chemical releases, on a 24 hour a day basis.

B.5.4 Section Deleted (ICN 20-10)

B.5.5 American Red Cross

American Red Cross - by Letter of Agreement, will organize congregate care facilities and provide services necessary to support the evacuated population. This support is described in the Emergency Management Plan for Matagorda County, Bay City and Palacios.

B.5.6 Matagorda County EMS

Matagorda County EMS by Letter of Agreement will provide 24 hour per day emergency medical services, ambulances, and emergency medical technicians as requested to the Station in case of an emergency/drill/ or exercise including a hostile action event. Matagorda County EMS response time to the Station is approximately thirty minutes. In case of mass casualties during an event, Matagorda County has agreements in place to supply backfill EMS services (non-radiological) until State resources can be summoned.

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B.5.7 Institute of Nuclear Power Operations (INPO)

Institute of Nuclear Power Operations by Letter of Agreement will provide assistance in acquiring the help of other organizations in the industry on a 24 hours a day basis. In addition, INPO will provide assistance, utilizing its own resources, as requested and as appropriate.

B.5.8 American Nuclear Insurers

The Station maintains a policy with American Nuclear Insurers. American Nuclear Insurers has agreed to assume responsibility, except where excluded by the policy, for promptly assisting members of the public whom may be adversely affected by an incident at the Station.

B.5.9 Luminant Power (Comanche Peak Nuclear Power Plant)

Luminant Power by Letter of Agreement will in case of an emergency at the South Texas Project and loss of onsite analysis capabilities, support the Station by performing selected post accident analysis.

B.5.10 GEL Laboratories LLC

GEL Laboratories LLC; by Letter of Agreement will provide assistance in the radioanalyses of environmental samples or personnel dosimetry as requested.

B.5.11 Bay City Independent School District

Bay City Independent School District by Letter of Agreement will provide evacuation services (busses, drivers, and congregate care facilities) to Matagorda County or the Station in case of an accident at the Station. Matagorda Independent School District

Matagorda Independent School District by Letter of Agreement will perform early dismissal of students at the Alert classification, and evacuation of students to the Linnie Roberts Elementary School at the Site Area or General Emergency classification.

B.5.12 Palacios Independent School District

Palacios Independent School District by Letter of Agreement will provide evacuation services (busses, drivers, reception centers and congregate care facilities) to Matagorda County or the Station in case of an accident at the Station.

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B.5.13 Tidehaven Independent School District

Tidehaven Independent School District by Letter of Agreement will perform early dismissal of students at the Alert classification, and evacuation of students to the appropriate Reception Center at the Site Area Emergency classification.

B.5.14 Van Vleck Independent School District

Van Vleck Independent School District by Letter of Agreement will provide evacuation services (busses, drivers) to Matagorda County or the Station in case of an accident at the Station.

B.5.15 Matagorda County Environmental Health

Matagorda County Environmental Health by Letter of Agreement, will assist the Station on a 24 hours per day basis, or as needed, during an emergency situation at the Station.

B.5.16 City of Bay City

City of Bay City - by Letter of Agreement, will rent the Bay City Civic Center during drills, exercises or events for use by the Texas Department of State Health Services and for use as a federal response center. South Texas Project Operating Agreement

South Texas Project Operating Agreement is an agreement among Co-Owners for South Texas Project operations.

B.5.17 Section Deleted (ICN 20-8)

B.6 Emergency Organization

The Emergency Preparedness program for the Station requires the coordinated response of several organizations. The Emergency Director is the key individual in the Station Emergency Response Organization. The Station Emergency Response Organization is described fully in Section C of this Plan.

B.6.1 Station Emergency Director

The Emergency Director initiates the activation of the offsite Emergency Response Organizations by contacting the Texas Division of Emergency Management via the Department of Public Safety Offices in Pierce, Texas, the Matagorda County

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Sheriff's Office, and the Nuclear Regulatory Commission. All these organizations are staffed 24 hours per day to provide communications links for receiving notification of a radiological emergency. The Federal agencies which may be requested by the Station to provide assistance can be notified by contacting the Nuclear Regulatory Commission on a dedicated communication link, the Emergency Notification System line.

B.6.2 State of Texas and Matagorda County

The State of Texas and Matagorda County response is conducted in accordance with the following framework as presented in the State of Texas Emergency Management Plan and the Matagorda County Emergency Management Plan.

- The Texas Division of Emergency Management is responsible for coordinating state-level response and recovery activities during emergencies and disasters regardless of cause. The Department of State Health Services has been designated as the primary agency for radiological emergencies. The Department of Public Safety is the primary State agency for a hostile action based event. The Matagorda County Judge and the Mayors of Bay City and Palacios exercise overall authority for offsite protective actions and measures for the safety and protection of local personnel and property. Overall, direction and control of state response activities will be exercised by the Sub 2C Disaster District Committee Chairperson (Department of Public Safety highway patrol lieutenant) operating from the Emergency Operations Center located in Pierce. The Chairperson will be kept informed of conditions in a timely manner in order to facilitate state response and assistance. The Matagorda County

Emergency Operations Center is the direction and control point for county and city response activities for an emergency at the Station.

- The State is notified of an emergency at the Station by the Station's Emergency Director via a call to the Department of Public Safety Communication Center located at Disaster District Sub 2C, Pierce, Texas, on the dedicated ringdown telephone. The Communications Center at the Department of Public Safety, Pierce, will notify the Texas Division of Emergency Management of any emergency notification from the Station. The Governor and Chairperson of the Emergency Management Council are notified by the State Coordinator or the Texas Division of Emergency Management Duty Officer, depending on the severity of the situation. Notification of a station emergency is from the Texas Division of Emergency Management to the Texas Department of Health and in turn to the Department of State Health Services. The decision to activate the Radiological Response Team is based on the severity of the incident. The

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Station's Emergency Director initiates a declaration of Unusual Event, Alert, Site Area Emergency, or General Emergency. The Governor, by executive order or proclamation, may declare a state of disaster. The presiding officer of the governing body of a political subdivision may also declare a local state of disaster. A state of disaster condition activates disaster response, recovery, and rehabilitation aspects of the State Emergency Plan. The Matagorda County Sheriff's Office also has access to the dedicated ringdown telephone, and will be notified of an emergency classification at the Station when the Department of Public Safety Disaster District Sub 2C office is notified.

- When requested to assist in response and recovery efforts to radiation emergencies, personnel from other State of Texas Agencies will perform functions and activities as described in the State of Texas Emergency Management Plan. Local officials shall provide notification to the various personnel in the Matagorda County Emergency Management Organization in accordance with County Procedures. The Matagorda County Sheriff is responsible to verify that notifications are made in accordance with details provided in the Matagorda County Emergency Management Plan.

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TABLE B-1

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RESPONSIBLE PRIMARY ORGANIZATIONS

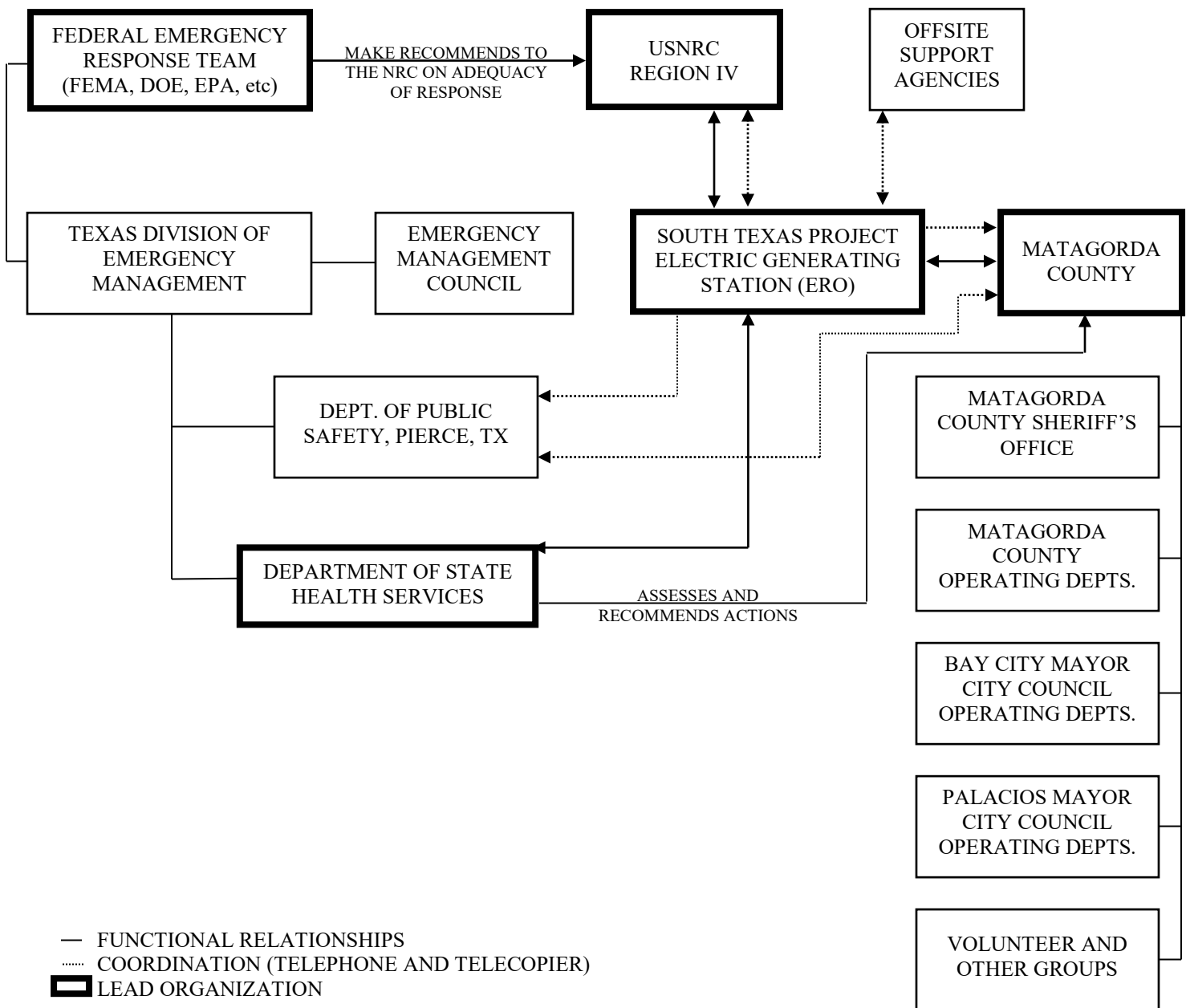
Organizations	Individual in Charge
South Texas Project Electric Generating Station	Emergency Director
State of Texas	Governor
State of Texas Emergency Management Council	Chairperson, Emergency Management Council
Texas Division of Emergency Management	State Coordinator
Department of State Health Services	Bureau Chief
Matagorda County Emergency Management Organization	Emergency Management Director (County Judge or Mayor(s) and County Commissioners)
Bay City Emergency Management Organization	Mayor
City of Palacios Emergency Management Organization	Mayor
Matagorda County Sheriff's Office	Sheriff

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FIGURE B-1
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INTERRELATIONSHIP OF EMERGENCY RESPONSE ORGANIZATIONS



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C ORGANIZATIONAL CONTROL OF EMERGENCIES

This section of the Plan describes the organizations required by the Station during a declared emergency. The daily Station operating organization is described in Section 13.1.2 of the Station Updated Final Safety Analysis Report.

The On-shift Emergency Response Organization and the augmented Emergency Response Organization are activated in case of an emergency.

The On-shift Emergency Response Organization has the initial responsibility for declaring the emergency classification, providing timely notification to Federal, State, and County authorities, developing and providing protective action recommendations to State and County authorities. The emergency duties of the On-shift Emergency Response Organization are transferred to the augmented Emergency Response Organization as emergency response facilities are activated.

The augmented Emergency Response Organization is provided with an adequate roster of available personnel to allow for relief and turnover on a shift basis, if required. Personnel relieving augmented Emergency Response Organization positions will follow guidance contained in their position based procedure.

Figure C-6, describes the Station Emergency Response communications interface with State, County, and Federal Agencies.

C.1 On-shift Emergency Response Organization

A detailed on-shift Staffing Analysis has been performed. The on-shift Staffing Analysis is documented in the Records Management System as STI 33633906.

Should an emergency be declared, the Shift Manager activates the On-shift Emergency Response Organization from the normal operating staff and assumes the duties of the Emergency Director. The individuals constituting the on-shift Emergency Response Organization will assume their respective titles and responsibilities for their position until relieved.

The On-shift Response Organization is composed of members of the Plant Operations staff, the Shift Technical Advisor, Health Physics, Maintenance, Security, and Emergency Response Teams. The On-shift Emergency Response Organization may be supplemented as needed by the Emergency Director as required by the situation. The on-shift complement provides for the capability of 24 hours per day emergency response. Positions for the On-shift Emergency Response Organization are depicted in Figure C-1.

The Functional Areas and duties of the on-shift complement, as an initial Emergency Response Organization, are described below.

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C.1.1 Command and Control

Upon entry into the Emergency Plan, the Shift Manager initially assumes the position of Emergency Director until relieved by the Technical Support Center Manager or the Emergency Operations Facility Director. The Emergency Director is responsible for the activation and direction of the Station Emergency Response Organization, and for ensuring resources are available to support operation over a protracted period of time. After the Emergency Director responsibilities and authorities are assumed by the Technical Support Center Manager or Emergency Operations Facility Director, the Shift Manager remains in the Control Room, but reports to the Operations Manager. The Emergency Director performs the following functions:

- Recognize, classify, and declare the emergency condition;
- Complete notifications and make protective action recommendations to offsite agencies;
- Direct onsite emergency response activities, monitoring plant conditions for changes in Emergency Action Levels and emergency classifications, and direct Control Room response to mitigate the emergency condition.

C.1.1.1 Non-delegable Emergency Director Responsibilities

- Declare new emergency classifications;
- Approve offsite protective action recommendations issued to State and County authorities;
- Approve required notifications to State and County;
- Approve planned exposures in excess of Code of Federal Regulations, Title 10, Part 20 limits;
- Authorize the use of Potassium Iodide;
- Approve departures from license conditions per Code of Federal Regulations, Title 10, Part 50.54(x) for emergency response activities NOT related to Control Room Operation actions; and

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C.1.1.2 Delegable Emergency Director Responsibilities

- Request Federal assistance through the NRC;
- Approve press releases prior to issuance;
- Approve required notifications to the NRC; and
- Approve commitments to the NRC.

C.1.2 Communications

C.1.2.1 ENS Communicator

Upon entry into the Emergency Plan, the onsite ENS Communicator reports to the Control Room. The ENS Communicator is an NRC Licensed Reactor Operator. The ENS Communicator performs the following functions:

- Initiates notification of the Emergency Response Organization in accordance with procedure 0PGP05-ZV-IN03, Emergency Response Organization Notification.
- Initiates communications with the Nuclear Regulatory Commission.

C.1.2.2 State and County Communicator

Upon entry into the Emergency Plan, the on-shift State and County Communicator reports to the Control Room. The State and County Communicator performs the following functions:

- Initiate notification in accordance with 0PG05-ZVIN02, Offsite Agency Notifications.

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C.1.3 Supervision of Radiation Protection

Upon entry into the Emergency Plan, the on-shift Lead Radiation Protection Technician assumes the position of Acting Radiological Manager and reports to the Emergency Director in the Control Room in person or by telephone. The Acting Radiological Manager performs the following functions:

- Assist with activation of the Operations Support Center;
- Assess Station radiological and environmental conditions;
- Respond to radiological problems;
- Identify special radiological protective measures;
- Determine special Radiation Work Permit requirements;
- Verify Emergency Classification if based on radiological Emergency Action Levels;
- Review and recommend emergency exposures to emergency response personnel in excess of Code of Federal Regulations, Title 10, Part 20 limits;
- Ensure adequate inventories of radiological supplies, equipment, and Radiation Protection personnel are available; and
- Provide prompt dose projection when requested.

C.1.4 Dose Assessment

Upon entry into the Emergency Plan, a qualified on-shift individual fills the position of Dose Assessor and reports to the Emergency Director in the Control Room in person or by telephone. The Dose Assessor performs the following function:

- Provide prompt dose projections when requested.

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C.1.5 Radiation Protection

Upon entry into the Emergency Plan, on-shift Radiation Protection personnel perform the following functions:

- Provide health physics coverage for responders accessing potentially unknown radiological environments during emergency conditions;
- Access control and control of dosimetry; and
- Provide in-plant and onsite radiological surveys.

C.1.6 Field Monitoring Teams

Upon entry into the Emergency Plan, on-shift Radiation Protection technicians report to the Acting Radiological Manager to fill the role of onsite Field Monitoring Teams. Other qualified, on-shift personnel may fill this role.

C.1.7 Emergency Classification

Upon entry into the Emergency Plan, the Shift Technical Advisor reports to the Control Room and fills the role of Emergency Classification Advisor. The Emergency Classification Advisor performs the following functions:

- Evaluate plant conditions and recommend emergency classifications.

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C.1.8 Engineering

Upon entry into the Emergency Plan, the Shift Technical Advisor reports to the Control Room to fill the role of the Nuclear Engineer. The Shift Technical Advisor is available to Control Room personnel 24 hours per day when either unit is above cold shutdown and reports to the Control Room within ten minutes or less after being notified. The Nuclear Engineer performs the following functions:

- Evaluate reactor conditions; and
- Assist the Emergency Director in the mitigation of accident consequences.

C.1.9 Security

On-shift plant protection personnel remain at their duty stations in accordance with the Security Plan, unless otherwise directed.

Upon entry into the Emergency Plan, the on-shift Security Force Supervisor assumes the position of Acting Security Manager and reports to the Emergency Director in the Control Room in person or by telephone. At an Alert or higher Emergency Classification, the Acting Security Manager may be relieved by the Security Supervisor in the Technical Support Center. When relieved, they support Security as needed. The Acting Security Manager performs the following functions:

- Direct the implementation of Security emergency response activities as specified in the Station Safeguards Security Plan;
- Implement assembly and accountability efforts;
- Establish special access controls;
- Provide for the expedient entry and exit of emergency vehicles; and
- Direct changes to security operations based on radiological conditions.

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C.1.10 Repair Teams

C.1.10.1 Operations

On-shift Plant Operations personnel are staffed per the Technical Specifications.

Those Plant Operators not assigned on-shift duties in the operation of the units by the Emergency Director report to the Operations Support Center at an Alert or higher emergency classification. The Emergency Director can utilize the Plant Operators via the Acting Operations Support Center Coordinator.

The on-shift Plant Operations personnel are responsible for:

- Operation of all reactor-related equipment;
- Coordination of activities affecting Station structures, systems and components;
- Equipment clearances;
- Activation of fire brigade and emergency care teams; and
- Identification of emergency classifications.

C.1.10.2 Maintenance

Upon entry into the Emergency Plan, on-shift Maintenance personnel report to the Operations Support Center. The on-shift Maintenance staff consists of one mechanic, two electricians, and one I&C technician for repair team activities. The following functions are fulfilled:

- Provide mechanical or electrical support for Emergency Core Cooling System equipment, event mitigation, and equipment repairs (mechanical/electrical); and
- Provide assistance with logic manipulation, support for event mitigation and equipment repair and support of digital I&C repairs (I&C technician).

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C.1.11 Supervision of Repair Teams

Upon entry into the Emergency Plan, the on-shift Duty Maintenance Supervisor assumes the position of Acting Operations Support Center Coordinator (0ERP01-ZV-SH04) until relieved by the Operations Support Center Coordinator. The Acting Operations Support Center Coordinator reports to the Emergency Director in the Control Room in person or by telephone. The Acting Operations Support Center Coordinator performs the following functions:

- Provide ongoing maintenance support to activities assigned by the Emergency Director;
- Ensure emergency team activities are performed in accordance with approved procedures and policy;
- Ensure that deviations from Station procedures and NRC regulations are approved by the Emergency Director;
- Establish and staff the Operations Support Center with on-shift personnel to support plant emergency response activities, if requested by the Emergency Director; and
- Ensure emergency teams formed and dispatched are properly briefed and status monitored.

C.1.12 Emergency Response Teams

Emergency Response Teams typically consist of personnel who have been trained in the procedures and practices that describe the performance of their duties as Emergency Team members or leaders. As required by the emergency conditions, the Operations Support Center Coordinator may temporarily assign other plant personnel to the Emergency Teams to assist the regular team members during an emergency.

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C.2 Augmented Emergency Response Organization

Those members of the Emergency Response Organization who are not on site at the time of the emergency shall be able to augment the on-shift Response Organization within 60 or 90 minutes of an emergency declaration as specified in Table C-1.

The Technical Support Center and Operations Support Center Emergency Response Organizations are activated at an Alert emergency classification. Positions for these facilities are depicted in Figure C-2 and Figure C-3. The Emergency Operations Facility and Joint Information Center are staffed at the Alert emergency classification and may be activated at the discretion of the Emergency Director. Positions for these facilities are depicted in Figure C-4 and Figure C-5. The Emergency Operations Facility and Joint Information Center shall be activated at a Site Area Emergency emergency classification. The Emergency Operations Facility dose projection capability is activated at an Alert emergency classification. During an Unusual Event emergency classification, if trending of plant conditions indicates the need for additional support, the Emergency Director can activate all or part of the Station Emergency Response Organization to report to the Technical Support Center, Emergency Operations Facility, Joint Information Center or Operations Support Center. The process to maintain a fully staffed Emergency Response Organization is described in OPGP05-ZV-0003, Emergency Response Organization.

Modifications to the Emergency Response Organization may be made by the Emergency Director as required by the complexity of the emergency.

The following key Emergency Response Organization positions report to the Technical Support Center, the Operations Support Center, and the Emergency Operations Facility, and Joint Information Center, and augment the on-shift Response Organization following the declaration of an Alert, Site Area Emergency or General Emergency emergency classification. These positions can be staffed by the Emergency Director at an Unusual Event emergency classification.

C.2.1 Technical Support Center Manager

The Technical Support Center Manager reports to the Technical Support Center at an Alert emergency classification and provides guidance and advice to the Control Room on plant design and coordinating engineering activities in the areas of analysis, design modifications, system response, and offsite protective action recommendations. The Technical Support Center Manager may assume the position of Emergency Director from the Shift Manager.

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C.2.2 Operations Manager

The Operations Manager reports to the affected Unit's Control Room and directs the implementation of Control Room emergency response activities.

C.2.3 Radiological Manager

The Radiological Manager reports to the Technical Support Center and is responsible for assessing Station radiological and environmental conditions and implementing special radiological protective measures.

C.2.4 Maintenance Manager

The Maintenance Manager reports to the Technical Support Center and is responsible for functioning as the Technical Support Center interface for all repair team activities requested of the Operations Support Center. The Maintenance Manager ensures that supplies, equipment and manpower to support repair efforts are available and coordinates with the Technical Support Center Managers to establish repair team priorities.

C.2.5 Technical Manager

The Technical Manager reports to the Technical Support Center and is responsible for monitoring the status of plant systems including the three fission product barriers (Fuel Cladding, Reactor Coolant System, and Containment) and identifying potential failures of key systems.

C.2.6 Security Manager

The Security Manager reports to the Technical Support Center and is responsible for directing implementation of onsite security response activities, performing assembly and accountability, and assisting with Protected Area and Owner Controlled Area evacuation.

C.2.7 Administrative Manager

The Administrative Manager reports to the Technical Support Center and is responsible for ensuring necessary documents are available, maintaining an overall file of records generated during the emergency, and ensuring adequate supplies are available in the Technical Support Center.

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C.2.8 Operations Support Center Coordinator

The Operations Support Center Coordinator reports to the Operations Support Center and assumes responsibility for Operations Support Center activities and ensures accountability of the Operations Support Center is maintained. The Operations Support Center Coordinator ensures that emergency teams formed and dispatched are properly briefed and their status monitored, resources and personnel to perform Operations Support Center activities are adequate, and adequate communications and information flow is maintained with the Technical Support Center. The Operations Support Center Coordinator ensures that deviations from Station procedures and NRC regulations are approved by the Emergency Director.

C.2.9 Emergency Operations Facility Director

The Emergency Operations Facility Director reports to the Emergency Operations Facility at an Alert. At the discretion of the Emergency Director, the Emergency Operations Facility Director may activate the Emergency Operations Facility at the Alert classification. Following activation, at the discretion of the Emergency Director, the Emergency Operations Facility Director may assume Emergency Director authority and responsibilities from either the Technical Support Center Manager or Shift Manager, as appropriate. The Emergency Operations Facility Director is responsible for ensuring that an ongoing effective interface is maintained with County, State, and Federal response agencies, functioning as the primary interface with the Station Owners, and functioning as the primary interface with the Executive Officers of the Owners. The Emergency Operations Facility Director ensures a timely response to inquiries and requests for information from financial, legislative and congressional organizations, and approves major expenditures of funds. The Emergency Operations Facility Director may participate in press briefings at the Joint Information Center, if necessary.

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C.2.10 Radiological Director

The Radiological Director reports to the Emergency Operations Facility at an Alert and is responsible for assessing offsite radiological and environmental conditions that may impact the public. The Radiological Director directs offsite dose projection activities and advises the Emergency Director on offsite protective action recommendations for the public. The Radiological Director directs Offsite Field Team activities and environmental sampling support. The Radiological Director coordinates with the Technical Director to determine offsite protective action recommendations based on the status of the fission product barriers and the potential for a radiological release, and monitors radiological parameters which relate to Emergency Action Levels to determine if conditions warrant a change in emergency classification. The Radiological Director reviews and recommends approval of emergency exposures to Emergency Response Organization personnel in excess of Code of Federal Regulations, Title 10, Part 20 limits, determines Emergency Operations Facility radiological habitability, and recommends to the Emergency Director the issuance of Potassium Iodide. The Radiological Director functions as the primary interface with the Department of State Health Services personnel assigned to the Emergency Operations Facility, and manages radioactive waste and radiological control aspects of the Recovery operations.

C.2.11 Technical Director

The Technical Director reports to the Emergency Operations Facility at an Alert and is responsible for coordinating evaluation of plant safety systems and the condition of the primary fission product barriers, and advising the Emergency Operations Facility Director on engineering issues. The Technical Director also monitors the Emergency Action Levels to determine when changes in the emergency classification may be necessary, and coordinates with the Radiological Director to determine offsite protective action recommendations based on plant status and the potential for a radiological release. The Technical Director obtains engineering information requested by Emergency Operations Facility personnel, provides technical assistance to the Technical Support Center, and independently evaluates Technical Support Center engineering activities to determine if the correct engineering priorities are established. The Technical Director assists in coordinating arrangements for obtaining contract-engineering support.

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C.2.12 Support Organization Director

The Support Organization Director reports to the Emergency Operations Facility at an Alert and is responsible for coordinating the interaction with offsite agencies and support organizations, ensuring communications systems are maintained operable and additional communications are provided as necessary, and arranges for special assistance to South Texas Project Electric Generating Station employees and their families with special needs during an emergency. The Support Organization Director ensures adequate and timely information is provided to offsite agencies, and ensures arrangements are in place to process support personnel to meet training, security, and radiological requirements. The Support Organization Director coordinates and maintains a status of South Texas Project Electric Generating Station support requested by County, State, and Federal agencies.

C.2.13 Licensing Director

The Licensing Director reports to the Emergency Operations Facility at an Alert and monitors the open line between the Control Room and NRC and provides information to the NRC regarding Emergency Operations Facility activities. The Licensing Director functions as the primary liaison with NRC personnel responding to the emergency and ensures administrative and logistics support is provided to the NRC.

C.2.14 Joint Information Center Director

The Joint Information Center Director reports to the Joint Information Center at an Alert and is responsible for overall JIC management of activation and operation. Provides information to the public of onsite status and conditions. Provides rumor control and public inquiry information. Ensures timely and accurate information is disseminated to the media. Coordinates media tours of emergency facilities. Discuss plant status with offsite agency Public Information Officers (PIO) located at the JIC as well as the Texas Division of Emergency Management PIO in Austin when possible. Schedules interviews with the media as needed. Corrects misinformation/rumors during press briefings and ensures updated news release transmittals.

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C.2.15 Company Spokesperson

The Company Spokesperson reports to the Joint Information Center at an Alert and is responsible for providing South Texas Project information to the news media, approves press releases and maintains contact with the Site Public Affairs Coordinator, meets with offsite agency Public Information Officers (PIO) prior to news briefings, designates personnel to make public comment on the emergency, and schedules frequent news conferences in order to apprise media of current information.

C.2.16 Media Relations Manager

The Media Relations Manager reports to the Joint Information Center at an Alert and is responsible for the timely accurate flow of information to the media, coordinates schedules and announces the press briefings and conferences, responds to media inquiries for information, arranges interviews, responds to media telephone inquiries, coordinates tours to other emergency response facilities as directed.

C.2.17 Public Inquiry Manager

The Public Inquiry Manager reports to the Joint Information Center at an Alert and is responsible for monitoring media outlets and public inquiries and reports and rectifies erroneous information, coordinates activities of media inquiry telephone responders, ensures monitoring of news outlets, coordinates correction of rumors/media misinformation, provides public inquiry staff with press releases and corrected rumor information.

C.2.18 Information Technology

Information Technology personnel provide support for computer-based equipment as directed in the OSC/TSC and EOF/JIC.

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TABLE C-1

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MINIMUM STAFFING REQUIREMENTS (STPEGS)

(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON- SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Command and Control**	Shift Manager	2		
	TSC Manager			1
	EOF Director			1
Communications	On-shift Communicator	2		
	TSC Communicator			1
	EOF Communicator			1
Supervision of Radiation Protection	Acting Radiological Manager	1		
	TSC Radiological Manager			1
	EOF Radiological Director			1
Dose Assessment/ Projections	Dose Assessor	1 ¹		2
Radiation Protection	Health Physics Personnel	2	3	3
Field Monitoring Teams	Onsite Radiation Monitor	1 ²		1
	Offsite Radiation Monitor			4 ³

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TABLE C-1

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MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Emergency Classifications	Emergency Classification Advisor	1 ⁴		
Engineering	Shift Technical Advisor	1 ⁴		
	Electrical/I&C			1
	Mechanical			1
	Nuclear			1
Security	Security Supervisor	(Staffing is per site Security Plan)		1
Repair team Activities	Electrician	2 ⁵		##
	Mechanic	1 ⁵		##
	I&C Technician	1		##
Supervision of Repair Team Activities	OSC Coordinator	1		1
	Electrical Supervisor			1
	Mechanical Supervisor			1
	I&C Supervisor			1
	Radiological Coordinator			1

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TABLE C-1
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MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Media Information	Staff Required for Joint Information Center to function			Staff for Activation
Information Technology	TSC IT Technician			1
	EOF/JIC IT Technician			1

Notes:

1. The Dose Assessor is filled by the Acting Radiological Manager.
2. The onsite FMT consists of one on-shift individual qualified to perform field monitoring activities assigned no other ERO duties. No driver is needed.
3. The offsite FMT consists of one qualified individual to perform offsite field monitoring and one driver. There are 2 teams of 2.
4. May be filled by on-shift personnel assigned other functions.
5. May be filled by on-shift qualified maintenance craft personnel.

- * For each unaffected unit in operation, maintain at least one Unit Supervisor, two Reactor Operators, and two Plant Operators. In accordance with Section 6.0 of the Technical Specifications for each unit, the shift crew composition may be less than the minimum number of operators (licensed or non-licensed) shown above for a period of time not to exceed two hours in order to accommodate unexpected absences of on-duty shift crew members, provided immediate actions are taken to restore the crew composition. The minimum staff for a unit in cold shutdown will be one Senior Reactor Operator, one Reactor Operator, and one Plant Operator for that unit.

For the remaining on-shift positions, the shift composition may be less than the minimum number shown on Table C-1 for a period of time not to exceed two hours in order to accommodate unexpected absences of personnel, provided immediate actions are taken to restore the staffing requirements.

- ** Overall, direction of emergency response to be assumed by the Emergency Director at the Emergency Operations Facility when all centers are fully manned. Direction of minute-to-minute facility operation remains with senior manager in the Technical Support Center or Control Room.

Augmented Repair Teams may be called out on as as-needed basis.

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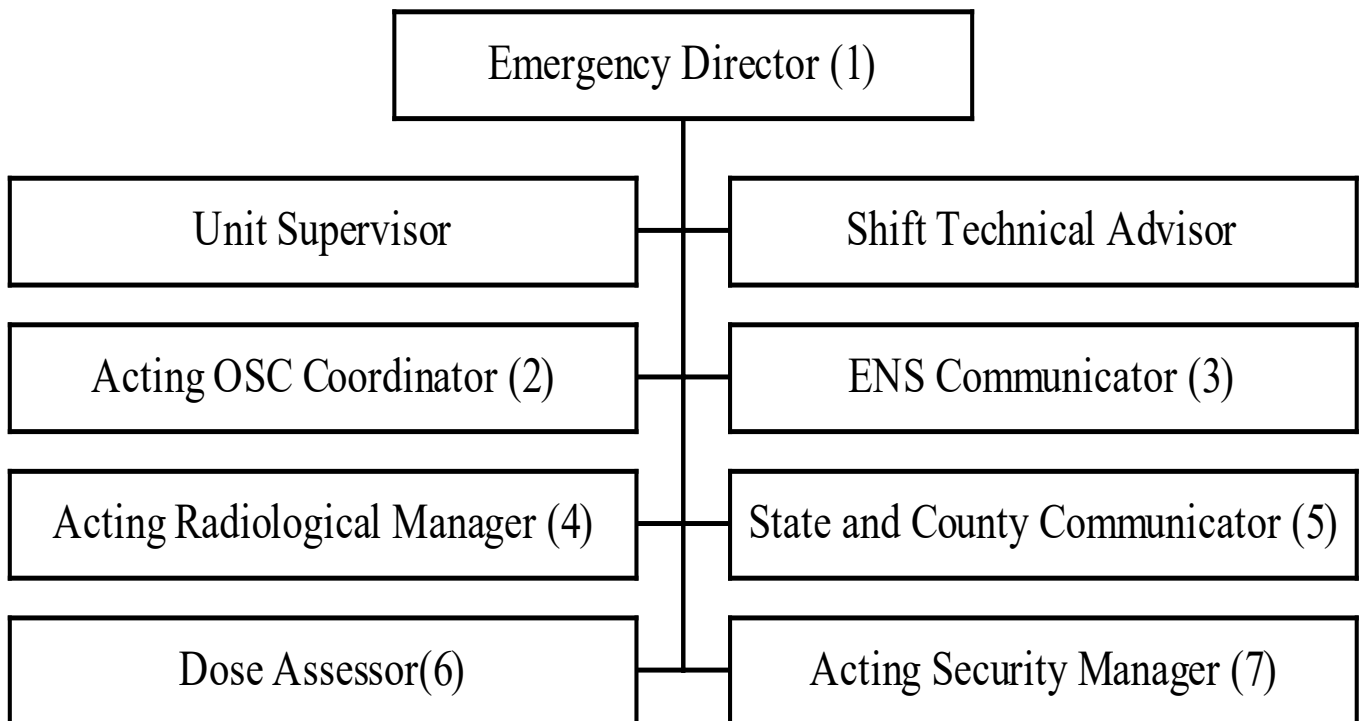
EMERGENCY PLAN

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FIGURE C-1

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ONSHIFT EMERGENCY RESPONSE ORGANIZATION



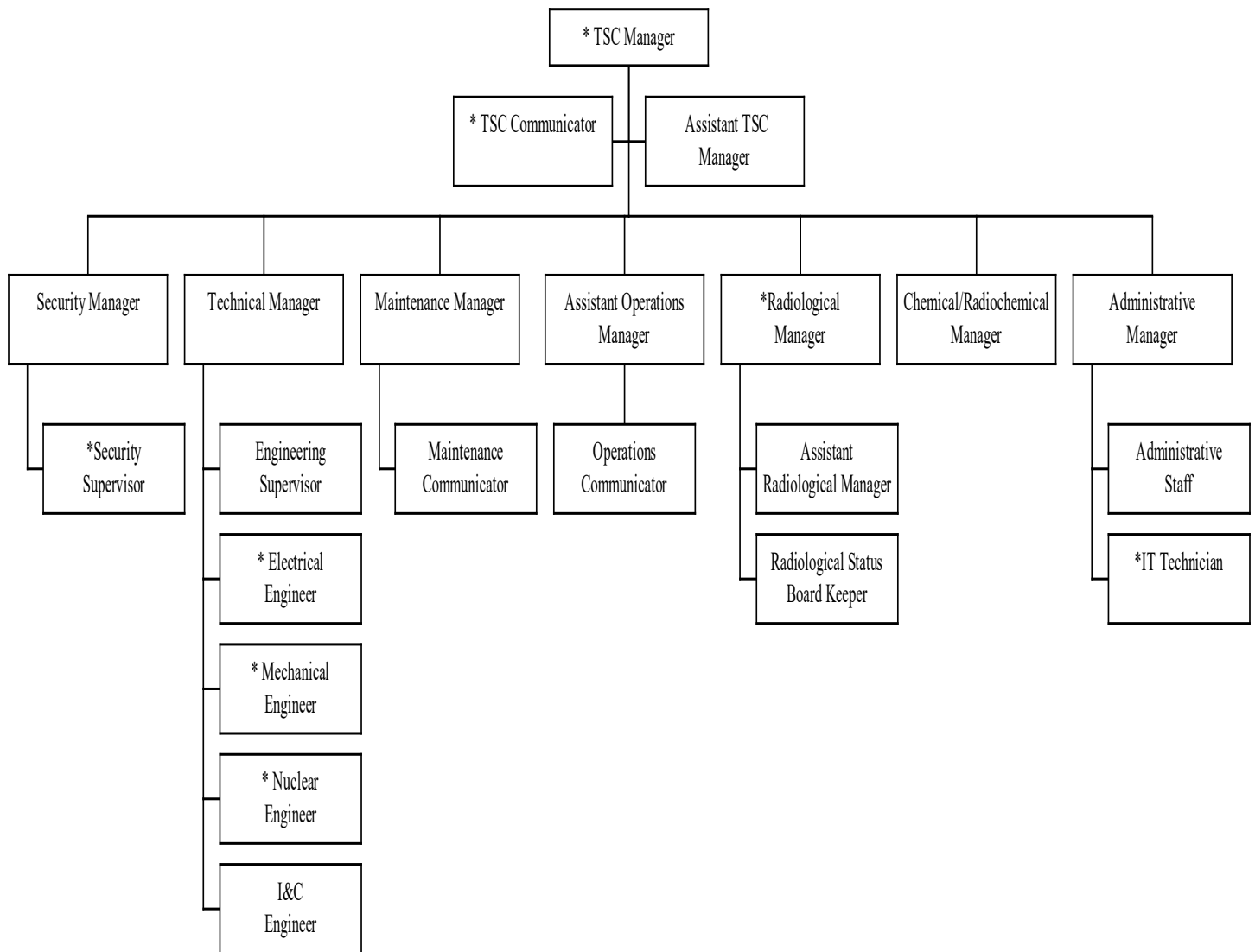
(1) Shift Manager (2) Duty Maintenance Supervisor (3) Reactor Operator, currently licensed by NRC (4) Lead Radiation Protection Technician (5) Plant Operator (6) Qualified Individual filled by the Acting Radiological Manager (7) Security Force Supervisor

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FIGURE C-2
Page 1 of 1
TECHNICAL SUPPORT CENTER (TSC) STAFFING



***Required Minimum Staffing.**

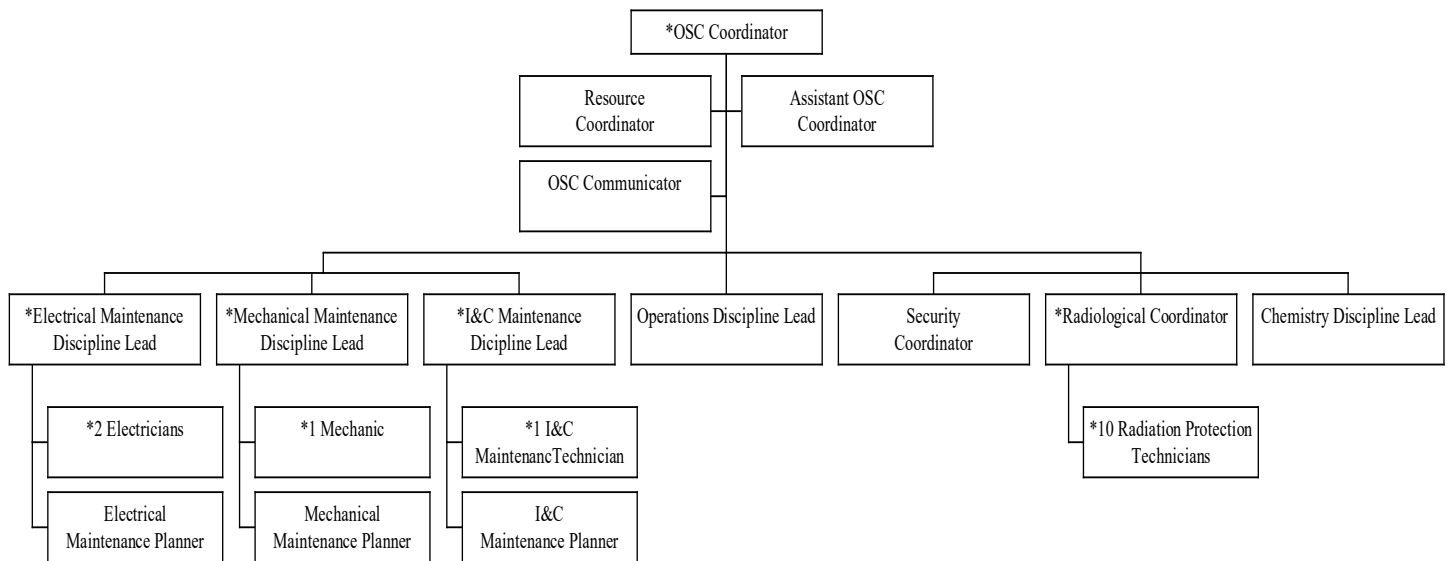
The Assistant TSC Manager may fill the TSC Manager position in his absence.

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FIGURE C-3
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OPERATIONS SUPPORT CENTER (OSC) STAFFING



* Required Minimum Staffing:

Notes: The 10 Radiation Protection Technicians include the Acting Radiological Manager.

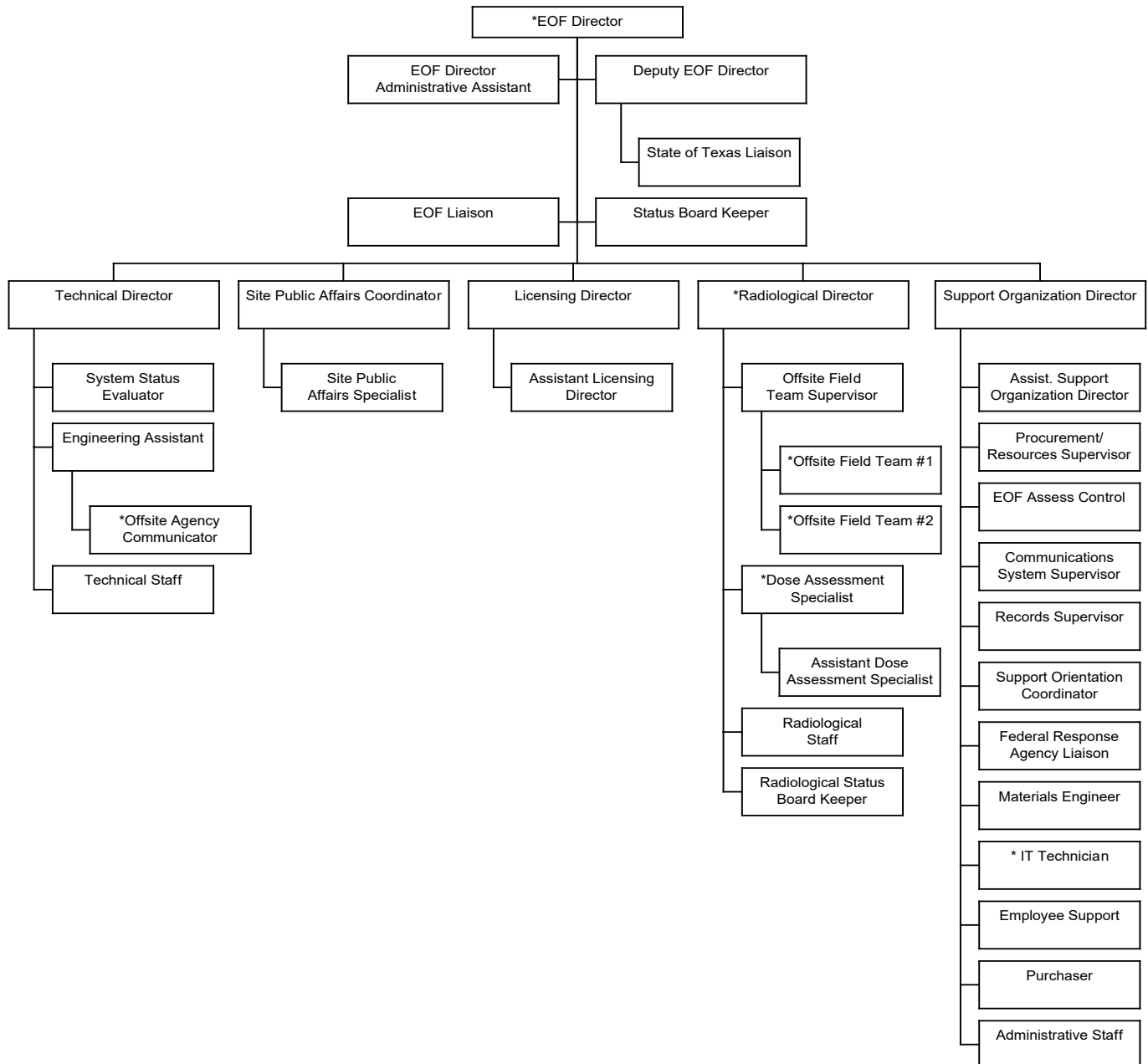
The Acting OSC Coordinator may fill the role of the OSC Coordinator in their absence.

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FIGURE C-4
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EMERGENCY OPERATIONS FACILITY (EOF) STAFFING



***Required Minimum Staffing**

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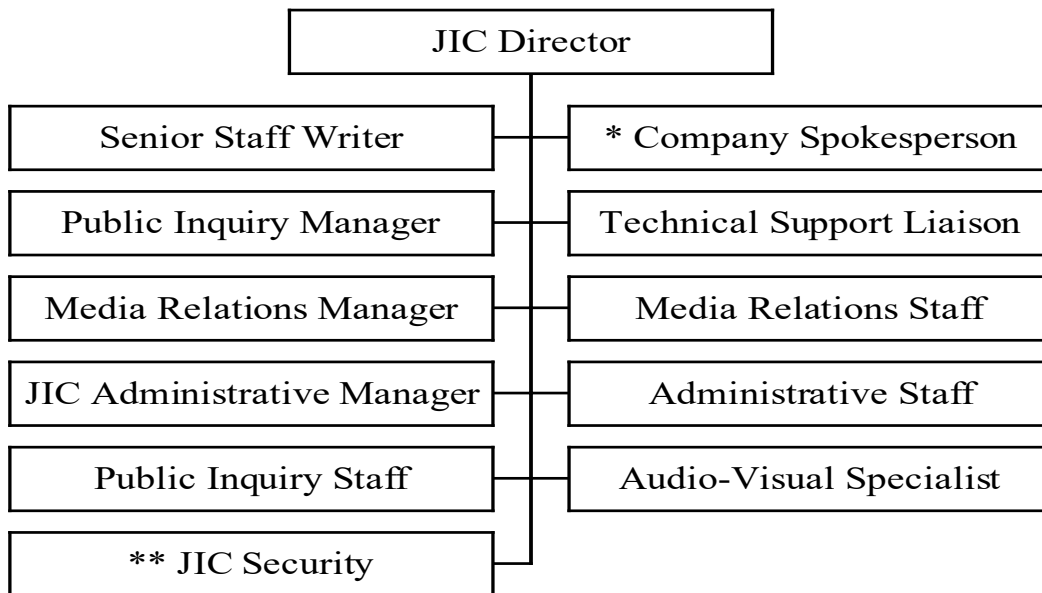
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FIGURE C-5

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JOINT INFORMATION CENTER (JIC) STAFFING



* Required Minimum Staffing

** Supplied by Local Law Enforcement

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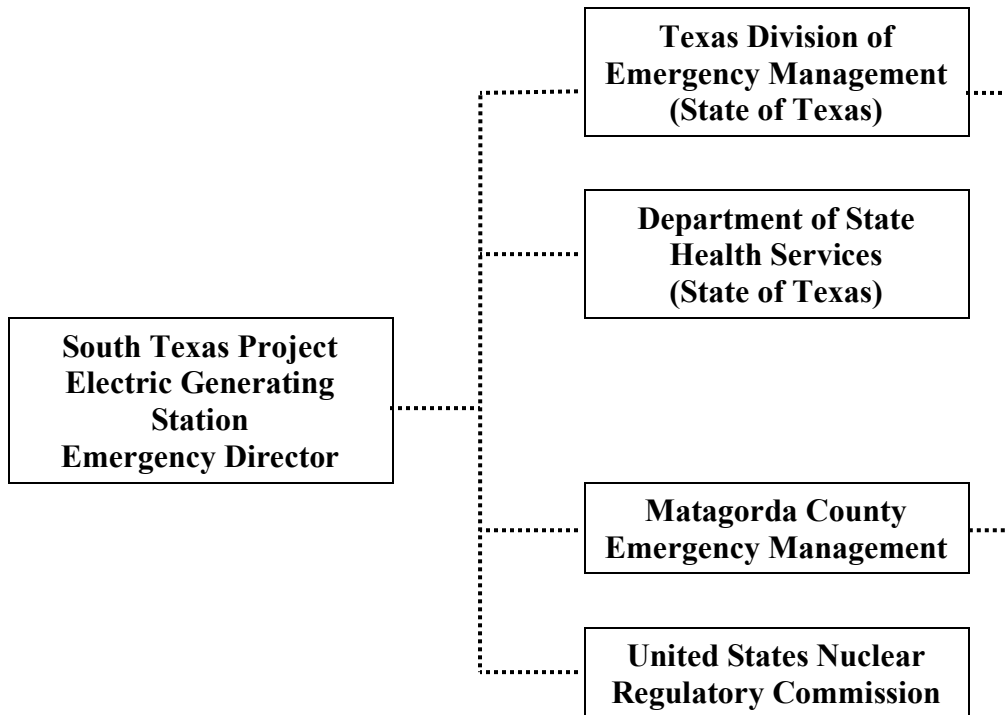
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FIGURE C-6

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STATION EMERGENCY RESPONSE ORGANIZATION AND OFFSITE INTERFACES



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SECTION D

D EMERGENCY CLASSIFICATION SYSTEM

This section of the Plan describes the emergency classification system utilized to categorize an event occurring at the Station into one of four emergency classification levels.

D.1 Event Classifications

The spectrum of possible emergency events at the Station is categorized into the following four (4) emergency classifications, based on the recommendations of NEI 99-01, Rev. 6: Development of Emergency Action Levels for Non-Passive Reactors:

- UNUSUAL EVENT
- ALERT
- SITE AREA EMERGENCY
- GENERAL EMERGENCY

The technique for evaluation and classification of emergencies at the Station, based on specific observable data or Control Room instrumentation, is described in the NRC approved STPEGS Emergency Action Level Technical Bases Document and performed in Emergency Response Procedure 0ERP01-ZV-IN01, Emergency Classification

The severity of the emergency classification increases in the order they are listed above from an Unusual Event to a General Emergency. Since the severity of the emergency may change with time, an emergency may be upgraded from one classification level to another. Incidents will typically be classified in a lower emergency classification at first and then escalated to a higher classification if the situation deteriorates. Each of the four emergency classifications has characteristic Emergency Action Levels for various parameters. These levels consist of specific values of various Station parameters such as instrument indications and system status that are used to classify the emergency and to initiate notification and activation of the appropriate members of the Station Emergency Response Organization. After the initial declaration of an emergency classification, the individual serving the lead function (i.e., Emergency Director) will perform a continuing assessment of the situation to determine whether the emergency classification must be upgraded.

The rationale for the Unusual Event and Alert classifications is to provide early and prompt notification of minor events which could lead to more serious consequences given operator error or equipment failure or which might be indicative of more serious conditions which are not yet fully realized. It should be noted that most of the listed initiating conditions for the Unusual Event classification are events that can be expected to be terminated quickly, and therefore, the notification process may occur after the event has been corrected. The Site Area Emergency classification reflects conditions where some significant releases are likely or are occurring, but where major core damage is not indicated based on current information. The General Emergency classification involves actual or imminent substantial core degradation or melting with the potential for loss of containment integrity.

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The philosophy taken for classification will always be to immediately declare the highest classification for which a set of limits have been attained (Emergency Action Levels). For example, a Site Area Emergency would be declared directly if the Emergency Action Level of that classification had been attained, even if the lower, Alert classification had not been previously declared. In utilizing the Emergency Action Level criteria as the basis for initiating emergency response activity, there may be instances when the Station Operations staff cannot determine quickly which of two action levels is appropriate for a particular occurrence. In those cases, the occurrence is treated as the higher level of classification and the appropriate response for that level is initiated.

Initial assessment of plant conditions and emergency classification are performed by shift operating personnel under the direction of the Shift Manager. The Shift Manager/Emergency Director shall declare the emergency class within 15 minutes from the time that information, which exceeds an EAL, is available.

D.2 Safety Features

The Station is designed with structures, systems, and components to prevent or mitigate the consequences of postulated events that may result in the release of radioactive material into the environment that could produce doses in excess of established values. The Station is also designed with process, radiation monitoring, and analytical instrumentation to measure radioactivity in the Station system fluids, building atmospheres, and liquid and gaseous effluents. These structures, systems, and components are also described in the Updated Final Safety Analysis Report.

The initiating conditions and events that determine the emergency classification are based on the actual or potential failure, malfunction, or improper operation of these structures, systems, and components. Some of the initiating conditions and events are directly identifiable by their existence, such as operation of a safety system or a fire, while others require observation of process and radiation monitoring instrumentation and/or radiochemical analysis.

Emergency Response Procedure 0ERP01-ZV-IN01, Emergency Classification, and Table D-1 provide initiating conditions that lead to Emergency Action Levels and associated emergency classification. Emergency Response Procedure 0ERP01-ZV-IN01, Emergency Classification, contains process parameter instrumentation and corresponding values, equipment status, and non-process conditions and events for identifying the initiating conditions and events that constitute the Emergency Action Level for each classification. The initiating conditions found under the various classifications are intended as general guidelines and represent the types of conditions that may be evaluated to confirm or modify, at any time, the emergency classification and action level response initiated by the Operations staff. The actual situation, however, from Unusual Event to General Emergency, involves many variables in going from plant instrumentation readouts of a pre-accident situation to significant radiological exposures

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SECTION D

to the public. Such readings may usefully serve as conservative criteria for determining when to mobilize various emergency organizations, but final decisions to notify and alert the public utilizing the Prompt Notification System are the decisions of the local and State governmental officials.

Station process emergency conditions and events are confirmed and mitigated by use of Emergency Operating Procedures. These procedures are based on guidelines developed by the Westinghouse Owners Group and require the monitoring of critical safety functions and a diagnostic evaluation to classify the emergency.

Non-process emergency conditions and events are confirmed as required by the use of specific Station procedures or physical confirmation.

Station procedures contain the specific instrumentation, equipment status, and non-process conditions and events that are used to establish the emergency classification.

D.3 Emergency Classifications

The following subsections describe each emergency classification. The descriptions contained in these subsections are not intended to be totally descriptive nor all-inclusive. The Emergency Director will declare an appropriate emergency classification when, in his judgment, the Station status warrants.

D.3.1 Unusual Event Classification

Unusual Event is the least severe of the four classes of emergency, in that events are in process or have occurred which indicate a potential degradation of the level of safety of the station or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

This classification includes those situations which, unless complicated by other factors, pose no harm to the public but for which it is prudent to notify Station personnel, State, local, and Federal officials to provide them with current information on unusual events which are occurring or have occurred at the Station.

Events in this classification will initiate activation of the Emergency Notification and Response System (ENRS) to notify Emergency Response Organization (ERO) Personnel. This is an information only notification and does not require activation of Emergency Facilities.

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D.3.2 Alert Classification

The Alert classification includes events that are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the station or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guideline exposure levels. This emergency classification includes those situations for which it is prudent to notify Station personnel, and State, Local, and Federal officials in order to assure that emergency personnel are available to respond should the situation become more serious. These situations, unless upgraded to a more severe emergency classification, pose no threat to the public but confirmatory radiological monitoring by the State may be appropriate in order to verify that no harm to the public has occurred.

Events in this classification will initiate activation of the Technical Support Center and Operations Support Center. The Emergency Operations Facility and the Joint Information Center shall be staffed as a precautionary action and may be activated at the discretion of the Emergency Director. The personnel in the Emergency Operations Facility act in a support function to the Technical Support Center. The Emergency Operations Facility Dose Projection capability is activated at an Alert. Any Emergency Response Facility may be activated at the discretion of the Emergency Director.

D.3.3 Site Area Emergency Classification

The Site Area Emergency classification includes events that are in process or have occurred which involve an actual or likely major failures of station functions needed for 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 the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed Environmental Protection Agency (EPA) Protective Action Guideline exposure levels beyond the site boundary. This emergency classification includes those situations for which it is prudent to notify Station personnel, State, County, and Federal officials to allow emergency response facilities to be manned and personnel required for evacuation of near site areas to prepare and stage should the situation become more serious.

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Situations classified under the Site Area Emergency classification are those for which it may be prudent to provide early warning to the general public within the ten (10) mile Emergency Planning Zone to provide an increased state of readiness should the situation become more serious.

Although Protective Action Recommendation are not necessarily required, declaration of a Site Area Emergency will require initiation of emergency response actions by the Station personnel and the State and County authorities.

D.3.4 General Emergency Classification

The General Emergency is the most severe emergency classification defined in this Plan. The General Emergency classification includes events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for 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 Environmental Protection Agency (EPA) Protective Action Guideline exposure levels offsite for more than the immediate site area. This emergency classification includes those situations for which it is prudent to notify Station personnel, State, County, and Federal officials to allow the cognizant organizations to take predetermined protective actions, such as shelter or evacuation of the public, in order to minimize the potential for radiological exposure of the public. For these situations, it is prudent to provide early warning to the population within the ten (10) mile Emergency Planning Zone to allow the public to take any necessary protective actions.

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TABLE D-1

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INITIATING CONDITIONS FOR EMERGENCY CLASSIFICATION

NOTE

The following initiating conditions describe entry into the four emergency classifications for each category. Refer to Emergency Plan Implementing Procedure 0ERP01-ZV-IN01, Emergency Classification for the initiating conditions, plant parameter values and Emergency Action Levels.

CATEGORIES	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
FISSION PRODUCT BARRIERS		Any Loss or any Potential Loss of either the Fuel Clad Or RCS barrier.	Loss or Potential Loss of any Two barriers.	Loss of Any Two Barriers and Loss or Potential Loss of the Third Barrier
SYSTEM MALFUNCTIONS	Loss of ALL offsite AC power capability to emergency buses for 15 minutes or longer.	Loss of ALL but one AC power source to emergency buses for 15 minutes or longer	Loss of ALL offsite and ALL onsite AC power to emergency buses for 15 minutes or longer	Prolonged loss of ALL offsite and ALL onsite AC power to emergency buses
	UNPLANNED loss of Control Room indication for 15 minutes or longer	UNPLANNED loss of Control Room indication for 15 minutes or longer with a significant transient in progress		
	Reactor coolant activity greater than Technical Specification allowable limit			
	RCS leakage for 15 minutes or longer			
	Automatic or manual trip fails to shutdown the reactor	Automatic or manual trip fails to shutdown the reactor, and subsequent manual actions taken at the reactor control panels are not successful in shutting down the reactor	Inability to shutdown the reactor causing a challenge to core cooling or RCS heat removal	
	Loss of ALL onsite or offsite communications capabilities			
	Failure to isolate containment or loss of containment pressure control			

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INITIATING CONDITIONS FOR EMERGENCY CLASSIFICATION

CATEGORIES	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
SYSTEM MALFUNCTIONS			Loss of ALL Vital DC power for 15 minutes or longer	Loss of ALL AC and Vital DC power sources for 15 minutes or longer
		Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode		
HAZARDS	Confirmed SECURITY CONDITION or threat	HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes	HOSTILE ACTION within the PROTECTED AREA	HOSTILE ACTION resulting in loss of physical control of the FACILITY
	Seismic event greater than OBE levels			
	Hazardous event			
	FIRE potentially degrading the level of safety of the plant			
		Gaseous release impeding access to equipment necessary for normal plant operations, cooldown or shutdown		
		Control Room evacuation resulting in transfer of plant control to alternate locations	Inability to control a key safety function from outside the Control Room	
	Other conditions exist which in the judgment of the Emergency Director warrant declaration of a UE	Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT	Other conditions exist which in the judgment of the Emergency Director warrant declaration of a SITE AREA EMERGENCY	Other conditions exist which in the judgment of the Emergency Director warrant declaration of a GENERAL EMERGENCY

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INITIATING CONDITIONS FOR EMERGENCY CLASSIFICATION

CATEGORIES	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
ABNORMAL RADIATION LEVELS / RADIOLOGICAL EFFLUENTS	Release of gaseous or liquid radioactivity greater than 2 times the ODCM limits for 60 minutes or longer	Release of gaseous radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem THYROID CDE	Release of gaseous radioactivity resulting in offsite dose greater than 100 mrem TEDE or 500 mrem THYROID CDE	Release of gaseous radioactivity resulting in offsite dose greater than 1,000 mrem TEDE or 5,000 mrem THYROID CDE
	UNPLANNED loss of water level above irradiated fuel	Significant lowering of water level above, or damage to, irradiated fuel	Spent fuel pool level at 40' - 4 inches or lower	Spent fuel pool level cannot be restored to at least 40' - 4 inches for 60 minutes or longer
		Radiation levels that impede access to equipment necessary for normal plant operations, cooldown or shutdown		
INDEPENDENT SPENT FUEL STORAGE INSTALLATION	Damage to a loaded cask CONFINEMENT BOUNDARY			
COLD SHUTDOWN / REFUELING SYSTEM MALFUNCTIONS	UNPLANNED Loss of RCS inventory for 15 minutes or longer	Loss of RCS inventory	Loss of RCS inventory affecting core decay heat removal capability	Loss of RCS inventory affecting fuel clad integrity with containment challenged
	Loss of ALL but one AC power source to emergency buses for 15 minutes or longer	Loss of ALL offsite and ALL onsite AC power to emergency buses for 15 minutes or longer		
	UNPLANNED rise in RCS temperature	Inability to maintain the plant in cold shutdown		
	Loss of Vital DC power for 15 minutes or longer			
	Loss of ALL onsite or offsite communications capabilities			
		Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode		

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E NOTIFICATION METHODS AND PROCEDURES

This section of the Plan describes the methods and procedures that are established for notification by the Station, to Federal, State and County response organizations and for activation of the Station Emergency Response Organization.

E.1 Offsite Agency Notifications

The content of initial and follow-up messages to offsite response organizations is coordinated with State and County by Station Representatives. The forms for messages sent from the Station to offsite agencies are contained in the Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, the State of Texas Emergency Management Plan, and the Matagorda County Emergency Management Plan. More information on notification procedures is provided in Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies. Plant Operations Procedure 0POP04-ZO-0004, Personnel Emergencies defines the communication links with offsite medical facilities.

E.2 Communication Links and Notifications

The Station has established communication links among the Station emergency response facilities and the Federal, State, and County emergency response organizations. The notification of response organizations is based on the response criteria developed for each emergency classification as discussed in Section D. The process for contacting Station Emergency Response Organization personnel for each emergency classification is provided in Emergency Response Procedure 0ERP01-ZV-IN03, Emergency Response Organization Notification. Addendum E-1 shows the various communication links and the redundant communication equipment available to assure that communication channels are maintained. Emergency Response Facility telephone numbers are maintained in the Emergency Communications Directory. A description of the communications equipment is provided in Addendum E-1.

Initial notification is made simultaneously to the State and County via the Department of Public Safety Disaster District Office in Pierce, Texas and the Matagorda County Sheriff's Office within fifteen minutes of the declaration of the emergency classification by the Emergency Director. This notification is made via dedicated automatic ringdown lines that connect to the Matagorda County Sheriff's Office and Department of Public Safety in Pierce, Texas. The Nuclear Regulatory Commission is notified as soon as possible following notification of State and County agencies of the declared event, not to exceed

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one hour. The licensee shall activate the Emergency Response Data System for any condition that requires the declaration of an Alert, Site Area Emergency, or General Emergency at the time the NRC Operations Center is notified of the emergency classification.

If a declared event is based on a fire, security, or radiological initiating condition, then appropriate Station emergency responders, and appropriate local support services will be notified. Local support services include those organizations listed in Section B of this Plan. These local services will activate other services in their individual areas if additional support is required.

E.2.1 Unusual Event

For an Unusual Event, emergency classification, the Shift Manager serving as Emergency Director, will initiate notifications in accordance with Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, and 0ERP01-ZV-IN03, Emergency Response Organization Notification. These procedures are prepared to meet the requirements of Code of Federal Regulations, Title 10, Part 20.2202 or 50.72.

E.2.2 Alert

For an Alert emergency classification, the Emergency Director will initiate notifications in accordance with Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, and augment the onshift duty complement using 0ERP01-ZV-IN03, Emergency Response Organization Notification. The Station Emergency Response Organization will be notified and requested to report to their respective Emergency Response Facilities. The Operations Support Center and the Technical Support Center will be activated. The Emergency Operations Facility and Joint Information Center are staffed as a precautionary action, and may be activated at the discretion of the Emergency Director. Dose projection capability is provided in the Emergency Operations Facility at an Alert. Personnel in the Emergency Operations Facility act in a support role to the Technical Support Center. The purpose of this emergency classification is to provide early and prompt notification of minor events which could lead to more serious consequences given operator error or equipment failure, or which may be indicative of more serious conditions that are not yet fully realized.

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E.2.3 Site Area Emergency

For a Site Area Emergency classification, the Emergency Director will initiate notifications in accordance with Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, and augment the activated ERO staff utilizing 0ERP01-ZV-IN03, Emergency Response Organization Notification. Members of the Station Emergency Response Organization are notified and requested to report to their respective emergency response facilities. The emergency classification reflects conditions where full mobilization of emergency personnel is indicated, as well as, the dispatch of Offsite Field Teams with associated communications.

The Department of State Health Services, shall establish communications with the Matagorda County Emergency Management Organization, the Texas Department of Public Safety, the Texas Division of Emergency Management, and the Station.

The Department of State Health Services, may activate its Radiological Response Organization and dispatch Radiological Response Teams to the site environs to perform radiological monitoring and environmental impact assessment. The Emergency Management Council is activated upon notification of the declared event by the Station. The Department of State Health Services may dispatch a mobile environmental analysis and sampling vehicle to the Staging Area at the Bay City Civic Center to assist the Radiological Response Teams.

E.2.4 General Emergency

For a General Emergency classification, the Emergency Director will initiate notifications in accordance with Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, and notify Emergency Response Organization personnel utilizing 0ERP01-ZV-IN03, Emergency Response Organization Notification. The entire Station Emergency Response Organization is notified and directed to report to their respective emergency response facilities. The emergency classification reflects conditions requiring immediate implementation of appropriate predetermined protective actions.

The Department of State Health Services, shall establish communications with the Matagorda County Emergency Management Organization, the Texas Department of Public Safety, the Texas Division of Emergency Management, and the Station.

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The Department of State Health Services, may activate its Radiological Response Organization and dispatch Radiological Response Teams to the site environs to perform radiological monitoring and environmental impact assessment. The Department of Public Safety may provide escort for the Department of State Health Services, Radiological Response Team personnel. The Emergency Management Council is activated upon notification of the declared event by the Station. The Department of State Health Services will dispatch a mobile environmental analysis and sampling vehicle to the Staging Area at the Bay City Civic Center to assist the Radiological Response Teams.

E.3 Notification of the General Public

The general public (resident and transient population) will be notified of an Unusual Event through press releases, radio broadcasts, and other news media. The general public will be notified of Alert or higher declarations through news advisories and/or Emergency Alert System messages prepared by Matagorda County Emergency Management officials. During emergencies that may require the implementation of protective actions, the general public will be alerted by the Prompt Notification System, which consists of alert radios, warning sirens, and news advisories and/or Emergency Alert System messages. This system is designed to enable the County authorities to notify essentially all of the population within the Emergency Planning Zone within about fifteen minutes.

Sirens are utilized to alert the more densely populated areas identified on Figure E-1. This system was designed considering the Federal Emergency Management Agency's Outdoor Warning System Guide (CPG-17), Federal Emergency Management Agency - Report-10, and the Nuclear Regulatory Commission's guidance presented in NUREG-0654/Federal Emergency Management Agency Report-1. All sirens have a single tone, two signal capability with a required signal duration of at least three minutes. The siren system is activated from the Matagorda County Sheriff's Office, or from the Station Emergency Operations Facility; individual sirens can be activated singularly at the individual siren location. The Station is responsible for the maintenance and routine testing of the siren system in accordance with NUREG 0654/Federal Emergency Management Agency Report-1 and the siren manufacturer's technical manual.

Deficiencies that are identified in the routine testing of the siren subsystem shall be corrected in an expedient manner not to exceed four months [10CFR50.54(s)(2)]. During this period of time, alternate notification methods shall be provided for residents within the siren's coverage, if the deficiency renders a siren out-of-service. This service is described in Matagorda County Emergency Management Plan Procedures.

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The warning sirens and alert radios are activated by radio signal. The primary activation point is the Matagorda County Sheriff's Office. The sirens are activated by radio directly from the Sheriff's Office. The alert radios are activated by an Emergency Alert System signal from the National Weather Service based on direction from Matagorda County Emergency Management officials. This service to the general public is provided 24 hours per day to accommodate day or night activation's. The secondary control point for the siren system is the Station Emergency Operations Facility. The siren system will be activated at the secondary control point only as directed by the Matagorda County Emergency Management officials and as approved by the Emergency Director.

Reasonable efforts shall be made to provide alert radios to residences within the ten mile emergency planning zone that are outside the effective coverage area of the siren system, as well as to major businesses, recreational areas and schools within the ten mile emergency planning zone. The alert radios are tested on a regular basis with activation of the test signal for the Emergency Alert System. Radios have a battery backup provision in the event of power failure. Instructions for use accompany the radio package. Maintenance and documentation is the responsibility of the Station.

The public receives instructions periodically that they are to tune to their NOAA Weather Service Radio or other local Public Radio Station, for emergency instructions whenever the sirens or alert radios are activated. The Emergency Alert Messages originate from Matagorda County officials.

E.4 Matagorda County Instructions to the Public

Matagorda County Emergency Management officials may use preformatted messages which give instructions to the public regarding specific protective actions to be taken by occupants of affected areas, if protective actions become necessary. Typical text for the messages are provided in the Matagorda County Emergency Management Plan Procedures. The Station has established notification methods and will provide information to Matagorda County that will allow officials of Matagorda County to make decisions on the appropriate public warning messages to be broadcast via the Emergency Alert System.

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS

1.0 FUNCTION

The communications systems are designed to provide rapid and efficient communications required for operation and administration of the plant under all operating and emergency conditions. The diverse subsystems provided assure that adequate onsite and offsite communications are available to support orderly plant operation, shutdown, firefighting, and evacuation. In addition, attention is given to maintaining contact with the Matagorda County Sheriff's Office, the Department of Public Safety Disaster District in Pierce, Texas, and the Nuclear Regulatory Commission.

2.0 DESIGN BASES

The communications systems are not safety related and have no safety design bases. Failure of these systems shall not compromise any safety-related system nor require a plant shutdown.

The communications systems are designed to provide effective onsite and offsite communications. It allows operation and administration of the plant during all modes of operation.

3.0 DESCRIPTION

3.1 The following typical subsystems are provided:

- Telephone System
- Public Address (paging/alarm system)
- Maintenance Jack System
- Two-way Radio System
- Wireless Communications Devices (Pagers or Cell Phones)
- Communications Console
- Satellite Telephone
- Emergency Notification & Response System (ENRS)

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS

3.1.1 Onsite Communications Systems

3.1.1.1 Telephone System

The telecommunications system provides dial access to Verizon Communications in the Palacios central office, and microwave circuits to Bay City and Houston. The system has an independent, automatic starting and switching, backup power source. Additionally, dial access to the plant voice paging system, the radio paging system (beeper) and telecopiers is provided.

3.1.1.2 Public Address (Paging/Alarm System)

The voice paging and alarm system is provided to transmit routine messages, and emergency signals, such as fire, plant evacuation, and radiation emergency alarms. Flashing lights are provided in high noise areas inside plant buildings.

3.1.1.3 Maintenance Jack System

Telephone jack stations are provided throughout the plant for operating convenience during repair, operation, and maintenance of equipment required for safe shutdown.

3.1.1.4 Two-Way Radio System Radio repeater base stations provide communication between control base stations, mobile units and hand-held portable radios within the plant area. Self-contained batteries power hand-held portables.

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS

3.1.1.5 Wireless Communications Devices

Wireless Communication Devices can be activated from onsite or offsite using a touch tone telephone.

3.1.1.6 Communications Consoles

The communications consoles provide plant operators with access to the telephone system, two-way radio channels, radio paging systems, and the public address systems. Plant emergency and fire alarm signals are activated from designated communications consoles.

3.1.1.7 Emergency Notification & Response System (ENRS)

ENRS consists of an Off-site Primary and Backup computer system used for notifying ERO members during a declared emergency. The offsite systems are capable of autodialing ERO members in addition to text and paging. An On-site ENRS computer system is available for activation of all ERO wireless communications devices should both offsite systems fail.

3.1.2 Offsite Communication Systems

Access to the nationwide dial telephone network is through the local telephone exchange at Palacios, Texas. The exchange is owned and operated by Verizon Communications. The Center Point Energy microwave system also provides communication circuits into Houston. Offsite communication with the commercial telephone network is established via these circuits and can be accessed from both Control Rooms, both Technical Support Centers, and the Emergency Operations Facility.

- Dedicated automatic ringdown lines allow immediate and direct contact with the Matagorda County Sheriff's Office and the Texas Department of Public Safety, Disaster District Sub 2C in Pierce.

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS

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- The Federal Telephone System (FTS) 2001 is a dedicated telephone system for establishing contact with the Nuclear Regulatory Commission Operations Center in Rockville, Maryland. This telephone circuit is also known as the Emergency Notification System.
- The Health Physics Network, another Federal Telephone System (FTS) 2001 dedicated telephone system, is designed to provide communications with the NRC Health Physics Section and/or other nuclear power plants during a declared emergency or drill/exercise.
- Special telephone service circuits allow immediate and direct contact with the STP Coordinator.
- A satellite telephone is maintained in the Control Rooms. This telephone can be operated on Alternating Current or Direct Current power and provides worldwide access via satellite in case of a total loss of all telephone capability to the Station and/or surrounding area.

3.2 OPERATION

The communications systems are designed to allow contact among plant personnel, and plant-to-offsite communications during normal and emergency conditions.

Station procedure 0PGP05-ZV-0011, Emergency Communications, provides guidance regarding the operation of the Emergency Communication systems when responding to an emergency or drill/exercise. Station procedures 0PGP05-ZV-0002, Emergency Response Activities Schedule, and 0PGP07-ZA-0011, Communication Systems, provide details on the maintenance and testing requirements for the communication systems.

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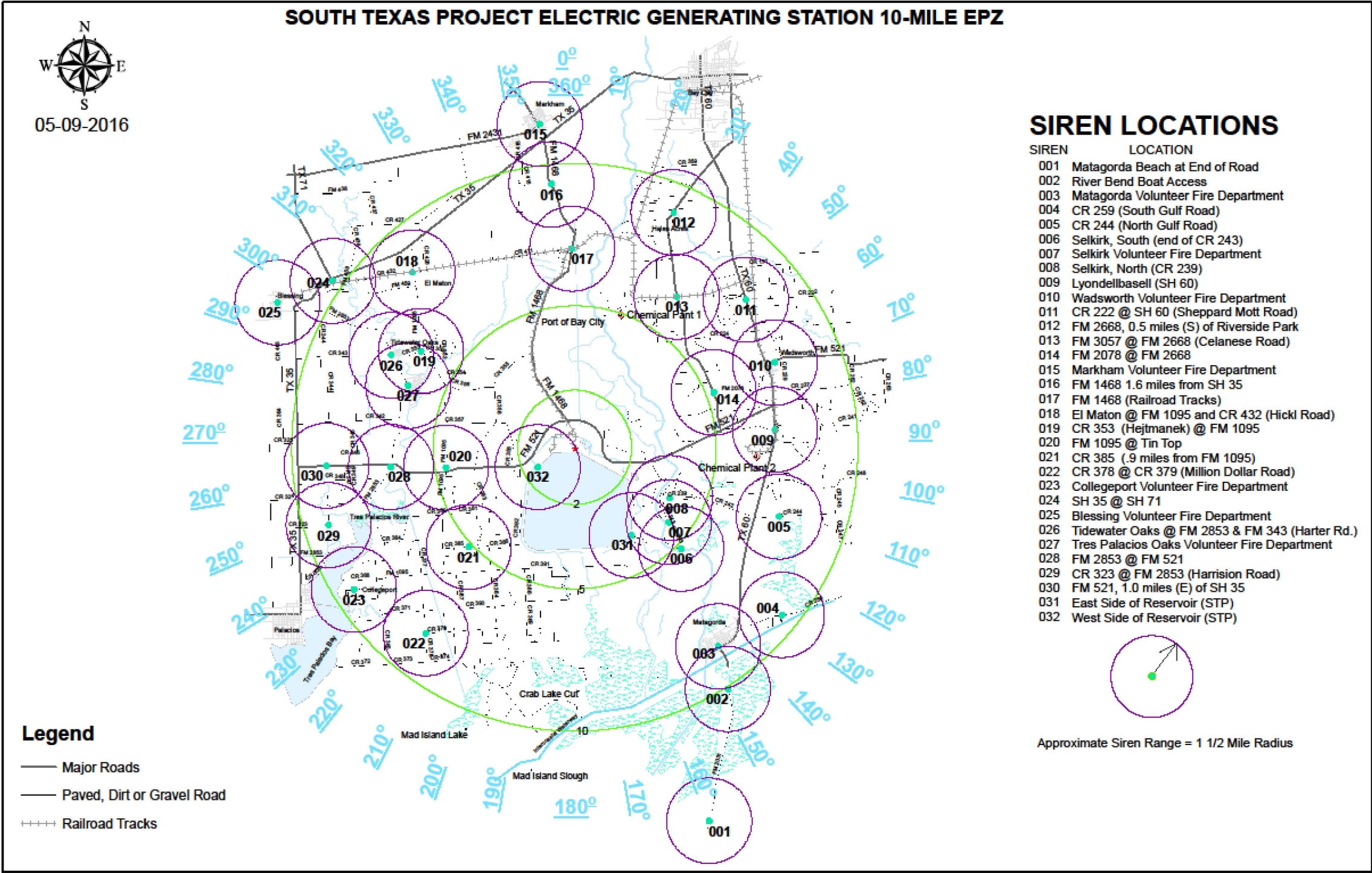
EMERGENCY RESPONSE FACILITIES COMMUNICATIONS

3.3 SYSTEMS INTERFACE

The telephone system provides interface between incoming telephone lines, the microwave system, plant voice paging system, radio-paging system, communications consoles and other associated equipment. The communications consoles interface with the telephone system, the radio system, and the plant voice paging system. Radio and telephone equipment used in the Technical Support Centers are powered from separate non-Class 1E diesel generator-backed busses. Radio and telephone equipment used in Emergency Operations Facility are backed by a generator in the event of loss of normal electrical power. Refer to Figure E-2, Typical Emergency Response Facilities Communications Pathway.

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FIGURE E-1
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SIREN LOCATIONS



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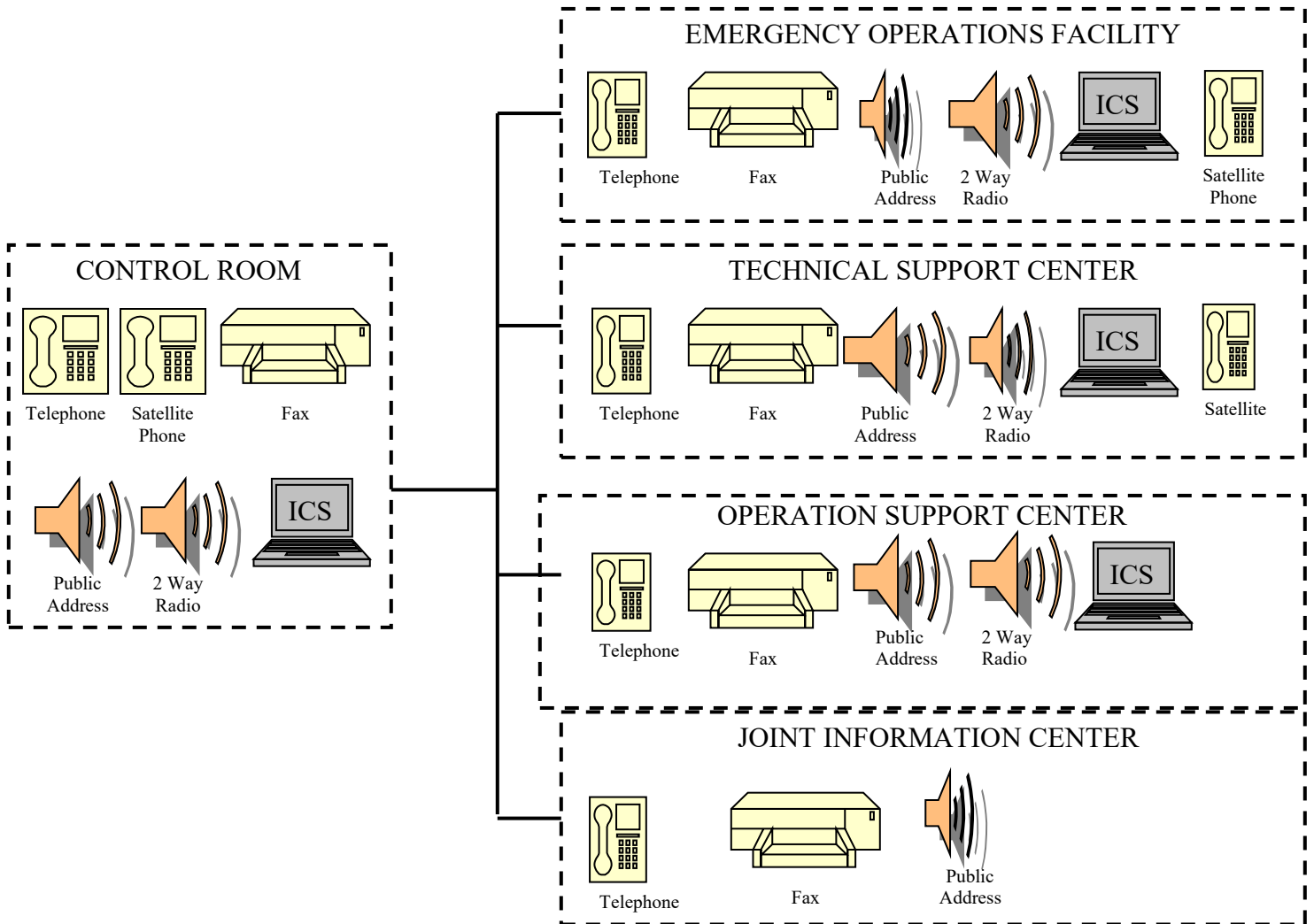
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FIGURE E-2

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TYPICAL EMERGENCY RESPONSE FACILITIES COMMUNICATIONS PATHWAY



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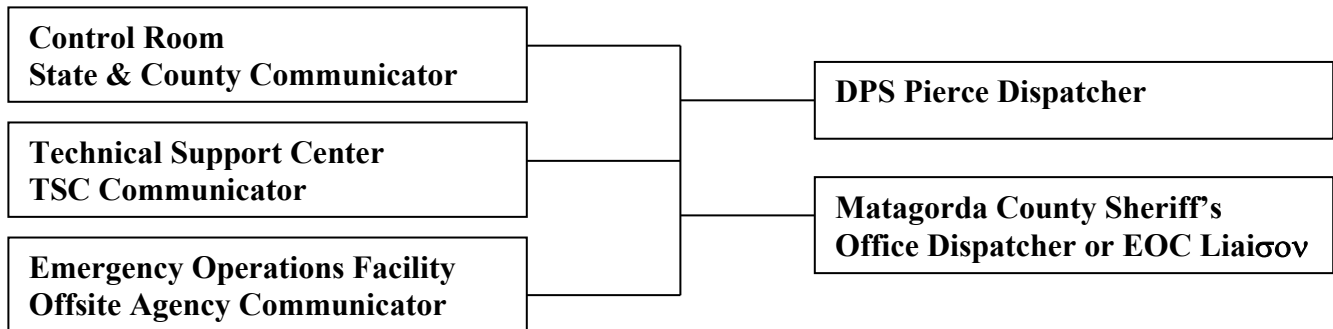
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FIGURE E-3

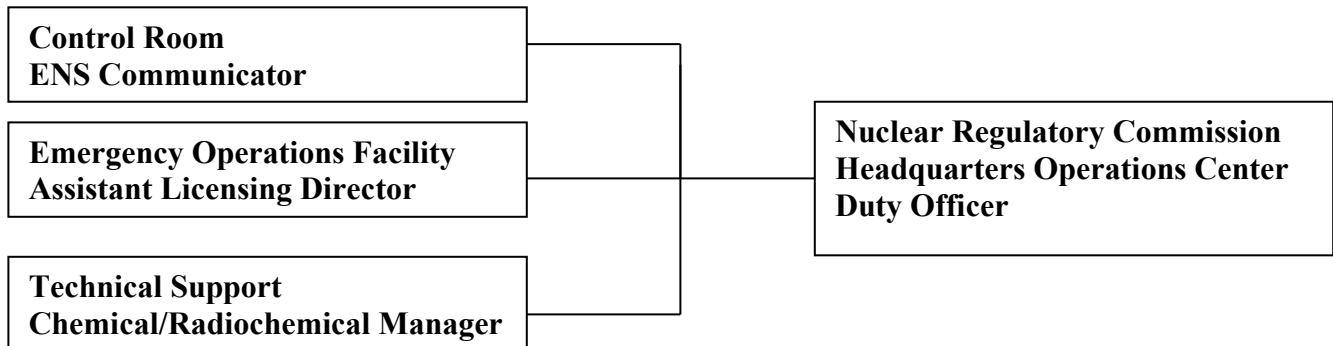
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EMERGENCY COMMUNICATIONS LINKS

State and County Communications



NRC Communications



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F EMERGENCY ACTIONS AND MEASURES

This section of the Plan describes the actions to be taken and the organization required to mitigate the emergency commensurate with each classification.

The planning, training, and communications for Station and offsite personnel, including the general public, are established for each classification of emergency. The personnel, the organizations, and the expertise required to manage each classification of emergency are different. The resources established for the most severe classification are available for the other three classified events. Personnel required for the composition of the Emergency Response Organization will come primarily from Station personnel who are specifically trained for the positions that they are to fill. The persons requested to staff the Emergency Response Facilities will normally assume emergency responsibilities that are directly related to their normal Station duties. Assignment to the Emergency Response Organization is described in Station Procedure OPGP05-ZV-0003, Emergency Response Organization. The relief and turnover of Emergency Response Organization position responsibilities will be accomplished in accordance with Emergency Response Procedures. Relief staff will possess the required qualifications and training, or will be appointed/assigned by the Emergency Director. The Shift Manager will maintain the position of Emergency Director until relieved by the Technical Support Center Manager or Emergency Operations Facility Director. Responding Emergency Response Organization personnel will assume positions from the onshift emergency workers after turnover briefings. A description of the Station Emergency Response Organization is contained in Section C of this Plan.

F.1 Initiating Actions

In an emergency, immediate response actions are directed toward mitigating the consequences of the event in a manner that will afford protection to Station personnel and the general public. Once corrective actions have restored the Station to a safe, stable condition, recovery actions may be initiated. Recovery actions are fully discussed in Section L of this Plan. The Station is responsible for performing recovery measures to restore the Station to normal operating conditions.

In the beginning minutes of a declared emergency, many actions are initiated. The Plant Operations staff begins immediate steps to restore the Station to a stable condition in accordance with approved Station Emergency Operating Procedures. Offsite protective action recommendations are issued at a General Emergency Declaration. Radiological surveys are started as needed. The Onshift Emergency Response Organization assumes the Station emergency positions as required.

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F.2 Offsite Agency Notifications

Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, describes the initial and follow-up messages to the State and County authorities, Nuclear Regulatory Commission, and others of the classification, escalation, de-escalation or termination of the declared Station emergency. In accordance with this emergency response procedure, the following information is provided to State and local governments. This information includes but is not limited to:

- Station status,
- release and dose projections,
- meteorological conditions,
- results of Offsite Field Team monitoring, and
- protective action recommendations.

F.3 Assembly and Accountability

The assembly and accountability of Protected Area personnel will be accomplished in accordance with Emergency Response Procedure 0ERP01-ZV-IN04, Assembly and Accountability. Personnel in the Protected Area will be monitored for contamination. The Emergency Director initiates the Assembly and Accountability process by directing the sounding of the Assembly Alarm and providing assembly instructions over the plant public address system. Personnel shall assemble in predetermined assembly areas identified in 0ERP01-ZV-IN04, Assembly and Accountability.

Personnel assembling in the Protected Area of the Station are accounted for by the security computer system. Backup methods are provided in the event the security computer fails. The Emergency Response Procedure 0ERP01-ZV-IN04, Assembly and Accountability, is designed to achieve this emergency action within 30 minutes. A list of missing personnel compiled by the Security Force Supervisor will be provided to the Security Manager for dissemination to the Emergency Director. A Search and Rescue team will be dispatched to locate and, if necessary, rescue missing Station personnel.

Evacuated personnel will be monitored at an offsite Reception Center, if required by radiological conditions.

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F.4 Access Control to Site Areas

Access control to site areas is the overall responsibility of the Security Manager. During an Alert, Site Area Emergency, or General Emergency, individuals entering or leaving the site will be directed to a security gatehouse or other designated staging area.

F.5 Site Evacuation

Site evacuation may be implemented at any time under the authority of the Emergency Director and shall be implemented after accountability for a Site Area Emergency or General Emergency. The Emergency Director orders the evacuation of Station personnel after careful consideration of the benefits and risks involved. The detailed responsibilities and functions of the Station personnel during an evacuation are contained in Emergency Response Procedure 0ERP01-ZV-IN05, Site Evacuation.

When site evacuation is ordered and contamination monitoring cannot be performed onsite due to a radiological release, personnel from the affected area(s) will report to designated Offsite Reception Center(s), activated by the Matagorda County Emergency Management Director, for radiological monitoring and decontamination, if required.

A site evacuation is considered when the conditions that require an area evacuation are not confined to a Station building or when general area radiation levels outside the Radiologically Controlled Area exceed Emergency Plan limits as stated in Section J of this Plan. In addition, a site evacuation could be initiated following an area evacuation if a hazard continues to increase in severity or spreads to other areas, or the Emergency Director deems it necessary that nonessential personnel be evacuated from the Station. Emergency Response Procedure 0ERP01-ZV-IN05, Site Evacuation takes into consideration evacuation routes and alternatives for inclement weather and radiological conditions. A site evacuation may be delayed by the Emergency Director if any of the following conditions exist:

- Severe weather conditions which would threaten safe transport;
- A significant radiological hazard which would be encountered;
- A security threat occurring which would have an adverse impact on personnel leaving the site;

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- A condition similar to these in magnitude which, in the opinion of the Emergency Director would adversely affect site personnel.

F.6 Onsite Shelter

Shelter may be implemented under the authority of the Emergency Director at any time. All hazards are monitored by the Emergency Response Organization (ERO) and appropriate protective actions given to emergency workers. The Emergency Director orders onsite shelter of station nonessential personnel after careful consideration of the benefits and risks involved. The responsibilities and functions of the station nonessential personnel during onsite shelter are contained in Emergency Response Procedure 0ERP01-ZV-IN05, Site Evacuation.

F.7 Medical Assistance

Medical assistance for offsite treatment of radiologically contaminated personnel is described in Station Procedure 0PGP03-ZA-0106, Emergency Medical Response Plan and 0POP04-ZO-0004, Personnel Emergencies, and in Section J of this Plan.

F.8 Emergency Classification Actions

The following subsections describe the emergency actions to be taken during any of the four declared emergency classifications. The resources described are what is normally expected to be used for a particular classification, but are available to any emergency classification.

F.8.1 Unusual Event

Typical actions for an Unusual Event emergency classification are as follows:

- Improve station conditions;
- Alert the onshift personnel;
- Notify the State, County and Nuclear Regulatory Commission agencies;
- Terminate or mitigate the consequences of the event.

The Control Room is the primary control center for emergency response, notifications, Station control, and monitoring of process parameters for this class of

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emergency. A functional diagram of communication links for an Unusual Event is depicted in Figure F-1.

Actions for an Unusual Event are normally handled by the onshift Emergency Response Organization personnel complement and usually require no outside assistance. Additional Emergency Response Organization personnel are available through Emergency Response Procedure 0ERP01-ZV-IN03, Emergency Response Organization Notification.

State and County authorities will not be required to take any action unless requested by their respective Emergency Directors or the Station Emergency Director.

Information concerning the Unusual Event will be provided to Public Affairs for dissemination to the general public. The Unusual Event emergency classification will be maintained until an escalation or termination occurs.

There are normally no Recovery actions for an Unusual Event emergency classification. Termination will usually be declared for an Unusual Event emergency classification.

F.8.2 Alert

Typical actions for Alert classification are as follows:

- Alert the onshift personnel of the emergency classification;
- Terminate or mitigate the consequences of the event;
- Augment the onshift complement by activating the Technical Support Center and Operations Support Center Emergency Response Facilities;
- The Emergency Operations Facility will be fully staffed and may be activated at the discretion of the Emergency Director or Facility Director;
- Provide dose estimates and projections and meteorological assessments to State and County authorities if radioactive material is being released or may be released;
- Provide Station status to State and County authorities;

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- Make specified immediate and follow-up notifications to State and County authorities and the Nuclear Regulatory Commission; and,
- Staff the Joint Information Center

The initial recognition of an emergency condition, the classification of the emergency, and the immediate and follow-up actions by the Onshift Emergency Response Organization are performed in accordance with Emergency Response Procedures. The Control Room is the primary control center for accident mitigation supplemented by the Technical Support Center for emergency management and monitoring of process parameters. Notifications, Station status updates, meteorological assessments, dose estimates and projections, and offsite protective action recommendations are normally provided offsite from the Technical Support Center or the Emergency Operations Facility. A functional diagram of communication links for an Alert is depicted in Figure F-2. The Technical Support Center is used to monitor selected Station parameters for assessment of Station conditions. The Technical Support Center also functions to provide the Control Room Shift Manager prompt relief as the Emergency Director so that he can place his primary focus on returning the plant to a stable condition. The Operations Support Center is used as a staging area for Emergency Response Teams and backup personnel. The Technical Support Center will be organized and coordinated by the Technical Support Center Manager and the Operations Support Center will be organized and coordinated by the Operations Support Center Coordinator. The Operations Support Center's priorities are established by the Technical Support Center Manager. The Maintenance Manager functions as the Technical Support Center interface for all repairs requested of the Operations Support Center. Further staffing will be dependent on the duration of the emergency. Emergency Response Organization personnel other than the onshift complement are available to staff the Technical Support Center, Operations Support Center and the Emergency Operations Facility. The Technical Support Center Manager is the Station authority for emergency management and has Emergency Director responsibility and authority. Data links between the Technical Support Center, Operations Support Center, Control Room, and the Emergency Operations Facility will provide process data, radiological data, Emergency Response Team status, and Station status to the Technical Support Center. An exception to the above facility staffing occurs when an Alert is declared during a hurricane. In this case, the Emergency Operations Facility personnel can be dismissed at the discretion of the Technical Support Center Manager.

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Onsite radiological exposure control is described in Emergency Response Procedure 0ERP01-ZV-IN06, Radiological Exposure Guidelines, and Section J of this Plan.

The Alert will be maintained until escalated, downgraded or terminated by the Emergency Director.

Offsite dose calculations will be performed in accordance with Emergency Response Procedure 0ERP01-ZV-TP01, Offsite Dose Calculations if radioactive releases occur. Offsite protective action recommendations are not required at an Alert.

F.8.3 Site Area Emergency

Typical actions for the Site Area Emergency classification are as follows:

- Alert the onshift personnel of the emergency classification;
- Terminate or mitigate the consequences of the event;
- Augment the onshift complement by activating all Emergency Response Facilities;
- Provide dose estimates and projections and meteorological assessments to State and County authorities if radioactive material is being released or may be released;
- Provide Station status to State and County authorities;
- Evacuate the site as required;
- Conduct assembly and accountability of Protected Area;
- Make specified immediate and follow up notifications to State and County authorities and the Nuclear Regulatory Commission; and,
- Monitor the environs of the Station to determine doses.

The initial recognition of an emergency condition, the classification of a Site Area Emergency, and the immediate and follow up actions by the onshift Emergency Response Organization are performed in accordance with Emergency Response

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Procedures. The Technical Support Center is the primary control center for direction of the Emergency with technical expertise, Station control, and monitoring of process parameters. At the Site Area Emergency, activation of the Emergency Operations Facility and the Joint Information Center occurs. A functional diagram of communication links for a Site Area Emergency is depicted in Figure F-2. Further staffing will be dependent on the duration of the emergency.

Personnel from the Station Emergency Response Organization are available to staff the Technical Support Center, the Operations Support Center, and the Emergency Operations Facility. Upon assumption of command and control, the Emergency Operations Facility Director is the Station authority for emergency management and has Emergency Director responsibility and authority. Data links between the Emergency Operations Facility, Technical Support Center, Operations Support Center, and the Control Room will provide process data, radiological data, emergency response team status, and Station status to the Emergency Operations Facility. An exception to the above facility staffing occurs when a Site Area Emergency is declared during a hurricane. In this case, the Emergency Operations Facility and Joint Information Center activation can be delayed at the discretion of the Technical Support Center Manager.

A Site Area Emergency requires close coordination of activities between the State and County authorities and the Station Emergency Director. Protection of the site personnel will be directed toward assessing the doses and plant conditions and implementing appropriate protective actions. Personnel at the Station are the responsibility of the Emergency Director. State and County authorities will activate emergency centers and place key personnel on emergency position status.

No offsite protective action recommendations are expected for a Site Area Emergency.

The Emergency Operations Facility Director will provide management level interface with the Nuclear Regulatory Commission and the State and County authorities. Provisions are made in the Emergency Operations Facility to accommodate various State, County, and Federal personnel. To ensure the consistency of actions and information, the Emergency Operations Facility Director (when functioning as the Emergency Director) shall remain the single source for managing the onsite emergency.

The Joint Information Center will be used for briefing the news media. Media relations are described in Section K of this Plan.

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The Site Area Emergency will be maintained until escalation, downgrading, recovery or termination occurs.

A Recovery organization will be established commensurate with the cleanup effort required. Recovery actions for a Site Area Emergency are described in Section L of this Plan.

Management of the Site Area Emergency may continue for several hours and relief of personnel may be required. Due to the possible length of time required to recover or terminate this emergency classification, food, lodging and transportation may be required for emergency personnel. The logistics to support the Site Area Emergency are depicted in Emergency Response Procedures, i.e., 0ERP01-ZV-EF09, Procurement/Resources Supervisor, 0ERP01-ZV-EF28, Assistant Support Organization Director, and 0ERP01-ZV-TS09, Administrative Manager.

F.8.4 General Emergency

Typical actions for the General Emergency classification are as follows:

- Alert the onshift personnel of the emergency classification;
- Terminate or mitigate the consequences of the event;
- Augment the onshift complement by activating all Emergency Response Facilities;
- Provide dose estimates and projections and meteorological assessments to State and County authorities if radioactive material is being released or may be released;
- Provide Station status to State and County authorities;
- Evacuate the site as required;
- Make specified immediate and follow up notifications to State and County authorities and the Nuclear Regulatory Commission;
- Monitor the environs of the Station to determine doses;
- Make those necessary protective action recommendations to State and County authorities; and

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- Provide information to the Joint Information Center for press releases.

The initial recognition of a General Emergency condition, the classification of the emergency, and the immediate and follow-up actions by the onshift Emergency Response Organizations are performed in accordance with Emergency Response Procedures. The Emergency Operations Facility is the primary control center for direction of the emergency. Technical expertise is provided from the Technical Support Center for emergency management, Station control, and monitoring of process parameters. Notifications, Station status updates, and meteorological assessments of dose estimates and projections are provided from the Emergency Operations Facility. A functional diagram of communication links for a General Emergency is depicted in Figure F-2. The Operations Support Center is used as a staging area for Emergency Response Teams and backup personnel. The Technical Support Center actions and personnel are organized and coordinated by the Technical Support Center Manager, and the Operations Support Center personnel and actions are coordinated by the Operations Support Center Coordinator. Further staffing will be dependent on the duration of the emergency. Personnel from the Station Emergency Response Organization are available to staff the Emergency Operations Facility, Technical Support Center, Operations Support Center and the Joint Information Center. The Emergency Operations Facility Director is the Station authority for emergency management. Data links between the Emergency Operations Facility, Technical Support Center, Operations Support Center, and the Control Room will provide process data, radiological data, emergency response team status and Station status to the Emergency Operations Facility.

The General Emergency requires close coordination of activities between the State and County authorities and the Station Emergency Director. Protection of site personnel and the public will be directed toward assessing the doses and plant conditions and recommending appropriate protective actions. The alerting, sheltering, and/or evacuation of the public is the responsibility of County authorities. Personnel at the Station are the responsibility of the Emergency Director. State and County authorities will activate emergency centers and place key personnel on emergency position status. The State may provide confirmatory offsite radiation monitoring.

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Section I provides additional details on offsite protective action recommendations. State and County authorities have formulated plans to alert, shelter and/or evacuate persons who may be subject to an exposure in excess of Environmental Protection Agency Protective Action Guidelines.

Onsite radiological exposure control is described in Emergency Response Procedure 0ERP01-ZV-IN06, Radiological Exposure Guidelines, and Section J of this Plan.

The Emergency Operations Facility Director will interface with the Nuclear Regulatory Commission and the State and County authorities. Provisions are made in the Emergency Operations Facility to accommodate various State, County, and Federal personnel. To ensure the consistency of actions and information, the Emergency Operations Facility Director (when functioning as the Emergency Director) shall remain the single source for managing the onsite emergency.

The Joint Information Center will be used for briefing the news media. Media relations are described in Section K of this Plan.

The General Emergency will be maintained until de-escalation, recovery, or termination occurs.

Recovery actions for a General Emergency are described in 0ERP01-ZV-RE01, Recovery Operations and Section L of this Plan.

An estimate of the exposure to the public near the Station because of an emergency condition will be performed in accordance with procedure 0ERP01-ZV-TP01, Offsite Dose Calculations.

Management of the General Emergency may continue for several days and relief of personnel will be required. Due to the possible length of time required to terminate this emergency classification, food, lodging, and transportation may be required for emergency personnel. These items are planned for in the General Emergency as depicted in Section C of this Plan and appropriate Emergency Response Procedures.

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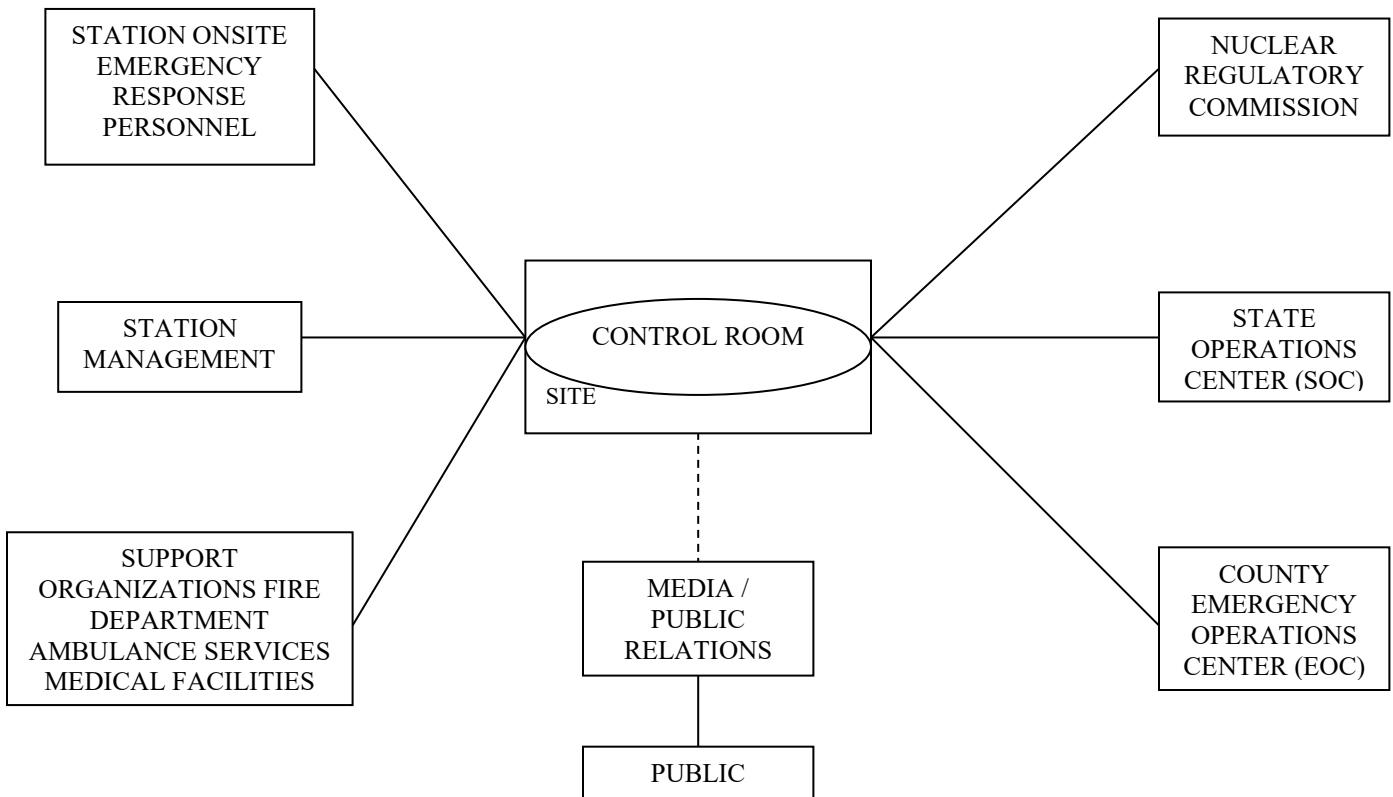
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FIGURE F-1

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS PATHWAY TYPICAL FUNCTIONAL DIAGRAM UNUSUAL EVENT



Legend: — Primary Interface ----- Coordination Interface

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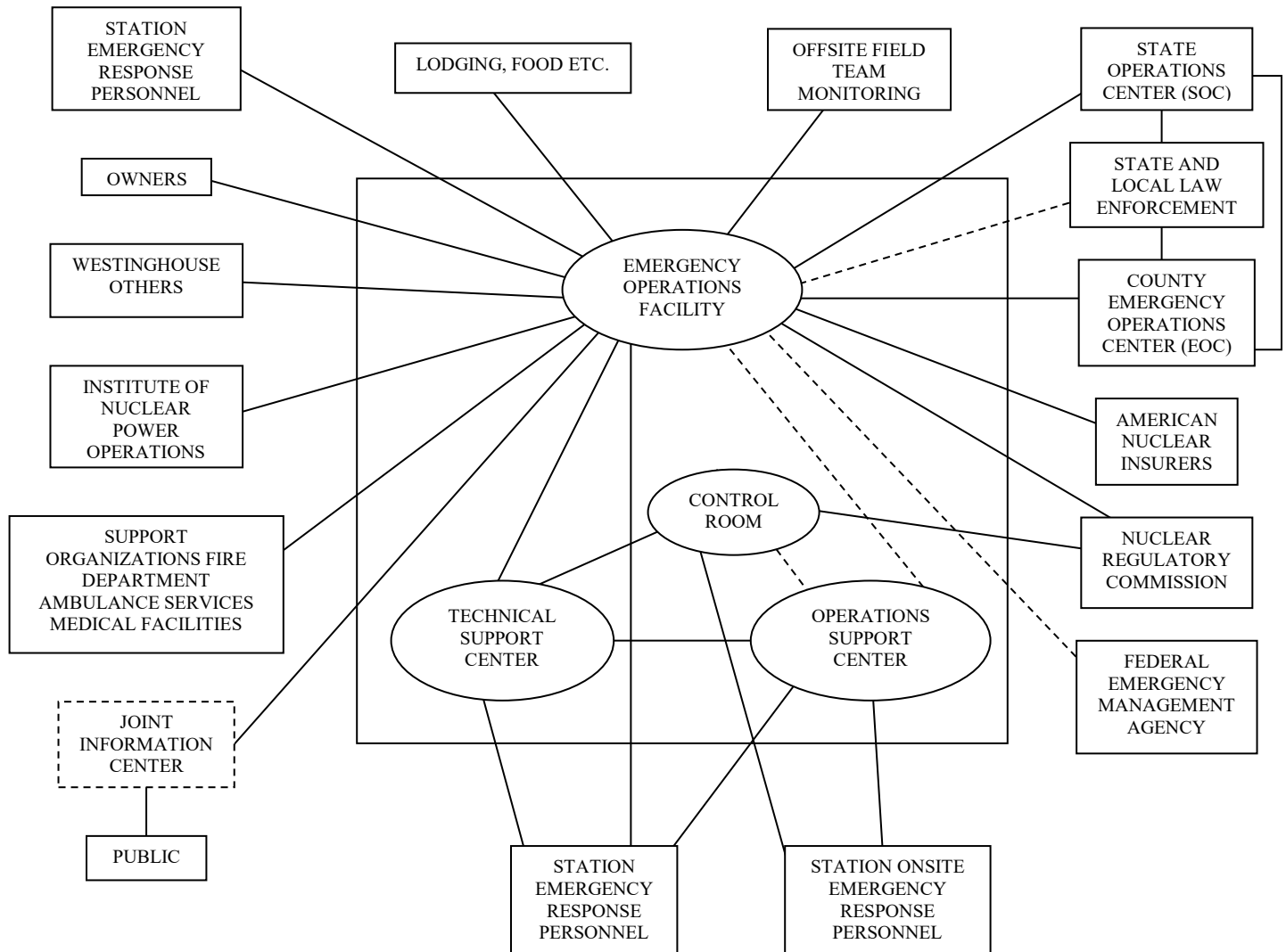
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FIGURE F-2

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EMERGENCY RESPONSE FACILITIES COMMUNICATIONS PATHWAY TYPICAL FUNCTIONAL DIAGRAM ALERT, SITE AREA, AND GENERAL EMERGENCIES



Legend: — Primary Interface ----- Coordination Interface

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G EMERGENCY RESPONSE FACILITIES

This section of the Plan describes the location of equipment and facilities maintained by the Station for use in the event of an emergency at the Station. The design of the Station's Emergency Response Facilities meets the intent of Supplement 1 to NUREG-0737, Clarification of Three Mile Island Action Plan Requirements, and NUREG-0696, Functional Criteria for Emergency Response Facilities. The locations of the Emergency Response Facilities are indicated on Figures G-1 and G-4. A typical listing of emergency supplies and equipment maintained by the Station is given in Table G-1. Plant records necessary to perform the functions of each onsite facility are available in and/or at each onsite facility listed in Table G-2. A detailed list of Control Room equipment and instrumentation is provided in Chapter 7 of the Updated Final Safety Analysis Report. The equipment and facilities comprising the Operations Support Center, Technical Support Center, and Emergency Operations Facility do not perform any safety-related functions. Their design assures that any fault or malfunction does not compromise any safety-related equipment, components or structures.

G.1 Control Room

The Station Operations staff will function from the Control Room for each level of emergency at the Station. The Control Room is radiologically hardened and seismically designed to withstand all credible events that could occur at the Station.

The Control Room is the primary facility at the Station in which Station conditions are monitored and controlled and where corrective actions are initiated to mitigate any abnormal occurrence. In the event the Control Room must be evacuated, a remote Auxiliary Shutdown Panel has been provided for safe shutdown of the Station. Control Room habitability and radiation monitoring capabilities, as well as Auxiliary Shutdown capability, are discussed in detail in the Final Safety Analysis Report.

G.2 Operations Support Center

The Operations Support Center is the onsite emergency response staging area, separate from the Control Room and the Technical Support Center. The Operations Support Center is used for assembling the plant emergency response teams and other Station personnel. A typical layout for each unit's Operations Support Center is provided in Figure G-2. If the Operations Support Center must be evacuated, the personnel from the Operations Support Center will relocate to the Operations Support Center of the unaffected unit. Communications are provided between the Operations Support Center, Technical Support Center, Control Room and the Emergency Operations Facility. Personnel are assigned duties in support of emergency response operations by the Operations Support Center

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Coordinator, located in the Operations Support Center on the 41' elevation of the Mechanical Auxiliary Building of each unit. An emergency Assembly Area is located in the Electrical Auxiliary Building. This emergency Assembly Area is utilized for the accountability of Station personnel, other than non-essentials, without Emergency Response Organization assignments during the assembly and accountability process.

The Operations Support Center is designed to be fully activated within approximately 90 minutes after declaration of an Alert, in conjunction with the Technical Support Center. Radiation levels in and around the Operations Support Center are assessed during radiological events.

G.3 Technical Support Center

The Technical Support Center is the onsite technical support facility for emergency response. The Station provides one Technical Support Center for each unit. Each facility is located on the 72-foot elevation of the respective unit's Electrical Auxiliary Building and is within a two minute walking distance from the unit's Control Room as described in the Updated Final Safety Analysis Report. In the event of a site-wide emergency, the Unit 1 Technical Support Center will be activated. Otherwise, the Technical Support Center in the affected unit will be activated. These facilities are equipped to enable response personnel to monitor the course of an accident and plan corrective and recovery actions. Personnel access to the activated Technical Support Center is controlled. During periods of activation, the affected Technical Support Center is staffed continuously to provide plant management and technical support to plant operations personnel and to relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations. The typical layout of each unit's Technical Support Center is provided in Figure G-3.

Each Technical Support Center is provided sufficient radiological protection and monitoring equipment to assure that radiation exposure to any person working in the activated Technical Support Center will not exceed five (5) rem TEDE or twenty-five (25) rem thyroid CDE during the duration of a declared accident. Should the affected unit's Technical Support Center become uninhabitable, the Emergency Response personnel within the Technical Support Center can relocate to other emergency response facilities and resume their assigned functions.

The Heating, Ventilation and Air Conditioning (HVAC) for each Technical Support Center is designed to provide a suitable environment during normal and post-accident operation, including protection from post-accident radiological releases. The Technical Support Center HVAC System will be verified when positioned in the recirculation mode. Each

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respective Technical Support Center diesel generator has the capability of continuous operation for a minimum of seven days.

Radiation monitoring and smoke detection capability, alarms and indications are provided in each respective Technical Support Center. Detection of high airborne levels of radioactive materials causes each respective Technical Support Center HVAC to automatically switch over to activated charcoal filtration. Detection of smoke levels above tolerance causes the system to automatically isolate.

Each Technical Support Center is designed to be fully activated within approximately 90 minutes after declaration of an Alert, in conjunction with activation of the Operations Support Center. The Technical Support Center may activate simultaneously with activation of the Operations Support Center.

G.4 Emergency Operations Facility

The Emergency Operations Facility is located in Bay City, Texas at 4000 Avenue F, approximately 12.5 air miles north-northeast of the Station. Figure G-4 depicts the location compared to the site. The floor plan of the Emergency Operations Facility is depicted on Figure G-5. When activated, the Emergency Operations Facility serves as the primary location for the following typical functions:

- Coordination between Station and non-station organizations, such as the Department of State Health Services;
- A coordination center for the preparation and approval of news releases and bulletins for release of information to the media and notifications to offsite agencies;
- A central point for coordinating all Station offsite dose projection and radiological monitoring activities at the time of the emergency; and
- The primary location for coordinating both technical and non-technical support activities of personnel brought in to assist Station personnel.

The Emergency Operations Facility provides for management of overall Station emergency response, coordination of radiological and environmental assessment, determination of

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recommended offsite protective actions, and coordination of emergency response activities with Federal, State, and County authorities. The Emergency Operations Facility can be fully activated within approximately 90 minutes of declaration of Site Area Emergency or higher. When activated, the Emergency Operations Facility will be staffed by Emergency Response personnel.

A qualified Emergency Operations Facility Director will manage activities in the Emergency Operations Facility.

Resources are provided in the Emergency Operations Facility for the acquisition, display, and evaluation of radiological and meteorological data and containment conditions necessary to perform accident assessment and determine protective measures. This equipment and instrumentation is described in Section H of this Plan.

The Emergency Operations Facility provides for occupancy by Nuclear Regulatory Commission, Federal Emergency Management Agency, State, County, American Nuclear Insurers, and Station Emergency Response Organization personnel.

The Emergency Operations Facility provides sufficient radiological protection and monitoring equipment to assure that radiation exposure to any person working in the Emergency Operations Facility will not exceed five (5) rem TEDE or twenty-five (25) rem thyroid CDE during the duration of a declared emergency. The Emergency Operations Facility has the capability for decontaminating personnel and providing protective clothing.

The Emergency Operations Facility has a backup generator that can provide full load capability should power be lost. Radiation monitoring and smoke detection capability, alarms and indications are provided in the Emergency Operations Facility.

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G.5 Alternate TSC/OSC

For emergencies where the site is under threat of, or experiencing, hostile actions, Emergency Response Organization (ERO) members may not be able to safely access the on-site Technical Support Center (TSC) or Operations Support Center (OSC). Under these conditions, ERO members are directed to a staging area at an Alternative Facility located in the Emergency Operations Facility / Joint Information Center (EOF/JIC), which is located in Bay City, Texas at 4000 Avenue F, approximately 12.5 air miles north-northeast of the Station. Alternative Facility and Alternate TSC/OSC may be used interchangeably in this document or it's implementing procedures. Use of the Alternative Facility by TSC and OSC ERO members will minimize delays in overall site response and allow for a swift, coordinated augmentation response when the site is deemed accessible. The EOF/JIC and Alternate TSC/OSC have equipment for communicating with the control room, and plant security. The EOF is capable of performing offsite notifications of a plant emergency. TSC and OSC personnel at the Alternate TSC/OSC have the capability to perform engineering assessment activities, including damage control team planning and preparation prior to returning to the site.

G.6 Joint Information Center

The Joint Information Center is where South Texas Project Nuclear Operating Company and Co-Owners, State, County and Federal Public Information personnel will coordinate information, issue news bulletins and participate jointly in news briefings. The Joint Information Center is located in Bay City, Texas at 4000 Avenue F, approximately 12.5 air miles north-northeast of the Station. The Joint Information Center shall function as a single authoritative source for disseminating information to the news media and the public. Once activated, the Joint Information Center will be capable of operating 24 hours per day for the duration of the declared emergency.

The Joint Information Center encompasses a working space of approximately 8000 square feet which accommodates approximately 250 people, including Station spokespersons and support staff, designated State, County and Federal Public Information personnel, communications equipment, and 120 news media representatives. In addition to the large work areas of the Joint Information Center, other smaller rooms will be made available for non-utility agencies to have private, separate working spaces. Figure K-1 provides a layout of the Joint Information Center. Procedure 0ERP01-ZV-OF02, Joint Information Center Activation, Operation and Deactivation describes the Joint Information Center layout and operation in detail.

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G.7 State Operations Center and County Emergency Operations Centers

The State Operations Center and County Emergency Operations Center are activated by the respective authority to support State and County operations during a declared emergency. At the request of the appropriate State or County authorities, the State of Texas Liaison and Matagorda County EOC Liaison both of whom are familiar with Station operations and the Station Emergency Plan may be dispatched to the State Operations Center or County Emergency Operations Center. The Texas Division of Emergency Management State Operations Center, which serves as a communication hub for the Division and other elements of the Department of Public Safety, is staffed 24 hours a day. In the event of an emergency, including an incident at a nuclear generating plant, the State Operations Center can be partially or fully activated in a short time to coordinate the State's response to the incident. The State Operations Center is located in Austin, Texas, in the Department of Public Safety Headquarters building. The Matagorda County Emergency Operations Center is located in the Matagorda County Sheriff's Office. The liaisons function as advisor to the Emergency Operations Center Managers and could act as liaisons between those Managers and the Station Emergency Response Organization. These representatives will not act as spokespersons for the Station.

G.8 Nuclear Regulatory Commission Emergency Operations Center

The Nuclear Regulatory Commission will activate its Emergency Operations Center in Rockville, Maryland, and in Arlington, Texas in the event of a declared emergency classification of a Site Area Emergency or higher classification at the Station. Nuclear Regulatory Commission personnel can also be expected to arrive at the Station. Designated co-locations for Nuclear Regulatory Commission personnel have been established in the Operations Support Center, Technical Support Center and the Emergency Operations Facility. Space has been provided and allocated in the Station Emergency Operations Facility for use as the Nuclear Regulatory Commission Emergency Operations Center onsite. Basic roles provided by the NRC are as follows:

- Monitor the Licensee to assure appropriate Protective Action is being taken with respect to offsite recommendations.
- Support the Licensee (Technical Analysis and Logistic Support)

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- Support offsite authorities, including confirming the Licensee's recommendation to offsite authorities.
- Keep other Federal Agencies and Entities informed of the status of the incident.
- Keep the Media informed of the NRC's knowledge of the status of the incident, including coordination with other Public Affairs Groups.
- Intervene in a limited fashion to direct the licensee's on-site response in some unusual and very rare situations.

G.9 Laboratory Facilities

The Station has radiological and radiochemistry laboratories located in each unit. The facilities are designed to provide quick and efficient analyses of samples from the Station process systems, Reactor Coolant System, and secondary systems. The specific instruments that are incorporated in the systems utilized for core damage assessment are certified to perform their intended functions in an accident environment with abnormal chemistry and radiation parameters. Environmental monitoring sample analysis can also be performed in either unit's facilities. The physical separation of the units will allow the facilities in the unaffected unit to be used as a backup. The radiological station and radiochemical laboratory facilities may be supplemented by the use of the following:

- A mobile radiological laboratory set up at the staging area at the Bay City Civic Center and operated by the Department of State Health Services;
- The laboratory facilities of neighboring nuclear facilities as coordinated by the Institute of Nuclear Power Operations;
- Gel Laboratories LLC; and
- Luminant Power (Letter of Agreement).

G.10 Personnel Decontamination Facilities

Personnel decontamination facilities are located near the Station Radiologically Controlled Area egress point and in the Emergency Operations Facility. Personnel decontamination is performed at the Station using normal Radiation Protection Procedures.

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G.11 First Aid

A first aid station is located on the first floor of the Nuclear Support Center (NSC) Building and has provisions for treatment of minor injuries.

G.12 Maintenance/Damage Control

The Station is equipped to maintain and repair mechanical, structural, electrical and control instrumentation and equipment in the Station. Additional equipment may be requested from other utility facilities or contractors.

G.13 Emergency Response Facilities Data Acquisition and Display System

The Emergency Response Facilities Data Acquisition and Display System is an integrated system that performs the following functions:

- Implementation of the Safety Parameter Display System as described in NUREG-0696 and NUREG-0737, Supplement 1;
- Data acquisition and signal processing for the Engineered Safety Features Status Monitoring System; and,
- Data acquisition and signal processing for other normal plant monitoring systems including the plant annunciators and the plant computer.

The Emergency Response Facilities Data Acquisition and Display System (called the System) functions are performed by several subsystems. The System is described in Table G-3. All displays provided for each facility are identical. The "Safety Parameter Display System" described in NUREG-0696 is implemented via the System. The design of the System is integrated with the implementation of Regulatory Guide 1.97 and the Control Room Design Review.

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EMERGENCY SUPPLIES AND EQUIPMENT

TYPICAL CATEGORY LISTING

Emergency equipment used at the Station will be inspected, operationally checked, and inventoried in accordance with Emergency Plan Administrative Procedure 0PGP05-ZV-0009, Emergency Facility Inventories and Inspections. Sufficient reserves of instruments and equipment will be maintained to replace those removed for calibration or repair.

The Technical Support Center Emergency Equipment and Supplies shall include but not be limited to the following:

ITEM

- Portable Radiological Survey Meters (Ion Chamber and Geiger Mueller) including friskers
- Portable Air Samplers with silver zeolite or activated charcoal filter canisters and particulate filters
- Radiation Monitoring System terminal
- Protective Clothing
- Check Source

The emergency equipment and supplies apply to Unit 1 and Unit 2 Technical Support Centers.

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EMERGENCY SUPPLIES AND EQUIPMENT TYPICAL CATEGORY LISTING

The Operations Support Center Emergency Equipment and Supplies should include but not be limited to the following:

ITEM

- Auxiliary Lighting
- Radios (two way radio transceivers)
- First Aid Equipment
- Respiratory Protection Devices
- Portable Radiological Survey Meters (Ion Chamber and Geiger Mueller) including friskers
- Personnel Monitoring Devices including thermoluminescent dosimeters and pocket self reading dosimeters.
- Office Supplies
- Protective Clothing
- Portable air samplers with silver zeolite or activated charcoal filter canisters and particulate filters.
- Check Source
- Self Contained Breathing Apparatus

The emergency equipment and supplies apply to Unit 1 and Unit 2 Operations Support Center.

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EMERGENCY SUPPLIES AND EQUIPMENT TYPICAL CATEGORY LISTING

The Emergency Operations Facility Emergency Equipment and Supplies should include but not be limited to the following:

ITEM

- First Aid Kit and decontamination supplies.
- Site Boundary Map, 10 mile and 50 mile Emergency Planning Zone Maps
- Status boards
- Office Supplies
- Portable Radiological Survey Meters (Ion Chamber and Geiger Mueller)
- Portable Air Sampler with silver zeolite or activated charcoal filter canisters and particulate filters.
- Personnel Monitoring Devices including thermoluminescent dosimeters and pocket self reading dosimeters (including high range self reading dosimeters)
- Check Source
- Protective clothing
- Dose calculation manual and associated tables.

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EMERGENCY SUPPLIES AND EQUIPMENT TYPICAL CATEGORY LISTING

The Control Room Envelope Emergency Equipment and Supplies should include but not be limited to:

ITEM

- ***Portable Air Sampler with silver zeolite or activated charcoal filter canisters and particulate filters
- Respiratory Protection Devices
- Protective Clothing
- Self-Contained Breathing Apparatus
- Radiation Monitoring System Terminal and Dose Assessment Computer

The emergency equipment and supplies apply to Unit 1 and Unit 2 Control Rooms.

***This equipment is available at the 41' Access Control Point at the Operations Support Center.

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EMERGENCY SUPPLIES AND EQUIPMENT **TYPICAL CATEGORY LISTING**

Matagorda Regional Medical Center and Palacios Community Medical Center Emergency Rooms

ITEM

Decontamination Supplies

- Cotton Applicators
- Abrasive Soap
- Decon Soap
- Hand Brush

Radiation Survey Equipment and Supplies

- Portable Geiger Mueller. Survey Meter
- Radiation Warning Signs and Tape

Clothing and Miscellaneous

- Gowns
- Caps
- Shoe Covers
- Gloves

Documents and Procedures

- Matagorda County Hospital District Radiological Emergency Preparedness Plan

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EMERGENCY SUPPLIES AND EQUIPMENT TYPICAL CATEGORY LISTING

Field Monitoring Vehicle Equipment and Supplies

The Field Monitoring Equipment and Supplies should include but not be limited to the following:

ITEM

- Portable Radiological Survey Meters (Ion chamber and Geiger Mueller).
- Portable Air Sampler (12 Volt) with silver zeolite or activated charcoal filter canisters and particulate filters.
- Radios (two way radio transceivers)
- Personnel Monitoring Devices including thermoluminescent dosimeters, self-reading pocket chambers and lapel-type air sampler (s).
- Check Source
- First Aid Kit
- Area Map with pre-selected monitoring/reference points
- Gloves and Shoe Covers
- Sampling Supplies (labels, smears, bags, pens, etc.)
- Respiratory Protection Devices

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TYPICAL EMERGENCY RESPONSE FACILITY RECORDS

Plant Records Storage

Plant records necessary to perform the functions of the onsite Emergency Response Facilities will be available in and/or at the facilities. The records include:

RECORDS DESCRIPTION	CONTROL ROOM	TECHNICAL SUPPORT CENTER	OPERATIONS SUPPORT CENTER	EMERGENCY OPERATIONS FACILITY
Plant design documents such as Piping & Instrumentation, Control Logic, and Electrical Elementary Diagrams	✓	✓	✓	✓
Radiation Zone Drawings	✓	✓	✓	✓
Updated Final Safety Analysis Report	✓	✓	✓	✓
Emergency Operating Procedures	✓	✓	✓	✓
Emergency Plan and Procedures	✓	✓	✓	✓
Demographic Information	✓	✓		✓
Maps of the Emergency Planning Zone	✓	✓		✓
Plant Technical Specifications	✓	✓		✓
Plant Operating Procedure and Records	✓	✓		✓
Plant Curves Manual	✓	✓		✓

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Emergency Response Facilities Data Acquisition and Display System

Integrated Computer System (ICS) - ERFDADS Subsystem - The ERFDADS functions are performed by several subsystems. Data acquisition is provided by the ICS through distributed processing units and through high speed datalinks from Qualified Display Processing System (QDPS), the Meteorological System (MET), and the Radiation Monitoring System (RMS). ERFDADS performs the required data processing for offsite datalinks to the NRC ERDS. ICS work stations (i.e. CRT, CPU, & keyboard) are provided in the Control Room (CR), Technical Support Center (TSC), Auxiliary Shutdown Panel (ASP), and Emergency Operations Facility (EOF).

The ERFDADS is a distributed subsystem of ICS that performs the following functions:

- Implementation of the Safety Parameter Display System (SPDS) as described in NUREG-0696 and supplement 1 to NUREG-0737.
- Data acquisition and signal processing for the normal plant monitoring systems, including portions of the plant annunciator.
- Data acquisition and signal processing for the ESF Status Monitoring System.

Safety Parameter Display – The SPDS, as described in NUREG-0696 and NUREG-0737 Supplement 1, is implemented via the ERFDADS. The design of the ERFDADS is integrated with the implementation of RG 1.97.

- The ERFDADS provides plant and environmental data to aid operators and management in the CR, TSC, and EOF to respond quickly to abnormal operating conditions and mitigate the consequences of an accident. The ERFDADS functions during normal operations and emergencies to provide the following services:
- Provide plant and environmental data required for the reactor operators to quickly assess the safety status of the plant.
- Allow technical personnel access to comprehensive plant data, enabling them to assist operators without adding to the number of personnel in the control room.
- Provide reliable plant data to the CR, TSC, ASP, and EOF.
- Aid the operators in the detection of abnormal operating conditions.
- Assist in the identification of the causes leading to any abnormalities.

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Emergency Response Facilities Data Acquisition and Display System

- Monitor plant response to corrective actions.
- Provide grouping of parameters to enhance the operators' ability to assess plant status quickly without surveying all CR displays.
- Provide human factors engineered display formats (simple and consistent display patterns and coding).
- Provide display information on a real-time basis, along with validation of data and functional comparison capability.

Provide display information on a real-time basis for monitoring the RG 1.97 variables, these variables are utilized to monitor the critical safety functions of:

- Subcriticality
- Reactor coolant system integrity
- Reactor coolant inventory
- Reactor core cooling
- Heat sink maintenance
- Containment environment

Distributed Processors - The ICS-ERFDADS subsystem consists of non-Class 1E equipment that is utilized to receive field inputs from the RG 1.97 -defined analog and digital variables and other supplementary information directly from the QDPS, MET, and RMS via redundant high speed datalinks.

The ICS performs any data processing required beyond that performed by the remote data acquisition equipment. Redundant distributed processing units are provided with adequate memory capacity to support ICS data acquisition, management, and transmission functions on a real time basis.

Man/Machine Interface - ICS workstations (CRT, CPU & keyboard) are located in the CR, TSC, ASP, and EOF to present ICS information (i.e. ERFDADS and Plant Computer) to operators and management in a concise, easily intelligible format.

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TABLE G-3

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Emergency Response Facilities Data Acquisition and Display System

The primary SPDS display page is available on all ICS workstations.

Power Supply - The ERFDADS related equipment, located within the power block including peripherals, is provided with power from a dedicated non-Class 1E uninterruptable power supply (UPS) capable of maintaining system operation for two hours. All ERFDADS equipment normal AC power to the UPS is provided from a non-Class 1E diesel generator-backed bus. The subject equipment is defined and controlled in accordance with plant procedures for the associated design documentation.

ERFDADS equipment located within the EOF and equipment used to support communication with the EOF, is provided electrical power that includes a generator-backed source.

System Operational Requirements - The ERFDADS data channels meet the 99-percent-availability requirement defined in NUREG-0696 Section 1.5 under pressure and temperature conditions exceeding cold shutdown conditions. The SPDS system meets an 80-percent-availability requirement during plant cold shutdown conditions.

Data processing through ICS is qualitatively comparable with other Post-Accident Monitoring System, RMS, and QDPS data displayed in the CR with respect to accuracy and response time.

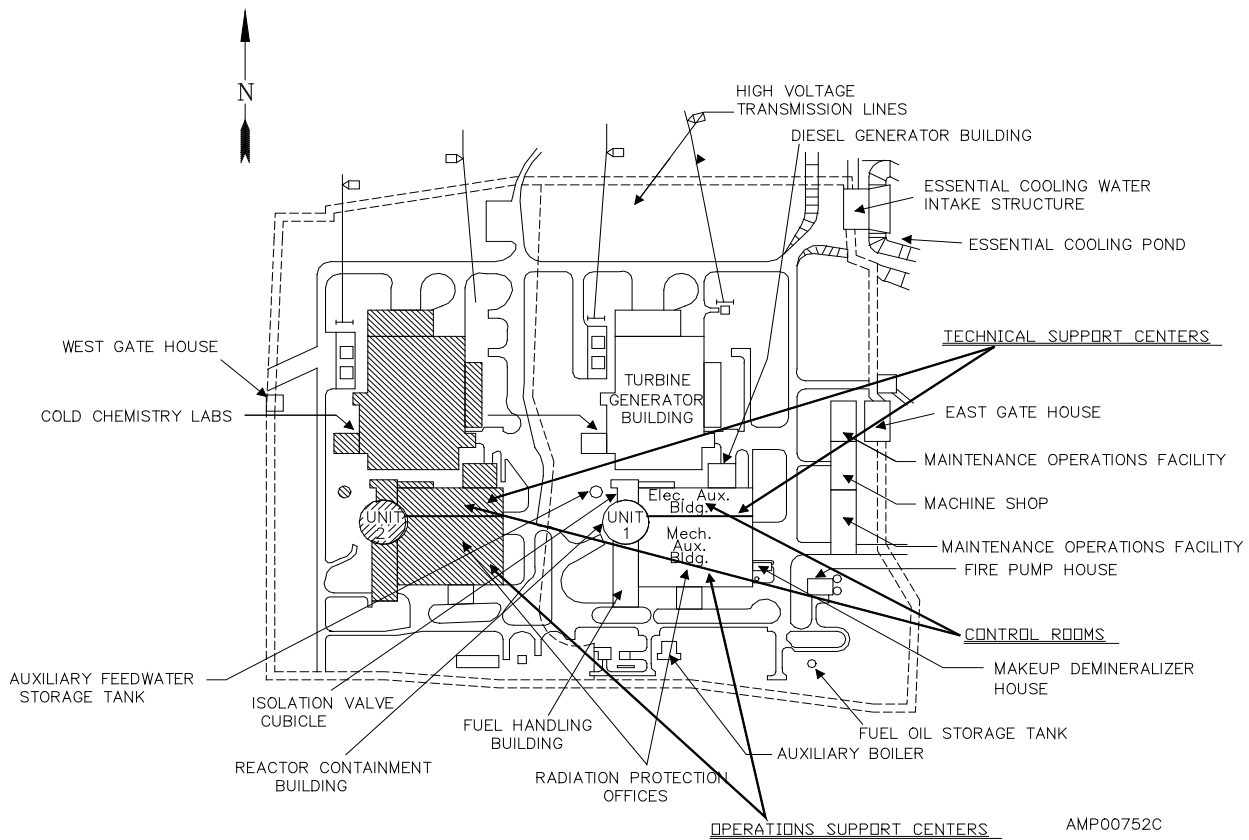
ICS and ERFDADS are further described in the Updated Final Safety Analysis Report (UFSAR).

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FIGURE G-1
Page 1 of 1
CONTROL ROOM, TECHNICAL SUPPORT CENTER, AND OPERATIONS SUPPORT
CENTER LOCATIONS



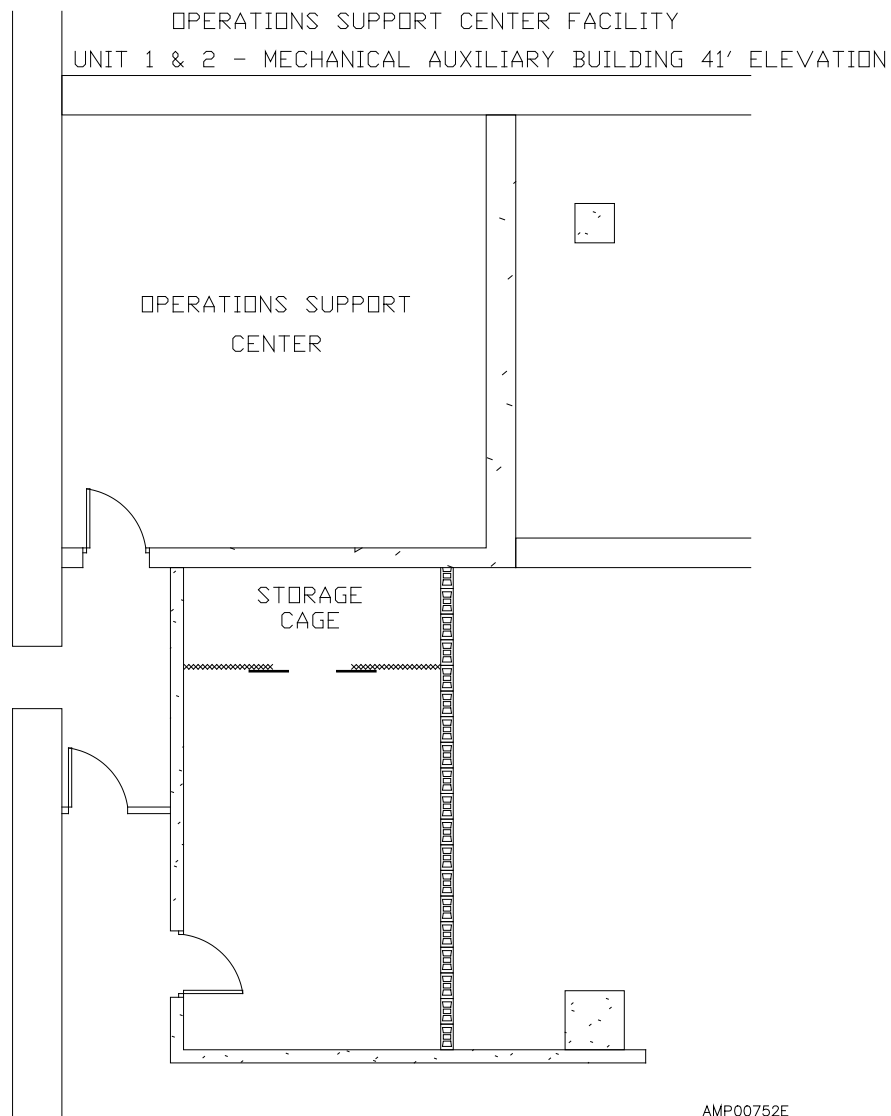
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FIGURE G-2
Page 1 of 1
TYPICAL OPERATIONS SUPPORT CENTER*

*This layout applies to Unit 1 and Unit 2 Operations Support Centers

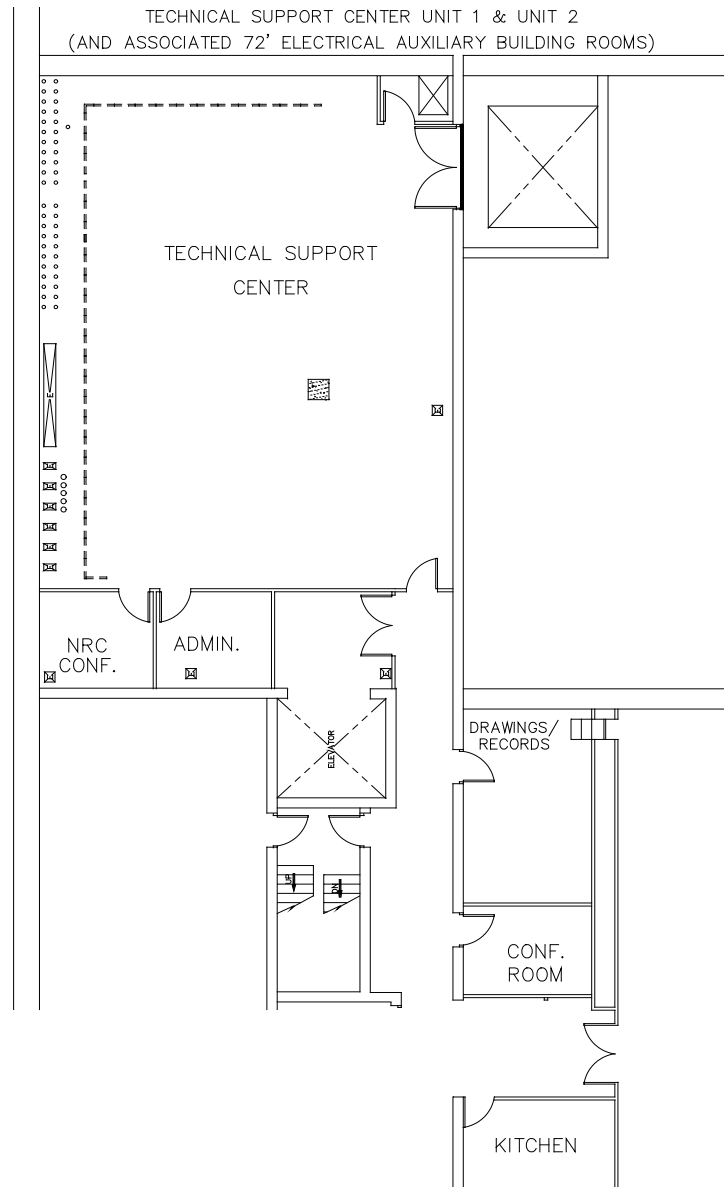


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FIGURE G-3
Page 1 of 1
TYPICAL TECHNICAL SUPPORT CENTER*



*This layout applies to Unit 1 and Unit 2 Technical Support Centers. AMP00752H

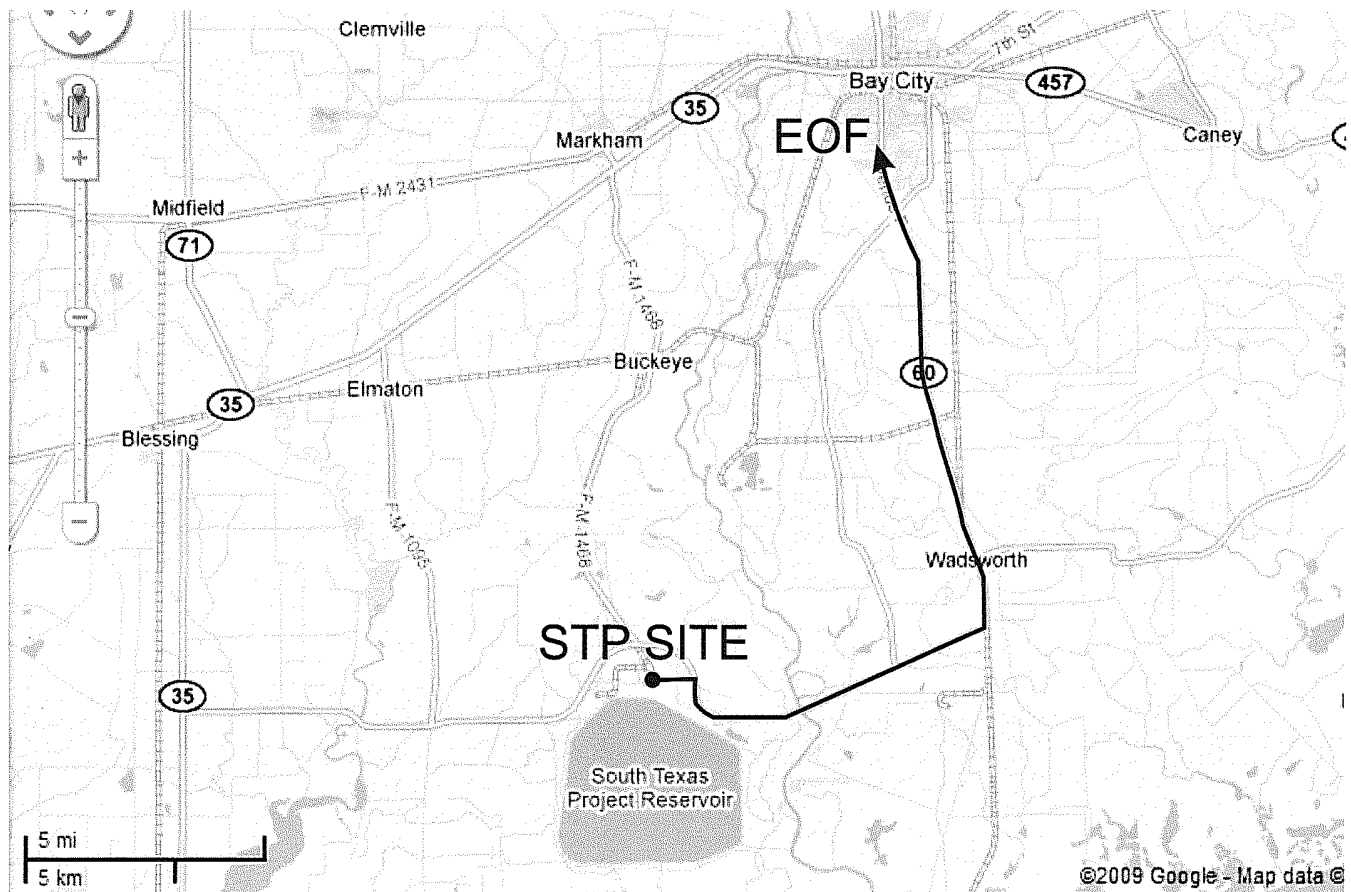
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FIGURE G-4

Location of Emergency Operations Facility Relative to
South Texas Project Site



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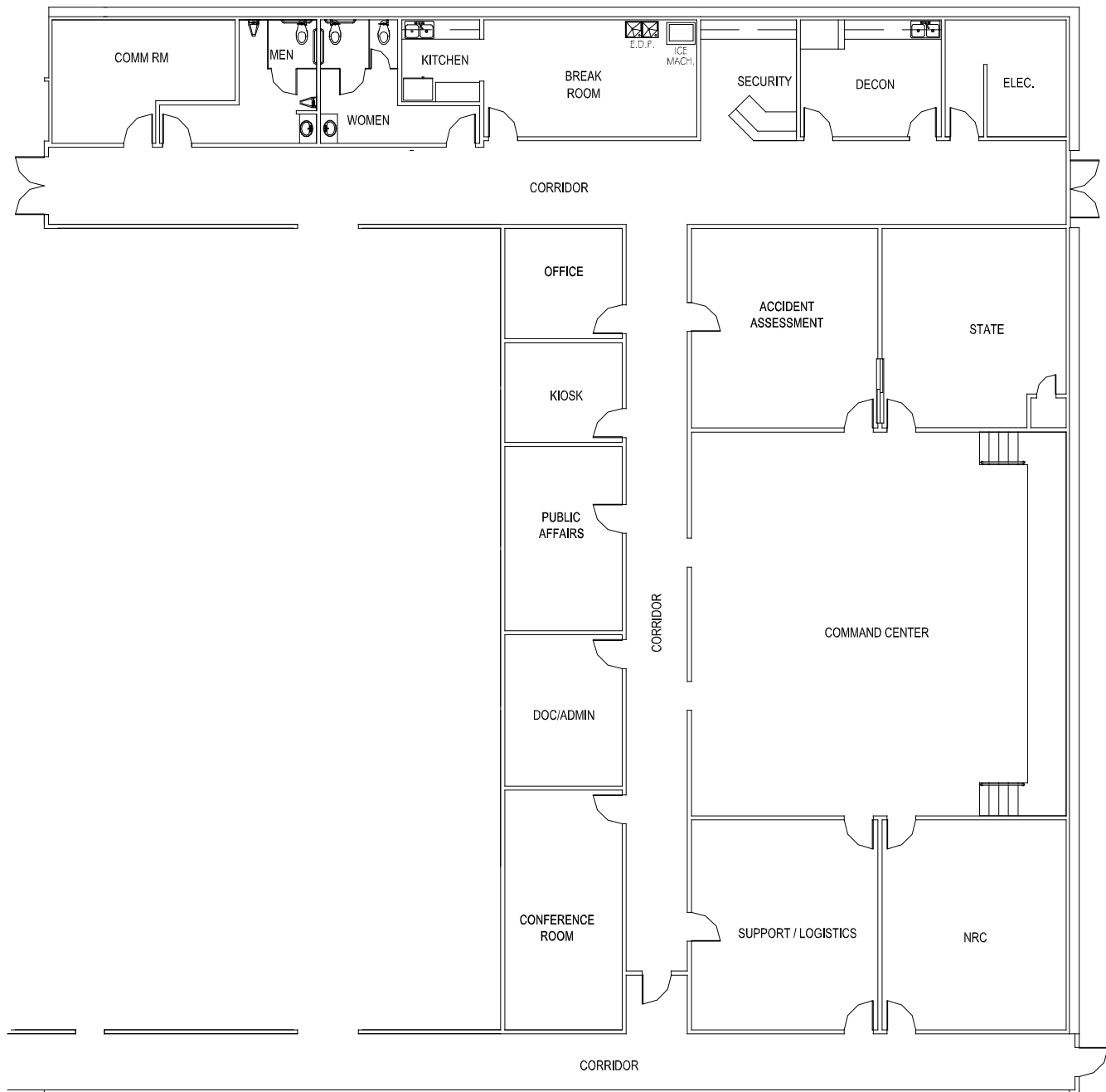
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FIGURE G-5

Typical Emergency Operations Facility



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H ACCIDENT ASSESSMENT

This section of the Plan describes the techniques, methods and procedures for the initial and long-term assessment of the declared emergency classification at the Station. At the first indication of abnormal conditions, initial assessments are performed. Necessary actions are then taken by the onsite plant staff to classify the emergency, mitigate the conditions, recommend offsite protective actions, and initiate the appropriate emergency response action. When notified that an abnormal condition exists, the Shift Manager is responsible for making the immediate assessments, classifying the event, and initiating notifications. Offsite protective action recommendations are included on the notification form in accordance with Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies.

An initial protective action recommendation is included in the Emergency Response Procedure 0ERP01-ZV-SH01, Shift Manager, and 0ERP01-ZV-IN07, Offsite Protective Action Recommendations.

If the situation dictates, the Shift Manager may activate the Station's Emergency Response Organization. When activated, the Station Emergency Response Organization personnel perform accident assessment activities and the Emergency Director determines appropriate offsite protective action recommendations.

The long-term or continuing accident assessment is performed by the Station Emergency Response Organization. The Station Emergency Response Organization formulates recommended protective actions and implements long-term offsite monitoring (radiological data gathered from the plume exposure pathway is analyzed and communicated to the Station). Monitoring teams systematically monitor the onsite and offsite environs using the functional plant instrumentation and portable instruments, as necessary. Assessment continues for the duration of the event and Recovery. Federal, State, and County emergency organizations will be notified for assistance as required. The radiological assessment procedures used by the Station Emergency Response Organization include 0ERP01-ZV-IN06, Radiological Exposure Guidelines, 0ERP01-ZV-TP01, Offsite Dose Calculations, and 0ERP01-ZV-IN07, Offsite Protective Action Recommendations.

The criteria for Emergency Action Levels used to classify an emergency are incorporated in 0ERP01-ZV-IN01, Emergency Classification to assist the Shift Manager in recognizing and declaring the appropriate emergency classification. The instrumentation available to the Shift Manager to perform this assessment is described in the Updated Final Safety Analysis Report for the Station.

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H.1 Assessment Resources

The following resources are available for detection/assessment of events:

H.1.1 Fire Detection Systems

The fire detection equipment, alarms, and suppression equipment are described in Section 9.5 of the Station Updated Final Safety Analysis Report and in the Station Fire Hazard Analysis Report. In general, standpipe and hose systems, together with portable extinguishers, are provided in all buildings throughout the Station, except the demineralizer building. Additionally, the following systems are provided in selected areas to enhance the total fire protection and detection program:

- Automatic sprinklers
- Manual pre-action sprinklers
- Water spray deluge
- Foam-water sprinklers
- Hydrants
- Halon system

H.1.2 Seismic Monitoring

The seismic monitoring system is described in Section 3.7 of the Station Updated Final Safety Analysis Report. The seismic instrumentation is a digital triaxial seismograph unit with programmable alarm, trigger, memory, recording and data retrieval capabilities and personal computer interface. The instrument is capable of providing time history acceleration data. The appropriate trigger condition will be selected to start data capture into solid-state memory or removable memory cards for later analysis. Settings for the instrument's pre-event memory and length of time that data is recorded will be selected so that the significant ground motion associated with the earthquake is recorded. The recorded information can be analyzed and displayed using a personal computer and software supplied with the machine. This software will display the measured response spectrum to be compared with the Operating Basis Earthquake (OBE) and Safe Shutdown Earthquake (SSE) response spectrum. The seismic instrument is located at the -37

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foot level in the Unit 1 containment building tendon access gallery. This location has an existing calculated structural response spectrum.

H.1.3 Plant Process Instrumentation

The plant process instrumentation consists of various pressure, temperature, and level indicators of the Reactor Protection System and the Engineered Safety Feature System.

Instruments which provide information to the Plant Operations Staff for monitoring conditions in the reactor, reactor coolant system, and containment, and specific instrumentation designations and ranges are listed in the Station Technical Specifications. These instruments provide information necessary for the rapid assessment of emergency conditions within the Station.

- Containment pressure;
- Emergency Core Cooling System activation;
- Pressurizer pressure;
- Steam generator pressure and levels; and,
- Reactor coolant temperature.

Additionally, the instrumentation provides data in the Control Room, Technical Support Center and the Emergency Operations Facility via the Emergency Response Facilities Data Acquisition and Display System.

H.1.4 Liquid Radiation Monitor

A liquid radiation monitor is provided for gross failed fuel detection. The monitor obtains a continuous sample from the reactor coolant system and activates an alarm on the Radiation Monitoring System if a predetermined activity level is reached. The monitor is described in Section 11.0 of the Station Updated Final Safety Analysis Report.

H.1.5 Radiation Monitoring System

The Station has a system for monitoring radioactivity throughout the Station. This system is called the Radiation Monitoring System and consists of area and

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process/effluent radiological monitoring instrumentation. More information on the Radiation Monitoring System can be found in Section J of this Plan and is described in detail in Section 12.3 of the Station Updated Final Safety Analysis Report.

H.1.6 Meteorological System

The Station has two permanent meteorological towers near site for the analysis of current Station area meteorological data. The primary tower is a 60-meter (196.9 feet) tower, instrumentation, and computerized data output. The primary tower instrumentation includes sensors to measure wind direction, wind speed, air temperature, dew point, solar radiation, precipitation, and calculated differential temperatures between elevations. Data from the primary tower is relayed to the Station. This data is displayed by the Integrated Computer System (ICS/ERFDADS) and the Control Room meteorological instruments Table H-1 provides details on instrumentation and elevations of primary meteorological instrumentation.

The backup system consists of a 10-meter (32.8 feet) tower with similar but fewer instruments to measure air temperature, wind speed, and wind direction.

Data from either tower can be fed by independent digital processors to the Control Rooms, Technical Support Centers, Emergency Operations Facility, the Nuclear Regulatory Commission and State and County offices through direct dial modem communications.

Weather forecasts are available from the National Weather Service by telephone. The Station has the option of using contracted commercial weather service or the National Weather Service.

H.1.7 Plant Liquid Systems

Analyses of plant liquid systems may be performed to help ascertain the nature of problems detected by other instrumentation (prior to an emergency). The samples will be collected and analyzed in accordance with Station Chemistry and Radiochemistry procedures.

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H.1.8 Gaseous Effluent Radiation Monitoring System

The Gaseous Effluent Radiation Monitoring System is based on the Radiation Monitoring System multiple channel analysis. Each channel consists of a sampling mechanism, one, two, or three chambers for particulate, iodine, and/or noble gas collection and detection, associated with auxiliary equipment and a local microprocessor. The system is capable of monitoring particulate activity and iodine and noble gas concentrations, in accident and normal ranges. Location of detectors for the process/effluent Radiation Monitoring System is provided in table form in Section 11.0 of the Station Updated Final Safety Analysis Report.

H.2 Objectives of Onsite and Offsite Monitoring

The primary objective of the Onsite and Offsite Emergency Response Teams is to rapidly survey areas in order to determine the extent and distribution of radioactive material following an incident. The initial onsite and offsite surveys are important in the decision process since the extent and type(s) of protective actions will be based upon data reported by the survey teams.

Data provided to the Radiological Director from the field monitoring teams shall be compared to information supplied to the dose projection and assessment area by any Department of State Health Services teams that may be dispatched into the area. Data collected before Texas Department of Health teams are in the field shall be provided to the Department of State Health Services by the Radiological Director as soon as possible.

The task of each Offsite Field Team is to collect air samples and survey data so as to transmit information and results to the appropriate response center (i.e., the Control Room, Technical Support Center, and Emergency Operations Facility). 0ERP01-ZV-TP02, Offsite Field Teams provide process and procedural requirements for Offsite Field Teams. Information obtained by the Offsite Field Team is transmitted to the Offsite Field Team Supervisor as appropriate to the phase of the response, via radio contact. After the initial urgency of the post-accident situation has relaxed, subsequent surveys will be performed to obtain more information that is accurate.

The systems and equipment described in this section and the personnel resources described in Section B and C of this Plan allow for continuous monitoring and assessment of abnormal radiological conditions.

Within minutes of the declaration of an emergency, monitoring of the plant systems is established to assess potential releases or the extent of an actual release and to provide

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guidance for appropriate protective measures. This includes the capability to deploy an Offsite Field Team. Offsite Field Teams may be deployed after declaration of an Alert or higher emergency classification with an effluent monitor indication of a higher than normal release of radioactive materials or an unmonitored release. Field monitoring data and samples shall be collected and analyzed per normal Station Radiation Protection procedures and Radiological Environmental Monitoring procedures. Data from Federal, State, and County organizations are coordinated with the Station through their representatives at the Station Emergency Operations Facility with the Radiological Director.

The principal early concerns are thyroid dose commitment, due to inhalation of radioactive iodines, and exposure from immersion in a cloud of radioactive noble gases. Criteria for taking protective actions such as evacuation are expressed in terms of these two variables. Following this, efforts will normally be directed toward the evaluation of possible long-term exposures from ground deposition and various food chain pathways. Monitoring will continue throughout the duration of the emergency classification to allow for offsite protective action recommendation escalation, recovery or termination (with concurrence of County, State, and NRC organizations) as dictated by environmental sampling results.

Offsite Field Teams may be deployed to take dose rate readings and iodine concentrations in accordance with 0ERP01-ZV-TP02, Offsite Field Team. The Radiological Director will provide direct input to the Emergency Director concerning the need to make protective action recommendations to offsite agencies.

Environmental radiological impact analysis is available using computerized dose assessment models or equivalent. This is more adequately detailed in Emergency Response Procedure 0ERP01-ZV-TP01, Offsite Dose Calculations.

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ASSESSMENT INSTRUMENTATION

TYPICAL ONSITE ASSESSMENT EQUIPMENT AND FACILITIES

<u>INSTRUMENT SYSTEM</u>	<u>DESCRIPTION & LOCATION</u>	<u>FUNCTIONAL APPLICABILITY</u>
1. Meteorological Monitors		
Meteorological Wind Speed	Wind speed indicators located on primary (60m) and backup (10m) towers on northeastern portion of the site	Measures wind speed at 10m and 60m above ground level
Wind Direction	Wind direction indicators located on primary (60m) and backup (10m) towers on northeastern portion of the site	Measures wind direction at 10m and 60m above ground level
Temperature Differential	Temperature sensors located on primary (60m) tower on and backup (10m) towers on northeastern portion of the site	Measures temperature at 10m and 60m above ground level for computation of differential temperature
Precipitation	Heated gage near ground level at the primary tower	Provides measurement of precipitation levels
Dewpoint	Sensed via a dewpoint probe dewpoint membrane (vapor window), dewpoint cell and a temperature probe sensor located at 3 meters on the Primary Meteorological Tower	Provides atmospheric dew point measurement for the site environs
Computer	Data acquisition computers at primary and back up towers tied to ICS/ERFDADS	Provides data link for meteorological information

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ASSESSMENT INSTRUMENTATION

TYPICAL ONSITE ASSESSMENT EQUIPMENT AND FACILITIES

<u>INSTRUMENT SYSTEM</u>	<u>DESCRIPTION & LOCATION</u>	<u>FUNCTIONAL APPLICABILITY</u>
2. Seismic Monitor	A digital triaxial seismograph unit with programmable alarm, trigger, memory, recording and data retrieval capabilities and personal computer interface The seismic instrument is located at the -37 foot level in the Unit 1 containment building tendon access gallery	Record ground and peak orthogonal accelerations with respect to time
3. Radiation Monitoring System		
A. Area Radiation Monitoring System		
B. Process/Effluent Radiation Monitoring System		
4. Fire Protection System		
A. Spot Thermal Detector		Detect fixed temperature or rate of temperature rise; activates an alarm
B. Ionization Detector		Detect nonvisible smoke and combustible gases; activates
C. Ultraviolet Flame Detector		Detect flame or spark; activates an alarm
D. Photoelectric Detector		Detect visible smoke; activates an alarm

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ASSESSMENT INSTRUMENTATION

TYPICAL ONSITE ASSESSMENT EQUIPMENT AND FACILITIES

<u>INSTRUMENT SYSTEM</u>	<u>DESCRIPTION & LOCATION</u>	<u>FUNCTIONAL APPLICABILITY</u>
E. Line Type Thermal Detector		Sufficient heat from source activates an alarm
F. Fire Protection System Display Unit 1 and 2 Control Room		A Cathode Ray Tube linked to the unit computers provides for appraisal of Fire Protection System incoming alarms and system actuation's in each Control Room
5. Facilities		
A. Radiological Laboratory Equipment and Detectors	Chemical analysis count room of each unit	Equipped for radiological/chemical analysis
B. Environmental Surveillance Program	Thermoluminescent dosimeter monitoring stations Fixed air sampling stations outside security fence	Measures radiation dose Sample particulate and radioidines

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ASSESSMENT INSTRUMENTATION

TYPICAL OFFSITE ASSESSMENT EQUIPMENT AND FACILITIES

	<u>INSTRUMENT SYSTEM</u>	<u>DESCRIPTION & LOCATION</u>	<u>FUNCTIONAL APPLICABILITY</u>
6.	Seismic Monitoring	National Earthquake Information Center	Detect and quantify horizontal and vertical ground motion
	Meteorological	National Weather Service	Forecasting and routine weather observations
7.	Radiation Monitoring Ambient Levels (Station)	Permanent thermoluminescent dosimeter stations, both on and offsite	Estimation of background and integrated doses
	Airborne Monitoring (Station)	10 fixed air sampling stations located offsite	Monitor particulate and radioiodines in air
	Emergency Response Vehicle (ERF) [Department of State Health Services]	Portable radiation monitoring instruments	Emergency mobile lab with equipment for support of offsite field teams
	Department of State Health Services Mobil Laboratory	Multi-channel analyzer portable air sampler with silver zeolite cartridges in Staging Area	Emergency lab portable equipment for field assessment by field monitoring teams
8.	Radiological Laboratory	Onsite, each unit	Environmental monitoring sample analysis

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SECTION I

I PROTECTIVE RESPONSE

This section of the Plan describes the protective response actions for the protection of site and offsite personnel in the plume exposure pathway. This Emergency Plan is applicable to the South Texas Project Electric Generating Station and the Emergency Planning Zone within the 10-mile and 50-mile radius of the Station. Maps depicting the 10 and 50 mile Emergency Planning Zones are included as Figures I-1 and I-2.

I.1 Onsite Personnel Notification

Onsite personnel are notified of an emergency via the Station Public Address Paging System. The Emergency Director, or his designee, will announce the emergency classification and other pertinent data relating to the emergency classification to Station personnel using the Station Public Address Paging System on site. This system is described in Section E of this Plan. Persons within the Protected Area are notified of the emergency classification via the Public Address Paging System. Notification of personnel located onsite but outside the Protected Area is accomplished through emergency sirens, Public Address announcements, Wireless Communication Device activation, and by Security Force personnel. To comply with emergency classification and severity, evacuation within the Protected Area will be initiated for non-essential personnel at a Site Area Emergency classification or if not already performed at a General Emergency classification (optional at an Unusual Event or Alert). The sounding of the alarms over the Public Address Paging System occurs for both classifications. Inside plant buildings, where hearing is difficult due to high ambient noise levels, flashing lights are used to supplement the Public Address Paging System.

I.2 Assembly and Accountability

Protected Area assembly and accountability is initiated at the Emergency Director's discretion or when either a Site Area Emergency or a General Emergency has been declared. Protected Area assembly and accountability must be initiated when a Site Area Emergency or General Emergency is involved. Appropriate actions are implemented by 0ERP01-ZV-IN04, Assembly and Accountability and in Section F.3 of this Plan.

I.3 Site Evacuation

Site evacuation will be performed in accordance with 0ERP01-ZV-IN05, Site Evacuation and Section F.5 of this Plan, after assembly and accountability is completed.

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I.4 Onsite Shelter

The Emergency Response Organization (ERO) monitors hazards and appropriate protective actions are taken for emergency workers. Station nonessential personnel shelter instructions are contained in Emergency Response Procedure 0ERP01-ZV-IN05, Site Evacuation and Section F.6 of this Plan.

I.5 Protective Action for Onsite Personnel during Hostile Action Based (HAB) Events

Protective actions taken during a hostile action is intended to protect onsite personnel. This includes personnel necessary to safely shut down the reactor, emergency responders necessary to implement the site emergency plan, and other onsite workers. As appropriate, the following measures may be taken by site management:

- Evacuation of personnel from target buildings, including security personnel;
- Protected area evacuation via security gates;
- Dispersal of licensed operators;
- Sheltering of personnel in structures away from potential site targets;
- Arrangements for accounting for personnel after the attack

I.6 Protective Action Recommendations

The Station is designed and equipped with a series of safety systems engineered to meet Title 10 Code of Federal Regulations Part 100 criteria for reactor safety. The Station recognizes that in any accident situation, it is prudent and logical to make every effort to reduce and minimize exposure of the public to radioactive materials and radiation. This is accomplished by issuing offsite protective action recommendations when plant conditions indicate a potential for release of radioactive material or if a release is occurring or has occurred. The Protective Action Guidelines for the general public for thyroid dose due to inhalation from a passing plume and exposure to airborne radioactive material, as recommended by the Environmental Protection Agency, are five (5) rem Thyroid Committed Dose Equivalent and one (1) rem Total Effective Dose Equivalent respectively. Additional information is provided in Addendum I-1.

Recommendations for protective actions for the general public will originate from the Control Room, the Technical Support Center, or the Emergency Operations Facility (depending on facility activation) based on plant conditions and/or based on data derived from offsite dose assessment or actual field monitoring measurements. Emergency

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Response Procedures establishing these methodologies are 0ERP01-ZV-TP01, Offsite Dose Calculations and 0ERP01-ZV-IN07 Offsite Protective Action Recommendations. These procedures establish methods for determining projected dose to the public at risk. Recommendations will be made in accordance with agreements made with the Department of State Health Services. Whenever possible, message formats provided in the Emergency Response Procedure 0ERP01-ZV-IN02, Notifications to Offsite Agencies, in accordance with Section E of this Plan will be utilized. The implementing procedures relating to Protective Action Guidelines assure that the recommendations are determined through an approved process. The Emergency Director shall approve Offsite protective action recommendations.

I.7 Public Notification

In the event public notification is required, both transient and resident population within the ten mile Emergency Planning Zone will be initially notified through the Prompt Notification System as referenced and described in Section E of this Plan and by the Matagorda County officials. Additional notification and information will be provided to the transient and resident population as well as the general public outside the ten mile Emergency Planning Zone through the Emergency Alert System. The National Weather Service, radio stations KMKS FM, Bay City and KKHA FM are the local sources for the Station nuclear emergency response. Information brochures and other public information documents describing notification, protective actions and general radiological education are provided by mailing and by general distribution to residents and transients within the ten mile Emergency Planning Zone. Matagorda County will issue messages similar to those provided in the Matagorda County Emergency Management Plan describing the incident and recommended public protective actions.

I.7.1 Public Shelter and Evacuation

Shelter and Evacuation recommendations from the Station and/or the Department of State Health Services are considered, and appropriate actions are determined and conducted by Matagorda County officials. Pertinent information from the evacuation time estimate¹ has been incorporated into Matagorda County emergency procedures.

The evacuation time estimate study is maintained by and on file in the Station Emergency Response Division.

I.7.2 Special Needs Groups

Individuals with special needs will be accommodated as per Matagorda County plans and procedures.

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I.8 Environmental Monitoring Points

In the event of an emergency, the permanent air sampling stations may be utilized for long term evaluation concerning airborne releases. Environmental Thermoluminescent Dosimeters located at the background radiation stations provide exposure data. At least one dosimeter shall remain at each station until the end of the event to provide integrated dose data over the duration of the release. Sampling efforts may be combined with Offsite Field Team activities.

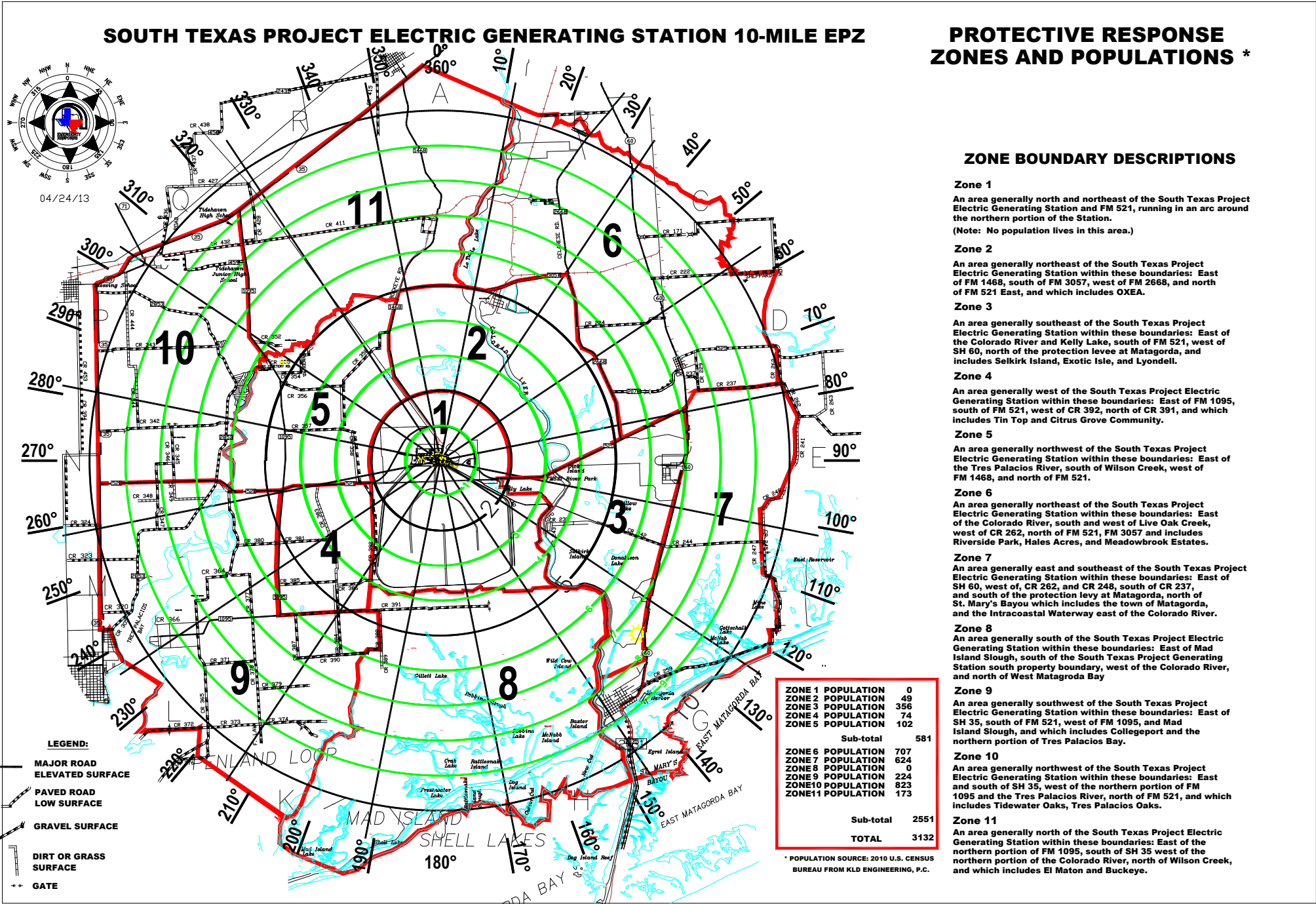
¹Evacuation Time Estimates for the South Texas Project Electric Generating Station Plume Exposure Pathway Emergency Planning Zone, Earth Tech 1994

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FIGURE I-1
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10 MILE EMERGENCY PLANNING ZONES



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ADDENDUM I-1

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RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC

- 1.0 Recognizing, in an accident situation, that it is prudent and logical to make every effort to reduce and minimize public exposure, the Station will make protective action recommendations to the State and County authorities. These recommendations are to assist the public officials in protecting the public in the Plume Exposure Pathway. It should be noted that the responsibility of final decision to implement offsite protective action recommendations made by the Station rests solely with Matagorda County authorities and respective authorities in other affected counties. Detailed instructions to implement protective actions will also be disseminated by County authorities.
- 2.0 The protective actions for offsite areas are discussed or presented in the State and County Emergency Management Plans. The State and County Plans have adopted the United States Environmental Protection Agency's Protective Action Guides for initiating actions to protect the health and safety of the public in the event of a nuclear power plant accident. These are the same guides used by the Station in developing their protective action recommendation to the State and County authorities. In addition, the Station has developed protective action recommendations based on plant conditions exclusive of actual or projected radiological exposures.
- 3.0 There are various types of actions that can be taken to protect the public. These include shelter, evacuation, access control, controlling distribution of food, water, milk, and livestock, and individual protective actions.
- 4.0 United States Environmental Protection Agency Protective Action Guidelines serve as the basis for offsite protective actions recommendations. The type, amount, and duration of the release source term, and the potential for radiological release based on plant conditions must also be considered when recommending protective actions.
- 5.0 Projected or measured doses that the public may be or is subject to receiving are correlated to protective action guides. Dose projections and measured dose are not prerequisites for issuance of a protective action recommendation.

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RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC

- 6.0 The Emergency Director has the authority to make protective action recommendations and approve their release to governmental authorities. Protective action recommendations originate from the Control Room, Technical Support Center, or the Emergency Operations Facility based upon data derived from or received from assessment of plant conditions, radiological monitoring computer systems, field measurements, or process instrument readings. The Emergency Plan procedures relating to Protective Action Guides assure that recommendations are determined through an approved process. Emergency Plan Procedures, like the Plan, are based on the United States Environmental Protection Agency's Manual of Protective Action Guides and Protective Actions for Nuclear Incidents Environmental Protection Agency 400-R-92-001, revised May, 1992.
- 7.0 The Station agrees with the position of the State of Texas not to use radioiodine blocking drugs such as potassium iodide for the general public. It is the State's responsibility to stockpile and acquire the agent and disseminate it if it is to be distributed to the general public during an accident. The Station is responsible for maintaining and providing to the Department of State Health Services upon request, a quantity of potassium iodide sufficient for State and local emergency workers including any mobility impaired or institutionalized members of the general public whose evacuation could not be readily effected.

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J RADIOLOGICAL EXPOSURE CONTROL

Management commitment for an effective Dose Control Program (As Low As Reasonably Achievable) necessitates that detailed radiation protection measures be established and utilized during emergency situations as well as normal operating periods at the Station. These measures are described in Emergency Response Procedure 0ERP01-ZV-IN06, Radiological Exposure Guidelines. A description of applicable radiation control measures are outlined in this section.

J.1 Personnel Exposure Monitoring

The approved Station Radiation Protection Procedures provide the specific actions undertaken to determine and record individual occupational exposures on a 24 hour per day basis.

The Radiological Director or his designee is responsible to ensure that all personnel entering the Station, including visitors, vendors, contractors, construction personnel, and employees, are properly monitored for exposure to ionizing radiation.

Allowable planned emergency exposures and accident exposures to individuals have been established by the Nuclear Regulatory Commission and the Environmental Protection Agency. In all cases and events, administrative control and restriction of exposure to radiation will be monitored by the radiation protection staff in accordance with 0ERP01-ZV-IN06, Radiological Exposure Guidelines.

J.1.1 Emergency Exposure Guidelines

Environmental Protection Agency-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, is used to establish additional exposure guidelines for lifesaving actions and protection of property.

J.1.2 Emergency Exposure Limits

All questions of radiation exposure limits for emergency workers above Code of Federal Regulations, Title 10, Part 20 limits will be directed to the Emergency Director. This individual has the nondelegable authority in an emergency to authorize volunteer emergency workers to receive exposures in excess of Code of Federal Regulations, Title 10, Part 20 limits. The methods of documenting the voluntary status of the workers are authorized in Emergency Response Procedure 0ERP01-ZV-IN06, Radiological Exposure Guidelines.

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J.2 Measurement of Radiation Worker Exposure

Twenty-four hour per day capabilities have been established for determining the exposure received by workers by utilization of the Radiation Protection staff. Radiation Protection personnel, under the guidance of the Radiological Manager, will issue dosimetry and maintain logs of activities. The Radiological Manager ensures the Emergency Director and Radiological Director are kept informed of the exposure of emergency responders.

J.3 Contamination Control and Preventive Measures

Preventive measures will be taken to minimize direct exposure to or ingestion of radioactive materials. This will include timely processing of all solid, liquid, and gaseous wastes using the Station radioactive waste processing systems in accordance with established plant procedures or other waste processing systems as necessary. Other contamination control measures are described in detail in the Station's Radiation Protection Program, the Emergency Response Procedures, and are summarized as follows:

In order to avoid personnel contamination or the spread of contamination in the Station areas, contaminated areas will be designated and clearly identified. Access to these areas will be controlled and appropriate protective clothing will be specified to minimize personnel contamination and the spread of contamination. Limits for the use of protective clothing are specified in the Station Radiation Protection Procedures. Personnel and equipment leaving the controlled area are monitored to assure that the limits for contamination control are met. If personnel become contaminated, Station Radiation Protection operating procedures will be implemented.

In general, contaminated areas and materials are permitted to return to normal use when areas meet the Station Radiation Protection Program contamination limits. Some areas and equipment may be returned to service prior to achieving these limits. In such cases, special precautions and measures are taken to prevent personnel contamination and to limit the spread of contamination.

J.4 Drinking Water and Food Contamination Control

Drinking water and food supplies are not allowed in contaminated or potentially contaminated areas. If the potential exists for food or water to become contaminated in normally clean areas, Radiation Protection personnel will perform appropriate surveys and sample analysis, respectively.

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If contamination is found, appropriate actions will be taken based on the levels of contamination and its location.

J.4.1 Surveys of Emergency Response Facilities

Radiological surveys of the emergency response facilities and the assembly area for habitability will be performed on a frequent basis. These surveys will include radiation levels and contamination and airborne radioactivity concentrations. Drinking, smoking, and eating are prohibited during a radiological incident in areas where the potential for contamination exists.

J.4.2 Airborne Releases

In the event of an airborne release of radioactive materials, samples will be collected by Station personnel, and State and other agencies. These samples are analyzed and the results recorded and reported to the Emergency Director and the Department of State Health Services for appropriate offsite protective action recommendation decisions.

J.4.3 Colorado River & Selected Wells

Selected wells are analyzed for radioactivity as part of the Radiological Environmental Monitoring Program at the Station. Surface water from the Colorado River is sampled at several locations upstream and downstream of the Station's river discharge. These samples are analyzed for gross activity as part of the Radiological Environmental Monitoring Program.

J.5 Radiological Medical Considerations

Responses to personnel injuries are in accordance with guidelines set forth in 0POP04-ZO-0004, Personnel Emergencies and 0PGP03-ZA-0106, Emergency Medical Response Plan. Normally, in the event a personnel injury occurs in a Radiologically Controlled Area and the person requires offsite medical aid, the person will be taken to the Radiologically Controlled Area Access Control Point. The person is monitored for contamination and, if found to be below the levels for personnel contamination, the person is treated as a normal industrial accident and first aid will be supplied by Station medical assistance personnel. If additional treatment is required, the Station shall transport the person to the Matagorda Regional Medical Center or Palacios Community Medical Center for treatment. Transportation will be provided by the site with Station medical staff in attendance or a contractor ambulance service.

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J.5.1 Personnel Contamination

In the event, the person is contaminated above the levels for personnel contamination, reasonable efforts will be made to decontaminate the person at the Radiologically Controlled Area Access Control Point. If this can not be done due to the nature of the injury and/or hospitalization is required immediately, medical treatment and transportation to the hospital will take priority. The person will be placed in clean protective clothing or wrapped in a clean blanket time permitting, to minimize the spread of contamination.

J.5.2 Health Physics Supervision

A Radiation Protection Technician will accompany the individual to the hospital. Health Physics Supervision should meet the person at the hospital. The medical facility will be notified when a contaminated patient is being transported for treatment to allow for establishment of the radiological treatment area.

J.5.3 Hospital Procedures

When the victim arrives at the medical facility, the staff of the hospital will follow their procedures to handle this type of injury. Radiation Protection personnel will conduct surveys to ensure that contamination levels are kept to a minimum and will monitor for contamination until cleanup has been satisfactorily completed.

J.5.4 Contaminated Items

Contaminated items belonging to the individuals will be returned to the Station for decontamination or disposal.

J.5.5 Radiological Surveys

Radiation Protection personnel will perform radiological surveys and assist with establishing radiologically controlled area boundaries in the medical facilities.

J.6 Personnel Evacuation from Station

- Personnel evacuated from the site due to a site evacuation shall go to an offsite Reception Center or home as determined by the Emergency Director.

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- Reception centers are activated by the Matagorda County Emergency Management Director.
- The Bay City Reception Center is located on the Matagorda Regional Medical Center Campus in the Wellness and Rehabilitation Center.
- The Palacios Reception Center is located at the Palacios High School Field House.
- At the reception center, Station personnel are monitored for contamination and decontaminated, as necessary, and are registered and given emergency assistance by the reception center staff.
- Reception center operations are fully discussed in the Matagorda County Emergency Management Plan and Procedures.

J.7 Offsite Assessment, Evaluation

For areas beyond the owner-controlled boundary of the Station, the Department of State Health Services, with assistance from the Texas Division of Emergency Management, is responsible for the assessment and evaluation of protective action recommendations for the at-risk areas. The Matagorda County Emergency Management Director has the authority to accept, authorize, and implement protective actions.

- The State of Texas radiological monitoring teams will identify contamination and/or radiation levels and assist in controlling access within the affected area.
- Other state agencies will take action, as necessary, to assess and control land, water, and air within the affected area for public, commercial, and agricultural use.

J.8 Tools and Equipment

All tools and items of equipment used in the Radiologically Controlled Areas must be checked for contamination before being taken from the Radiologically Controlled Area.

- Vehicles leaving the site will be monitored and decontaminated, as necessary.
- Emergency vehicles on life saving missions will not be delayed for radiological considerations.

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J.9 Exposure to Airborne Contamination

In the event of a major radiation emergency, exposure to airborne concentration of radioactivity will be limited by the following policy:

- Whenever practicable, total internal exposure of any individual during an emergency should be maintained As Low As Reasonably Achievable.
- Respiratory protection will be used whenever appropriate.
- Exposure limits for noble gases are based on beta plus gamma radiation effects to the skin and lens of the eyes.
- Use of a thyroid-blocking agent (Potassium Iodide (KI)) may be authorized when the committed dose equivalent (CDE) to the thyroid of an emergency worker is estimated to exceed federal recommendations. Considerations for authorizing KI for emergency workers are provided in Emergency Response Procedure 0ERP01-ZV-IN10, Administration of Potassium Iodide. The Emergency Director has the responsibility for approval of issuing KI to site emergency workers.

J.10 Radiation Monitoring System

The Radiation Monitoring System monitors radioactivity in the station. This system, consisting of two subsystems, provides monitoring capability for area radiation and process/effluent stream radiation monitoring. The process/effluent Radiation Monitoring System is comprised of two smaller subsystems, the Liquid Monitoring System, and the Atmosphere Monitoring System. These Subsystems are described in Section H of this Plan and in the Station Updated Final Safety Analysis Report Section 9.0, 11.0, and 12.0. The Radiation Monitoring System is designed to provide output in normal and emergency operating ranges and is designed to operate in emergency radiation fields.

J.10.1 Model Description

The dose assessment models described in procedure 0ERP01-ZV-TP01, Offsite Dose Calculations, provides site specific estimates and predictions of atmospheric effluent transport and diffusion during and immediately after an airborne release. The diffusion model used meets the criteria of a Class A model as defined in NUREG-0654/Federal Emergency Management Agency Report-1 and additionally can perform X/Q calculations, dose and dose rate projections, and deposition rates for the Plume Exposure Pathway Emergency Planning Zone.

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J.10.2 Area and Process/Effluent Systems

The Area and Process/Effluent Radiation Monitoring Systems are used to classify and assess radiological conditions in accordance with the Station Technical Specifications. These parameters have specific relationships to the Emergency Action Level scheme for classifications of an event by the classification scheme of NUMARC/NESP-007 and Section D of this Plan.

J.10.3 Liquid Monitoring

The Liquid Monitoring System of the Radiation Monitoring System is designed to measure the concentration of gamma emitting radionuclides in a liquid process stream using scintillation detectors.

J.10.4 Airborne Monitoring

The Atmospheric Monitoring System of the Radiation Monitoring System is designed to measure the concentrations of particulates, iodines, and noble gases in atmospheres in the containment and within the Protected Area.

J.10.5 Area Monitoring Subsystem

The Area Radiation Monitoring System is a subsystem of the Radiation Monitoring System. It consists of offline monitors, instrumentation, and alarms that serve to prevent Station personnel from unknowingly entering areas with high radiation fields.

J.11 Radiation Survey and Sample Equipment

The Station maintains radiation survey and sample equipment of different types.

J.11.1 Portable & Fixed Survey Instruments

Sufficient quantities of portable radiation survey instruments capable of measuring alpha, beta, gamma and neutron are maintained onsite to allow for calibration, testing, maintenance and repair. Fixed and portable air monitors are used to sample, determine, and record levels of particulate, iodine, or noble gas radioactivity in Station atmospheres.

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J.11.2 Offsite Monitoring

Many of these instruments may be used offsite to monitor and sample an offsite radioactive release and to detect iodines as low as $1\text{E-}7$ microcuries per cubic centimeter by sample analysis outside the release plume boundaries.

J.12 Laboratory Equipment and Instruments

Available laboratory counting equipment may include gas flow proportional counters, scalers, Geiger Mueller counters, and spectroscopy equipment. This equipment is located at the Station. The laboratory equipment can provide low background beta, gamma, and alpha analysis. Laboratories used for counting and spectroscopy are available when needed seven days per week.

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K MEDIA RELATIONS

This section of the Plan describes the media relations to be developed and utilized for the education, notification, and alerting of the public for the purposes of emergency preparedness at the Station.

K.1 Public Education

Education/Training of the public on emergency planning and how the public should respond in case of an emergency is primarily the responsibility of the Station in conjunction with local authorities. Annually, the Station will disseminate information to the public within the ten mile Emergency Planning Zone regarding how the public will be alerted in case of an emergency and what actions should be taken.

K.1.1 Information Dissemination

The information to be disseminated to the public will be in the form of printed materials. In addition, meetings may be held with the public in the ten mile Emergency Planning Zone to discuss specific Station emergency preparedness information.

K.1.2 Printed Material

The printed materials for general public information will be provided by methods such as:

- Dissemination to residents in the ten mile Emergency Planning Zone;
- General distribution to areas where the general public visits on a regular basis, to be picked up as needed;
- Posters, bulletins and other visible postings in the immediate towns and unincorporated population settlements; and,
- Personal distribution.

K.1.3 Public Information Contents

- The public information may include, but is not limited to:

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- Educational information on radiation;
- Respiratory protection;
- Sheltering;
- Evacuation routes;
- Mail-in cards for persons with special needs to ensure extra precautions are taken;
- Plume Exposure Pathway Emergency Planning Zone Map to follow while the Emergency Alert System informs the personnel of the area that the plume may be affecting; and,
- Contacts and telephone numbers for additional information.
- Public information material is available to residents along with a Spanish information number.

K.1.4 Station Continuing Education/Information Program

The Station promotes a continuing program of public education throughout the Station in regard to nuclear power in general and the Station in particular. Emergency planning will be included in these information programs.

K.1.5 Education Responsibility

Education of the public regarding nuclear power and emergency response planning is the responsibility of the Supervisor, Emergency Response.

K.1.6 Distribution of Alert Radios

The Supervisor, Emergency Response or designee will distribute the alert radios and provide the public with an introduction to the emergency notification process.

K.2 Public Information Distribution

The public information is distributed annually by mail to residences, businesses, and public buildings within the ten mile Emergency Planning Zone of the Station.

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K.3 Transient Population Distribution

A general distribution to reach the transient population is achieved by posting information in public areas and by placing supplies of prepared written materials in areas where the general populace frequents.

K.4 Education and Information Program Resources

Media advertisements, telephone messages, news releases, and public information seminars may be utilized as necessary to achieve an effective information and education program.

K.4.1 News Media Participation

At least annually, the news media will be invited to participate in a program to acquaint them with the emergency planning effort at the Station. Typical topics covered will be information concerning radiation, and points of contact for release of information to the media in case of an emergency, or for plant specific material sent to the media.

K.4.2 Specific Media Requests

The South Texas Project Communications and Public Affairs Group will respond to specific media requests for information concerning nuclear power emergency planning and the Station.

K.5 Media Information Organization

It is the policy of the Station to provide prompt and accurate information to the public for events that may affect or simply interest the nearby community and the public at large.

K.5.1 Normal Events and Unusual Events Release

News releases during declared Unusual Events will be issued by the South Texas Project Communications and Public Affairs Group.

K.5.2 Early Information Release

During an Alert or Higher event, prior to activation of the Joint Information Center, The Site Public Affairs Coordinator or an individual from the South Texas Project

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Communications and Public Affairs Group will support the Emergency Director issuing press releases.

K.5.3 Joint Information Center Activation

The Joint Information Center is staffed at the declaration of an Alert and may be activated at the discretion of the Emergency Director. The Joint Information Center shall be activated at a Site Area Emergency or General Emergency. After the activation of the Joint Information Center, all news releases concerning the emergency at the Station shall be issued from the Joint Information Center. These information releases shall be the basis for information provided to the Station and employees, government groups, other utilities, and industry groups, as well as media outlets and the media representatives located at the Joint Information Center. Figure K-1 provides a typical layout of the Joint Information Center.

K.5.4 Public Inquiry Manager

Media and public inquiries will be handled by the South Texas Project Communications and Public Affairs Personnel and STPNOC Co-Owners while the on-duty emergency response organization is enroute to the Joint Information Center. The Co-Owners will be contacted and provided information to answer media and public inquiries and to direct the media to the Joint Information Center.

K.5.5 Company Spokesperson

The Company Spokesperson is the primary spokesperson for the Station and together with the Joint Information Center Director shall remain responsible for the consistency of the information released. The Joint Information Center Director and/or the Emergency Director may select individuals to address the public on behalf of the Station as their respective expertise is needed.

K.6 News Releases

News releases are issued periodically from the Joint Information Center under the direction of the Company Spokesperson. The Staff Writer will obtain information from the Site Public Affairs Coordinator. Information will be drafted into news releases and coordinated with federal, state and county public information officers for release.

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K.7 News Conferences

News conferences will be held periodically at the Joint Information Center during a declared emergency at the Station involving a Site Area Emergency or General Emergency.

- Federal, State, and County authorities are invited to have representatives and spokespersons present at news conferences.
- Prior to each news conference or news release, the representatives of the Station, the Station owners, Federal, State, and local public information officers shall have the information to be released available for review.
- Media kits, containing maps, photographs, and Station historical background may be available for distribution at news conferences as needed.

K.8 Media Requests

Any special media requests for specific interviews, visits to the Station or Control Room simulator, video tapes or films of the Control Room, and other unusual requests will be coordinated by the Media Relations Manager through the Site Public Affairs Coordinator.

- Appropriate Station personnel can be made available for special background interviews.
- Special requests may be refused if they impact the Station security or safety programs or if the Emergency Director believes that media personnel may be placed in a situation of unnecessary hazard.

K.9 Information Flow

During a declared emergency, the flow of factual information to employees and the public is critical. To ensure that the reports issued and disseminated about the Station are true and factual, the following rumor control program is established when the Joint Information Center is activated or earlier, if deemed necessary by the Joint Information Center Director.

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K.9.1 Rumor Control

Under the direction of Public Inquiry Manager, media monitors in the Joint Information Center shall monitor radio, television, and newspapers for misleading or erroneous information. Rumor Control Monitors shall answer public telephone inquiries. The Public Inquiry Manager is located in the Public Inquiry Room at the Joint Information Center.

- The Rumor Control Monitors and Media Monitors shall collect and consolidate rumors/misinformation and inform the applicable position or agency.
- Rumor/misinformation shall be interpreted and discussed to coordinate appropriate responses and for immediate knowledge of what information is being released to the public from all parties.
- The Co-Owners shall collect and consolidate rumors/ misinformation from customer service telephone operators and district offices and provide these rumors to the appropriate individual at the Joint Information Center.

K.9.2 Misinformation Handling

State and County representatives shall handle misinformation relating to offsite conditions, including recommended protective measures.

The Station shall address misinformation regarding Station/utility rumors. Rumors and incorrect information shall be addressed at news conferences when necessary.

The Station shall also discuss information addressed in the news releases regarding protective action recommendations.

K.10 Joint Information Center

The Joint Information Center shall be operated as a joint information center where the Station, the State, County, and Federal Public Information Officers shall coordinate information, issue news bulletins, and participate in joint news briefings. 0ERP01-ZV-OF02, Joint Information Center Activation, Operation, and Deactivation describes how the Joint Information Center information is disseminated.

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The Joint Information Center provides a spokesperson work area for Station, state, county, and federal public information officers. Telecommunications facilities shall be available to include, but not be limited to:

- Telephone links, with long distance capabilities;
- Telecopiers with nationwide capability; and,
- Radio and television hookups (for viewing) with satellite television availability.

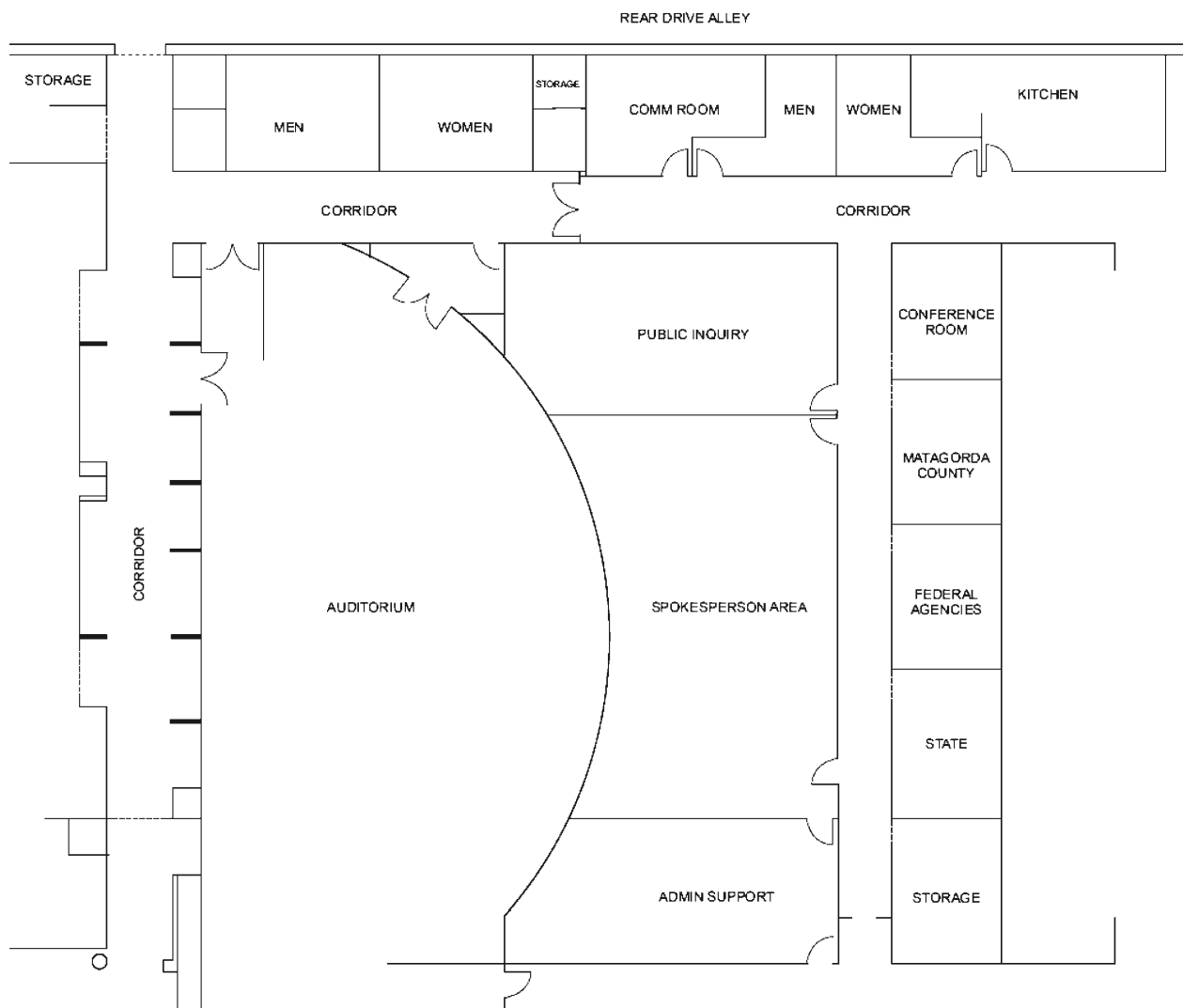
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FIGURE K-1

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TYPICAL JOINT INFORMATION CENTER LAYOUT



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L RECOVERY AND RE-ENTRY

This section of the Plan discusses the requirements for recovery and reentry into evacuated areas of the Station following an emergency condition.

L.1 Recovery Responsibility and Initiating Conditions

The Station Emergency Response Organization is responsible for the overall coordination and management of the recovery effort and for the technical and administrative services, construction, design work, scheduling/planning, quality control/assurance, and vendor support necessary during the initial stages of the recovery phase.

The Emergency Director has full authority to take immediate and decisive steps to mitigate the consequences of any nuclear emergency and for protection of the health and safety of the public. The Station Emergency Response Organization's effort during emergencies is viewed as a long term effort requiring the Station Emergency Response Organization to be present 24 hours per day.

The Station Emergency Response Organization is composed of, or can incorporate as needed, all the necessary technical, administrative, managerial, and support personnel that may be required for recovery. The organization is capable of 24 hour per day sustained operation by providing that each emergency position has the capability of being filled by any of three normal organization personnel.

The Emergency Director shall make the decision to proceed from the emergency phase to the recovery phase (with concurrence of State, County and NRC agencies if a Site Area or General Emergency was declared). The Station Emergency Response Organization's responsibilities extend into the Recovery phase and Recovery organization until the Emergency Director (with concurrence from State, County and NRC agencies if a Site Area or General Emergency was declared) decides to terminate the event and return to the normal Station organization.

The Recovery Phase can be entered when all the following conditions are met:

- The emergency conditions no longer exist and the plant is in a stable, shutdown, and safe condition.
- The potential for uncontrolled releases of radioactive material to the environment no longer exists.

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- Major repairs, if required, have been identified in order to return the plant to operation.
- If the event was either a Site Area Emergency or General Emergency, concurrence from the NRC, State, and County has been obtained.

L.2 Recovery Conduct

Accounting for the particular situation, the Recovery phase will be conducted to restore the Station to normal operating conditions. Some emergency classifications (i.e., Unusual Event, Alert) may require only brief or no recovery actions where more severe classifications (i.e., Site Area Emergency, General Emergency) may necessitate complex recovery actions.

L.3 Recovery Phase

In general, the Recovery phase will consist of:

- Logical evaluation of the cause and effect of the emergency;
- Planning necessary activities to place the Station in a configuration ready for restart;
- Analysis of the exposures to Station personnel;
- Analysis of effluent, and environmental data to quantify offsite consequences, if any;
- Assembly of the Recovery Organization needed to expediently implement recovery; and,
- Implementation of radiological controls for reentry into affected areas by posting radiation, contamination, and airborne radioactive material warning signs and entry requirements and stay times based on current surveys.

L.4 Recovery ALARA Philosophy

During Recovery, actions will be taken to maintain the Station exposures As Low As Reasonably Achievable (ALARA) in keeping with current management philosophy. Access to affected areas will be in accordance with Title 10 Code of Federal Regulations Part 20 and Environmental Protection Agency 400-R-92-001, Manual of Protective Action Guides and Protective Actions For Nuclear Incidents. All emergency worker exposures will be completely documented. Controlled areas will be posted with

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contamination, radiation and airborne levels based on current surveys. Stay times will be calculated for each unknown or high radiation area. Offsite population dose will be calculated by processing thermoluminescent dosimeters located in the Station 10-mile Emergency Planning Zone and using radiological dose assessment/projection models in accordance with procedure 0ERP01-ZV-TP01, Offsite Dose Calculations.

L.5 Recovery Initiation

Decisions to relax protective actions for the public will be made by the appropriate State authorities. The Emergency Director will notify the State Disaster District Sub-2C in Pierce or the State Operations Center in Austin, Matagorda County Emergency Management, and the Nuclear Regulatory Commission when the Station is returned to a safe condition and request that recovery actions be initiated as necessary.

L.6 Recovery Organization

Once recovery is declared, a Recovery Organization for performing recovery activities will be established as needed. This organization as defined in 0ERP01-ZV-RE01, Recovery Operations, shall consist of as a minimum:

- Recovery Manager - The Emergency Director, or his designee, will function as the Recovery Manager. The Recovery Manager is responsible for returning the plant to a re-start configuration.
- Personnel in the Station Emergency Response Organization should be integrated into the Recovery organization.
- The NRC, State of Texas, and Matagorda County Emergency Management shall be informed of the formation of the Recovery organization.

L.7 Recovery Procedures and Documentation

The activation of the Recovery Organization shall be determined by the Emergency Director in accordance with Emergency Response Procedure 0ERP01-ZV-RE01, Recovery Operations. Activation of or changes to the Recovery Organization shall be announced to the Station Emergency Response Organization on duty and to all offsite agencies involved in the emergency classification.

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All normal plant procedures will be followed unless specifically superseded by Recovery procedures. Recovery procedures are temporary procedures and will be deleted upon completion of the Recovery effort. Documentation of the emergency event shall be documented in accordance with 0ERP01-ZV-RE02, Documentation.

L.8 Recovery Actions for General Public

Offsite Recovery actions for the public are the responsibility of the County authorities.

L.9 Termination

Termination of the event shall be followed by written reports to cognizant authorities. The emergency condition is terminated when any of the following items are met:

- The emergency condition no longer exists and the plant is ready to return to normal operations.
- Repair activities are minor, the reactor is subcritical, and the plant is in a stable shutdown mode (at least Mode 3).

L.10 Exposure Authority

All questions of radiation exposure for emergency workers above the administrative limits of the Station will be directed to the Emergency Director. The Emergency Director is the only authority for extension of radiation exposures in excess of Title 10 Code of Federal Regulations Part 20 limits.

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M EMERGENCY PREPAREDNESS TRAINING

The requirement for Emergency Preparedness Training is established in Code of Federal Regulations Title 10, Part 50, Appendix E, Training. This is supported by U.S. Nuclear Regulatory Commission document NUREG-0654/Federal Emergency Management Agency Report-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Section O, Radiological Emergency Response Training.

This section of the Plan describes the Emergency Preparedness Training Program for onsite and offsite emergency response personnel to maintain a state of emergency preparedness at the South Texas Project Electric Generating Station.

M.1 Emergency Plan Training Objectives

The requirement for Emergency Response training at the Station is described in OPGP03-ZT-0139, Emergency Preparedness Training Program.

M.1.1 Emergency Preparedness Training Program

The Emergency Preparedness Training Program will occur in two phases, plus the Drill and Exercise Program. The two phases are:

- Emergency Preparedness Initial Training and, when applicable, specialized training
- Annual re-training

M.1.2 Emergency Preparedness Training Program Objectives

This two phase plan will provide Station personnel involved in the Station Emergency Response Organization with the necessary training required for successful completion of their assigned tasks during declared events, drills, and exercises, and provide the members of the Station Emergency Response Organization with the expertise required to maintain a high degree of emergency readiness. Objectives of the Emergency Preparedness Training Program are as follows:

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- Familiarize applicable personnel with the scope, applicability, and implementation of the Plan and the Emergency Plan Procedures.
- Describe the general duties and responsibilities assigned to the personnel under this Plan.
- Keep personnel informed of any changes in the Plan and/or the Emergency Plan Procedures.
- Maintain proficiency of emergency preparedness at all levels.

M.1.3 Emergency Preparedness Training Program Content

To meet these objectives, the Emergency Preparedness Training Program will include, but is not limited to the following:

- General content of the Plan and procedures
- Location of emergency equipment and supplies
- Names, locations, and functions of the emergency response facilities
- Use of Station communication systems
- Personnel accountability, assembly, and evacuation

M.2 Overall Responsibility - Emergency Plan Training

The overall responsibility for assignment of Emergency Preparedness Training lies with the Supervisor, Emergency Response as described in approved Plant Procedures.

M.2.1 Emergency Response Facility Managers

Each Emergency Response Facility Manager is responsible to ensure the personnel within their facility receive the training required to attend their duties in the Station Emergency Response Organization. Personnel assigned Station Emergency Response Organization duties are responsible to become familiar with their emergency response duties and responsibilities.

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M.2.2 Emergency Response Organization Personnel

All Station Emergency Response Organization personnel are not required to have the in-depth training that is required of those personnel who will be in a management position during a declared event. However, cross-training is allowed.

M.2.3 Annual Retraining

Annually, Station personnel shall re-qualify for their position. The requalification may be accomplished by either classroom instruction or through the drill and exercise program by being a participant, mentor, coach, evaluator, or controller, but not as an observer. Multiple assignees to a given key Emergency Response Organization position may receive credit for the same drill if their participation is a meaningful and thorough opportunity to gain proficiency in the assigned position.

M.2.4 Computer Based Training

Computer Based Training (CBT) is an acceptable equivalent method for classroom refresher training.

M.2.5 New Personnel Training

New personnel assigned to the Station shall attend applicable Emergency Plan Training prior to assuming any Emergency Response Organization position.

M.3 Emergency Plan Training

Emergency Plan Training shall consist of in-depth knowledge in those areas where Emergency Response Organization personnel have specific duties and responsibilities in implementing the Emergency Plan. The training that each member of the Emergency Response Organization is required to have is provided in approved Plant Procedures. As a minimum, all Station Emergency Response Organization personnel shall receive Emergency Preparedness Initial training.

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M.3.1 Emergency Plan Training is developed as a joint effort between the Nuclear Training Department and the Emergency Response Division.

M.3.2 Emergency Plan Training Program lesson plans are developed using applicable guidance from the systematic approach to training process.

M.3.3 Formal training shall be subject to verification by examination. Examinations are derived from approved examination questions using the terminal and enabling objectives identified in the lesson plans.

M.4 Specialized Emergency Plan Training Content

M.4.1 Specialized training shall be conducted to cover the following topics:

- Offsite Dose Calculations
- Emergency Communications
- ICS/ERFDADS Operation
- Offsite Field Teams
- Emergency Medical Care

M.5 Non-Emergency Response Organization Personnel Emergency Plan Familiarization

Station personnel not assigned Station Emergency Response Organization duties (non-essential personnel) shall be trained to respond to emergency alarms.

M.6 Specialized Training Methods

Training for Station Emergency Response Organization personnel shall include formalized classroom training, examinations, or involvement in the Drill and Exercise Program. It is the intent of this training program to qualify Station Emergency Response Organization personnel in the requirements of the Station Emergency Plan and Procedures. Training is accomplished by two means of instruction.

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M.6.1 Classroom instruction including, if applicable, successful completion of a written examination.

M.6.2 Demonstration of practical applications and drill participation with on-the-spot error correction where appropriate.

M.7 Emergency Medical Teams

At least one member of an Emergency Medical Team shall, as a minimum, have training equivalent to Red Cross Standard First Aid techniques.

M.8 Offsite Training

Training for hospital personnel, ambulance/rescue, police and fire departments shall include the procedures for notification, basic radiation protection, and their expected roles. For those local services support organizations who will enter the site, training shall also include site access procedures and the identity (by position and title) of the individual in the onsite emergency organization who will control the organizations support activities. Annual retraining shall be offered and/or conducted, as required, for these agencies.

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N DRILLS AND EXERCISES

This section of the Plan describes the Drill and Exercise Program to be utilized by the South Texas Project Electric Generating Station to maintain emergency preparedness.

N.1 Drill and Exercise Program

The following Drill and Exercise Program shall be conducted at the Station in an effort to follow up on Emergency Plan Training and maintain Station Emergency Response Organization personnel emergency preparedness at a high level of competence.

N.1.1 Periodic Drills and Exercises

Drills and Exercises (called Drills or Combined Functional Drills) will be conducted periodically in accordance with Nuclear Regulatory Commission and Federal Emergency Management Agency criteria to ensure the adequacy of the planning and preparedness effort at the Station and to test the proficiency of the Station Emergency Response Organization personnel. Each exercise and drill shall have specific evaluation criteria that describe how to measure the degree of success or failure attained for each objective. A description of the drills and exercises to be conducted is provided in Addendum N-1. Conduct of drills and exercises is described in 0PGP05-ZV-0001, Emergency Response Exercises and Drills.

N.1.2 Outside Organizations

Some drills conducted at the Station will involve outside support organizations.

N.1.3 Critique Evaluations

Critiques of each drill will be held following each drill to evaluate the overall ability of the Station Emergency Response Organization and support organizations to implement their respective duties and responsibilities. This critique will be held as soon as practical after the drill, and a formal written evaluation report will be generated from the controller/evaluator comments presented at the critique. The Drill Coordinator is responsible for conducting critiques after Drill/Exercises.

The Supervisor, Emergency Response or designee, is responsible for reviewing the comments, deficiencies, and problem areas and generating the written report. The Supervisor, Emergency Response Division, is responsible for assuring the

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Emergency Preparedness Program is upgraded adequately. Recommendations and comments will be factored into the Emergency Preparedness Program through this method.

N.1.4 Annual Drills

Drills and/or exercises will be conducted at least annually at the Station to demonstrate the effectiveness of the Station Emergency Preparedness effort.

On an annual basis, the County and State Emergency Response Organizations shall be invited to participate in the Station Emergency Preparedness Exercise/Drill. The county emergency response organization shall participate fully in an exercise at the Station every two years. The state emergency response organization shall participate fully in an offsite exercise at least once every two years.

A full participation exercise will include mobilization of the state and county emergency management organizations and their resources in keeping with the accident scenarios. Involvement by the support organizations will be as appropriate to the exercise objectives.

The ingestion exposure pathway measures shall be exercised by the state emergency response organization as a minimum every eight (8) years. An off hours and an unannounced drill/exercise shall be performed at least once every eight (8) years. Federal Emergency Management Agency objectives for the state and county emergency management organizations shall be exercised as required.

Drills will be held to demonstrate the abilities of the Station Emergency Response Organization to respond in different weather conditions. Drills should therefore be held in good or bad weather providing no life threatening situations occur.

N.2 Scenario Development

Scenarios for drills/exercises will be developed under the direction of the Supervisor, Emergency Response or designee.

N.2.1 Specific Objectives

Input from cognizant Station groups, State, and County authorities are required to define the specific objectives to be met during the drill/exercise.

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N.2.2 Scenario Composition

Scenarios should include, but not be limited to:

- Basic objectives,
- Support organization(s) involved,
- Chronological flow of initiating data,
- Time schedule of real and simulated actions,
- Summarizing narrative of appropriate response actions, and
- A listing of official evaluators and controllers.

Scenarios governing the exercise will be varied each year, and confidentiality will be maintained on the scenario. The variation to the scenarios will allow all significant provisions in the Plan to be fully exercised. Provisions exist to allow exercises to be conducted during the off-hours at a minimum of once every eight years.

The scenario preparation should include identifying the Control Room alarms, alarm sequences, and specific instrumentation readings throughout the drill.

Only officials of the Federal, State, and County support authorities involved in scenario development and approved Station controllers and evaluators will share advanced knowledge of the scenario. Limiting the knowledge of the scenario allows for effective controllers' participation and evaluator judgment without significant compromise of scenario or drill confidentiality. This allows for significant free play during the drills by the participants. A description of the arrangements for the advance materials to be provided to official observers and participation in the evaluation critique is provided in OPGP05-ZV-0001, Emergency Response Exercises and Drills.

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SECTION N

ADDENDUM N-1

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DRILLS AND EXERCISES

- 1.0 Drills and exercises (called Drills, Combined Functional Drills, Dress Rehearsals, Evaluated or Graded Exercises) will be conducted periodically, in accordance with the criteria of NUREG-0654/Federal Emergency Management Agency Report-1 to ensure the adequacy of planning and preparedness and the proficiency of the Emergency Response Organizations to react to an actual situation in the Station. All drills shall be supervised and evaluated by a Drill Coordinator qualified to Station standards.
- 2.0 Critiques of drills will be held and recommendations and comments will be factored into the preparedness program. Drills conducted at the Station may involve outside support organizations.
- 3.0 COMMUNICATION TESTS - Communication tests with State and local governments within the Plume Exposure Pathway Emergency Planning Zone will be conducted monthly. Communications with Federal emergency response organizations and State within the ingestion pathway will be tested on a quarterly basis. Communications between the nuclear facility, State and County emergency response facilities, and field assessment teams shall be tested annually. Communications tests shall also include the aspect of understanding the content of messages.
- 4.0 FIRE DRILLS - Fire drills shall be conducted in accordance with Station Updated Final Safety Analysis Report 9.5.1.6, Fire Hazard Analysis Report 4.1 and 4.2, and Title 10 Code of Federal Regulations Part 50 Appendix R. sec. I.3 to demonstrate fire-fighting readiness of assigned personnel.
- 5.0 MEDICAL EMERGENCY DRILLS - A medical emergency drill involving a simulated contaminated individual that contains provisions for participation by the local support services as indicated in Section B of this Plan shall be conducted annually. The offsite portions of the medical drill may be performed as part of the required annual exercise at the discretion of the Plant General Manager. Emergency medical drills shall test medical personnel and site personnel on handling of radiologically involved victims with respect to radiation monitoring, contamination control and decontamination of the victim.

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DRILLS AND EXERCISES

- 6.0 RADIOLOGICAL MONITORING DRILLS - Radiological Monitoring Drills shall be conducted at the Station annually. These drills shall provide for the monitoring of plant environs and radiological monitoring on site and offsite. These drills shall include collection and analysis of airborne activity, ground deposition surveys, and provide provisions for communications and record keeping. At least once every year collection and analysis will also include vegetation, soil and water. The State drills may not always be conducted at the Station. These drills will demonstrate the ability to coordinate with and make appropriate recommendations to the Department of State Health Services.
- 7.0 HEALTH PHYSICS DRILLS
- 7.1 Health Physics Drills shall be conducted semi-annually which involve response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.
- 7.2 Analysis of inplant liquid samples with simulated elevated radiation levels shall be included in Health Physics drills annually. These drills will include appropriate radiation protection and contamination controls.
- 8.0 Hostile Action Based Exercise
- 8.1 Once every eight years the Emergency Response Organization shall integrate with security and demonstrate emergency responses to a range of terrorist events. The elements include activities applicable to security-based scenarios, such as accident detection and assessment, emergency classification, notification of onsite and offsite emergency responders, protective action recommendations, use of security personnel to provide prompt access for emergency equipment and support, evacuation of emergency response facilities and relocation to backup facilities, assembly and accountability, and use of fire control teams, first aid/rescue teams, and medical support personnel.
- 9.0 In addition to the scheduled drills and exercises, a program of simplified table top drills and training drills called walkthroughs will be conducted. The purpose of these table top drills and walkthroughs is to provide a controlled session of training at the assigned emergency response facility for emergency response personnel in the actions required during a declared emergency or during an exercise period.

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- 10.0 Remedial exercises will be required if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC, in consultation with FEMA, cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency. The extent of State and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.

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SECTION O

O EMERGENCY PREPAREDNESS

This section of the Plan describes the actions required for Plan development and review and for distribution and maintenance of the Station Emergency Plan to maintain a state of emergency preparedness at the South Texas Project Electric Generating Station.

O.1 Maintaining Emergency Preparedness

Maintaining emergency preparedness is the responsibility of the Chief Nuclear Officer. It is important that a current state of emergency preparedness be maintained at all times at the Station. To ensure the state of readiness, the emergency preparedness program has been designed to provide each of the following objectives:

- Formal designation of management personnel responsible for the emergency preparedness program;
- Establishment of an emergency preparedness training program;
- Planning and conducting periodic drills and exercises;
- Annual audit of the Plan and procedures;
- Routine calibration, maintenance, and inventory of emergency equipment and, supplies;
- Establishment of a public information and education program;
- Training of the individuals responsible for the emergency planning effort in the Emergency Response Division. This training, conducted on an annual basis, will consist of onsite training and/or participation in offsite seminars and training courses, industry workshops, and peer reviews of other emergency response programs.

Needed changes from audits, recommendations, and review findings shall be incorporated into the Station Emergency Plan and appropriate procedures. Revisions to the Station Emergency Plan will be dated and marked to indicate where changes have been made. Revised material will be distributed to key members of the Station Emergency Response Organization and to other holders of the Emergency Plan in accordance with Station Records Management System Procedures. This will require that all manuals and copies of the Plan and procedures are numbered and the distribution be recorded and maintained.

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Revisions will be distributed to these holders with instructions stating any removal/replacement actions that are to be accomplished by the document holder.

Letters of Agreement will be reviewed and certified annually and updated as needed.

The telephone listing of the Station Emergency Response Organization and the Emergency Communications Directory will be updated on a quarterly basis as needed.

O.2 State/County Review of Emergency Plan

The Station's emergency action levels used for classification of emergencies, 0ERP01-ZV-IN01, Emergency Classification, shall be submitted to the state and county authorities on an annual basis for review.

- Comments from this review shall be discussed between the various organizations and incorporated into the procedure, if applicable.

O.3 Title 10, Code of Federal Regulations, Part 50.54(t) Independent Review

At the frequency specified in Title 10, Code of Federal Regulations, Part 50.54(t)(1), Emergency Preparedness Program elements are reviewed by persons which have no direct responsibility for the implementation of the Emergency Preparedness Program, in accordance with Title 10, Code of Federal Regulations, Part 50.54(t). The review shall include the elements of the program required by 10CFR50.54(t)(2). The review may be in the form of a Quality Audit.

The Quality Review results, along with recommendations for improvements, are documented and reported in accordance with the station's Operations Quality Assurance Program (OQAP) Chapter 15.0, "Quality Oversight Activities". All records generated by the review shall be retained as Quality Records for the retention period specified in 10CFR50.54(t)(2). Portions of the review are made available to state and local governments as specified in 10CFR50.54(t)(2).

The Quality Review findings shall be reviewed per the independent review requirements for Quality Audits specified in the station's Operations Quality Assurance Program (OQAP) Chapter 19.0, "Administrative Controls". Records of the independent review activities shall be prepared, approved, and distributed as identified in the OQAP. Records of the independent review shall be retained for at least the minimum period specified in 10CFR50.54(t)(2).

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O.4 Emergency Equipment and Supplies

Emergency equipment and supplies shall be inspected, inventoried, and maintained as described in Procedure OPGP05-ZV-0009, Emergency Facility Inventories and Inspections. Radiological instruments are maintained and calibrated in accordance with Station procedures.

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NUREG-0654 CROSS REFERENCE

Planning Standards and Evaluation Criteria

A. Assignment of Responsibility (Organization Control)

Planning Standard

Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organization within the Emergency planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

<u>Evaluation Criteria</u>		<u>Applicability and Cross Reference to Plans</u>
1.a	Each plan shall identify the State, local, Federal and private sector organizations (including utilities), that are intended to be part of the overall response organization for Emergency Planning Zones.	B.1, B.2, B.3, B.4, B.5
b.	Each organization and suborganization having an operational role shall specify its concept of operations, and its relationship to the total effort.	B.1, F
c.	Each plant shall illustrate these interrelationships in a block diagram.	Fig. B-1, Fig. C-6
d.	Each organization shall identify a specific individual by title who shall be in charge of the emergency response.	Table B-1, B.6, C.1.1
e.	Each organization shall provide for 24-hour per day emergency response, including 24-hour per day manning of communications links.	B.6.1, C.1
2.a	Each organization shall specify the functions and responsibilities for major elements and key individuals by title, of emergency response, including the following: Command and Control, Alerting and Notification, Communications, Public Information, Accident Assessment, Public Health and Sanitation, Social Services, Fire and Rescue, Traffic Control, Emergency Medical Services, Law	C.1, C.2, E, G, K, Table C-1

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Evaluation Criteria

Applicability and Cross Reference to Plans

Enforcement, Transportation, Protective Response (including authority to request Federal assistance and to initiate other protective actions), and Radiological Exposure Control. The description of these functions shall include a clear and concise summary such as a table of primary and support responsibilities using the agency as one axis, and the function as the other. (See Section B for licensee).

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| b. | Each plan shall contain (by reference to specific acts, codes or statutes) the legal basis for such authorities. | N/A |
| 3. | Each plan shall include written agreements referring to the concept of operations developed between Federal, State, and local agencies and other support organizations having an emergency response role within the Emergency Planning Zones. The agreements shall identify the emergency measures to be provided and the mutually acceptable criteria for their implementation, and specify the arrangements for exchange of information. These agreements may be provided in an appendix to the plan or the plan itself may contain descriptions of these matters and a signature page in the plan may serve to verify the agreements. The signature page format is appropriate for organizations where response functions are covered by laws, regulations or executive orders where separate written agreements are not necessary. | A, B.2, B.4, B.5 |
| 4. | Each principal organization shall be capable of continuous (24-hour) operations for a protracted period. The individual in the principal organization who will be responsible for assuring continuity of resources (technical, administrative, and material) shall be specified by title. | B.2, B.4, C.1.1 |

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B. Onsite Emergency Organization

Planning Standard

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.

<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
1. Each licensee shall specify the onsite emergency organization of plant staff personnel for all shifts and its relation to the responsibilities and duties of the normal staff complement.	C.1
2. Each licensee shall designate an individual as emergency coordinator who shall be on shift at all times and who shall be the authority and responsibility to immediately and unilaterally initiate any emergency actions, including providing protective action recommendations to authorities responsible for implementing offsite emergency measures.	C.1.1, Table C-1, Fig. C-1
3. Each licensee shall identify a line of succession for the emergency coordinator position and identify the specific conditions for higher level utility officials assuming this function.	C.1.1
4. Each licensee shall establish the functional responsibilities assigned to the emergency coordinator and shall clearly specify which responsibilities may not be delegated to other elements of the emergency organization. Among the responsibilities which may not be delegated shall be the decision to notify and to recommend protective actions to authorities responsible for offsite emergency measures.	C.1.1
5. Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both onsite and away from the site. These assignments shall cover the emergency functions in Table B-1 entitled, Minimum Staffing Requirements for	C.1, C.2, Table C-1 Fig. C-1 to C-5

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
Nuclear Power Plant Emergencies. The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.	
6. Each licensee shall specify the interfaces between and among the onsite functional areas of emergency activity, licensee headquarters support, local services support, and State and local government response organization. This shall be illustrated in a block diagram and shall include the onsite technical support center and the operational support (assembly) center and the licensee's near-site Emergency Operations Facility (EOF).	Figure F-1, F-2
7. Each licensee shall specify the management, administrative, and technical support personnel who will augment the plant staff as specified in the table entitled Minimum Staffing Requirements for Nuclear Power Plant Emergencies, (Table B-1) and in the following areas:	C.2 Table C-1
a. logistics support for emergency personnel, e.g., transportation, communications, temporary quarters, food and water, sanitary facilities in the field, and special equipment and supplies procurement;	C.2.7, C.2.12 F.8.3, F.8.4
b. technical support for planning and reentry/recovery operations;	C.2.11
c. management level interface with governmental authorities, and	C.2.9, C.2.13
d. release of information to news media during an emergency (coordinated with governmental authorities).	C.2.15, K.5, K.6, K.7, K.8
8. Each licensee shall specify the contractor and private organizations who may be requested to provide technical assistance to and augmentation of the emergency organization.	B.5

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| 9. Each licensee shall identify the services to be provided by local agencies for handling emergencies, e.g., police, ambulance, medical, hospital, and fire-fighting organizations shall be specified. The licensee shall provide for transportation and treatment of injured personnel who may also be contaminated. Copies of the arrangements and agreements reached with contractor, private, and local support agencies shall be appended to the plan. The agreements shall delineate the authorities, responsibilities, and limits on the actions of the contractor, private organization, and local services support groups. | B.4, B.5, J.5 |
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C. Emergency Response Support and Resources

Planning Standard

Arrangement for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

Evaluation Criteria

Applicability and Cross Reference to Plans

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| 1. | The Federal government maintains in-depth capability to assist licensees, States and local government through the Federal Radiological Monitoring and Assessment Plan (formerly Radiological Assistance Plan (RAP) and Interagency Radiological Assistance Plan (IRAP)). Each State and licensee shall make provisions for incorporating the Federal response capability into its operation plan, including the following: | |
| a. | specific persons by title authorized to request Federal assistance; see A.1.d., A.2.a. | B.4.11 |
| b. | specific Federal resources expected, including expected times of arrival at specific nuclear facility sites; and | B.4.9, B.4.10, B.4.12, B.4.13 |
| c. | specific licensee, State and local resources available to support the Federal response, e.g., air fields, command posts, telephone lines, radio frequencies and telecommunications centers. | |
| 2.a | Each principal offsite organization may dispatch representatives to the licensee's near-site Emergency Operations Facility. (State technical analysis representative at the near site EOF are preferred.) | |
| b. | The licensee shall prepare for the dispatch of a representative to principal offsite governmental emergency operations centers. | G.7 |
| 3. | Each organization shall identify radiological laboratories and their | G.9, J.12 |

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
general capabilities and expected availability to provide radiological monitoring and analyses services which can be used in an emergency.	Table H-1.5
4. Each organization shall identify nuclear and other facilities, organizations or individuals which can be relied upon in an emergency to provide assistance. Such assistance shall be identified and supported by appropriate letters of agreement.	B.2, B.3, B.4, B.5, B.6, G.9

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D. Emergency Classification System

Planning Standard

A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use of the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
1. An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class.	Table D-1 (Generalized Description, see NOTE)
2. The initialing conditions shall include the example conditions found in Appendix 1 and all postulated accidents in the Updated Final Safety Analysis Report (UFSAR) for the nuclear facility.	Table D-1 (Generalized Description, see NOTE)
3. Each State and local organization shall establish an emergency classification and emergency action level scheme consistent with that established by the facility licensee.	N/A
4. Each State and local organization should have procedures in place that provide for emergency actions to be taken which are consistent with the emergency actions recommended by the nuclear facility licensee, taking into account local offsite conditions that exist at the time of the emergency.	N/A

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E. Notification Methods and Procedure

Planning Standard

Procedures have been established for notification, by the licensee of State and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and follow-up message to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

Evaluation Criteria

Applicability and Cross Reference to Plans

1. Each organization shall establish procedures which describe mutually agreeable bases for notification of response organizations consistent with the emergency classification and action level scheme set forth in Appendix 1. These procedures shall include means for verification of messages. The specific details of verification need not be included in the plan.
2. Each organization shall establish procedures for alerting, notifying, and mobilizing emergency response personnel.
3. The licensee in conjunction with State and local organizations shall establish the contents of the initial emergency messages to be sent from the plant. These measures shall contain information about the class of emergency, whether a release is taking place, potentially affected population and areas, and whether protective measures may be necessary.
4. Each licensee shall make provisions for follow-up messages from the facility to offsite authorities which shall contain the following information if it is known and appropriate:
 - a. location of incident and name and telephone number (or communications channel identification) of caller;
 - b. date/time of incident;

E.1

E.1, E.2

E.1

E.1, E.2

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- c. class of emergency;
- d. type of actual or projected release (airborne, waterborne, surface spill), and estimated duration/impact times;
- e. estimate of quantity of radioactive material released or being released and the points and heights of releases;
- f. chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines and particulates;
- g. meteorological conditions at appropriate levels (wind speed, direction (to and from), indicator of stability, precipitation, if any);
- h. actual or projected dose rates at site boundary; projected integrated dose at site boundary;
- i. projected dose rates and integrated dose at the projected peak and at 2, 5 and 10 miles, including section(s) affected;
- j. estimate of any surface radioactive contamination inplant, onsite or offsite;
- k. licensee emergency response actions underway;
- l. recommended emergency actions, including protective measures;
- m. request for any needed onsite support by offsite organizations; and
- n. prognosis for worsening or termination of event based on plant information.

5. State and local government organizations shall establish a system for disseminating to the public appropriate information contained in

E.3, E.4

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Applicability and Cross Reference to Plans

Evaluation Criteria

initial and follow-up messages received from the licensee including the appropriate notification to appropriate broadcast media, e.g., the Emergency Alert System (EAS).

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| 6. | Each organization shall establish administrative and physical means, and the time required for notifying and providing prompt instructions to the public within the plume exposure pathway Emergency Planning Zone. (See Appendix 3). It shall be the licensee's responsibility to demonstrate that such means exist, regardless of who implements this requirement. It shall be the responsibility of the State and local governments to activate such a system. | E.1, E.2, E.3, E.4 |
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| 7. | Each organization shall provide written messages intended for the public, consistent with the licensee's classification scheme. In particular, draft messages to the public giving instructions with regard to specific protective actions to be taken by occupants of affected areas shall be prepared and included as part of the State and local plans. The role of the licensee is to provide supporting information for the messages. For ad hoc respiratory protection see Respiratory Protective Devices Manual American Industrial Hygiene Association, 1963 pp. 123-126. | E.1, E.3, E.4 |

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ATTACHMENT 1

NUREG-0654 CROSS REFERENCE

F. Emergency Communications

Planning Standard

Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

Evaluation Criteria

Applicability and Cross Reference to Plans

1. The communication plans for emergencies shall include organizational titles and alternates for both ends of the communication links. Each organization shall establish reliable primary and backup means of communication for licensees, local, and State response organizations. Such systems should be selected to be compatible with one another. Each plan shall include:	
a. provision for 24-hour per day notification to and activation of the State/local emergency response network; and at a minimum, a telephone link and alternate, including 24-hour per day manning of communications links that initiate emergency response actions.	B.2, B.4, B.5, B.6, E.1, E.2, E.3
b. provision for communication with contiguous State/local governments within the Emergency Planning Zones;	N/A
c. provision for communications as needed with Federal emergency response organizations;	B.4.13, Fig. B-1, E.1, E.2, Addendum E-1
d. provision for communications between the nuclear facility and the licensee's near-site Emergency Operations Facility, State and local emergency operations centers, and radiological monitoring teams;	
e. provision for alerting or activating emergency personnel in each response organization; and	E.2
f. provision for communication by the licensee with NRC	Addendum E-1 B.4.13, Addendum E-1

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
headquarters and NRC Regional Office Emergency Operations Centers and the licensee's near-site Emergency Operations Facility and radiological monitoring team assembly area.	E.1
2. Each organization shall ensure that a coordinated communication link for fixed and mobile medical support facilities exists.	E.1
3. Each organization shall conduct periodic testing of the entire emergency communications system (see evaluation criteria H.10, N.2.a and Appendix 3).	Addendum E-1, E.3, Addendum N-1

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G. Public Education and Information

Planning Standard

Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.

Evaluation Criteria

Applicability and Cross Reference to Plans

1. Each organization shall provide a coordinated periodic (at least annually) dissemination of information to the public regarding how they will be notified and what their actions should be in an emergency. This information shall include, but not necessarily be limited to:
 - a. educational information on radiation;
 - b. contact for additional information;
 - c. protective measures, e.g., evacuation routes and relocation centers, sheltering, respiratory protection, radioprotective drugs; and
 - d. special needs of the handicapped.

K.1

K.1

K.1

K.1

Means for accomplishing this dissemination may include, but are not necessarily limited to; information in the telephone book; periodic information in utility bills; posting in public areas; and publications distributed on an annual basis.

K.2

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| 2. | The public information program shall provide the permanent and transient adult population within the plume exposure EPZ an adequate opportunity to become aware of the information annually. The programs should include provision for written material that is likely to be available in a residence during an emergency. Updated information shall be disseminated at least annually. Signs or other measures (e.g., decals, posted notices or other means, placed in hotels, motels, gasoline stations and phone booths) shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an emergency or accident occurs. Such notices should refer the transient to the telephone directory or other source of local emergency information and guide the visitor to appropriate radio and television frequencies. | K.1, K.2, K.3, K.4 |
| 3.a | Each principal organization shall designate the points of contact and physical location for use by news media during an emergency. | K.5, G.6 |
| b. | Each licensee shall provide space which may be used for a limited number of the news media at the near site Emergency Operations Facility. | G.6 |
| 4.a | Each principal organization shall designate a spokesperson who should have access to all necessary information. | K.5.5 |
| b. | Each organization shall establish arrangements for timely exchange of information among designated spokesperson. | C.2.14, C.2.15 |
| c. | Each organization shall establish coordinated arrangements for dealing with rumors. | K.9.1 |
| 5. | Each organization shall conduct coordinated programs at least annually to acquaint news media with the emergency plans, information concerning radiation, and points of contact for release of public information in an emergency. | K.4.1 |

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H. Emergency Facilities and Equipment

Planning Standard

Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

<u>Evaluation Criteria</u>		<u>Applicability and Cross Reference to Plans</u>
1. Each licensee shall establish a Technical Support Center and an onsite operations support center (assembly area) in accordance with NUREG-0696, Revision 1.		G.2, G.3
2. Each licensee shall establish an Emergency Operations Facility from which evaluation and coordination of all licensee activities related to an emergency is to be carried out and from which the licensee shall provide information to Federal, State and local authorities responding to radiological emergencies in accordance with NUREG-0696, Revision 1.		G.4
3. Each organization shall establish an emergency operations center for use in directing and controlling response functions.		N/A
4. Each organization shall provide for timely activation and staffing of the facilities and centers described in the plan.		G.2, G.3, G.4
5. Each licensee shall identify and establish onsite monitoring systems that are to be used to initiate emergency measures in accordance with Appendix 1, as well as those to be used for conducting assessment.		
The equipment shall include:		
a. geophysical phenomena monitors, (e.g., meteorological, hydrologic, seismic);		H.1.2, H.1.6, Table H-1
b. radiological monitors, (e.g., process, area, emergency, effluent, wound and portable monitors and sampling equipment);		H.1.4, H.1.5, Table H-1

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
c. process monitors, (e.g., reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components), and	H.1.3, Table G-3
d. fire and combustion products detectors.	H.1.1, Table H-1
6. Each licensee shall make provision to acquire data from or for emergency access to offsite monitoring and analysis equipment including:	
a. geophysical phenomena monitors, (e.g., meteorological, hydrologic, seismic);	Table H-1
b. radiological monitors including ratemeters and sampling devices. Dosimetry shall be provided and shall meet, as a minimum, the NRC Radiological Assessment Branch Technical Position for the Environment Radiological Monitoring Program; and	H.1.2, H.1.4, H.1.5, H.1.6, H.1.7, H.1.8, J.10, Table G-3
c. laboratory facilities, fixed or mobile.	G.9
7. Each organization, where appropriate, shall provide for offsite radiological monitoring equipment in the vicinity of the nuclear facility.	Table G-1, Table H-1
8. Each licensee shall provide meteorological instrumentation and procedures which satisfy the criteria in Appendix 2, and provisions to obtain representative current meteorological information from other sources.	H.1.6
9. Each licensee shall provide for an onsite operations support center (assembly area) which shall have adequate capacity, and supplies, including, for example, respiratory protection, protective clothing, portable lighting, portable radiation monitoring equipment, cameras and communications equipment for personnel present in the assembly area.	G.2, Table G-1

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
10. Each organization shall make provisions to inspect, inventory and operationally check emergency equipment/instruments at least once each calendar quarter and after each use. There shall be sufficient reserves of instruments/equipment to replace those which are removed from emergency kits for calibration or repair. Calibration of equipment shall be at intervals recommended by the supplier of the equipment.	Table G-1
11. Each plan shall, in an appendix include identification of emergency kits by general category (protective equipment, communications equipment, radiological monitoring equipment and emergency supplies).	Table G-1
12. Each organization shall establish a central point (preferably associated with the licensee's near-site Emergency Operations Facility), for the receipt and analysis of all field monitoring data and coordination of sample media.	

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I. Accident Assessment

Planning Standard

Adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

Evaluation Criteria

Applicability and Cross Reference to Plans

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| 1. Each licensee shall identify plant system and effluent parameter values characteristic of a spectrum of off-normal conditions and accidents, and shall identify the plant parameter values or other information which correspond to the example initiating conditions of Appendix 1. Such parameter values and the corresponding emergency class shall be included in the appropriate facility emergency procedures. Facility emergency procedures shall specify the kinds of instruments being used and their capabilities. | Table D-1
(Generalized Description, see NOTE) |
| 2. Onsite capability and resources to provide initial values and continuing assessment throughout the course of an accident shall include post-accident sampling capability, radiation and effluent monitors, in-plant iodine instrumentation, and containment radiation monitoring in accordance with NUREG-0578, as elaborated in the NRC letter to all power reactor licensees dated October 30, 1979. | H.1, H.8, J.10, Table H-1 |
| 3. Each licensee shall establish methods and techniques to be used for determining: | |
| a. the source term of releases of radioactive material within plant systems. An example is the relationship between the containment radiation monitor(s) reading(s) and radioactive material available for release from containment. | J.10 |
| b. the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. | J.10 |
| 4. Each licensee shall establish the relationship between effluent monitor readings and onsite and offsite exposures and contamination | J.10 |

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for various meteorological conditions.

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| 5. | Each licensee shall have the capability of acquiring and evaluating meteorological information sufficient to meet the criteria of Appendix 2. There shall be provisions for access to meteorological information by at least the near site Emergency Operations Facility, the Technical Support Center, the Control Room and an offsite NRC center. The licensee shall make available to the State suitable meteorological data processing interconnections which will permit independent analysis by the State, of facility generated data in those States with the resources to effectively use this information. | H.1.6 |
| 6. | Each licensee shall establish the methodology for determining the release rate/projected doses if the instrumentation used for assessment are offscale or inoperable. | |
| 7. | Each organization shall describe the capability and resources for field monitoring within the plume exposure Emergency Planning Zone which are an intrinsic part of the concept of operations for the facility. | H.2 |
| 8. | Each organization, where appropriate, shall provide methods, equipment and expertise to make rapid assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. This shall include activation, notification means, field team composition, transportation, communication, monitoring equipment and estimated deployment times. | H.2 |
| 9. | Each organization shall have a capability to detect and measure radioiodine concentrations in air in the plume exposure EPZ as low as 10 ⁻⁷ uCi/cc (microcuries per cubic centimeter) under field conditions. Interference from the presence of noble gas and background radiation shall not decrease the stated minimum detectable activity. | J.11.2 |

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| 10. | Each organization shall establish means for relating the various measured parameters (e.g., contamination levels, water and air activity levels) to dose rates for key isotopes (i.e., those given in Table 3, page 18) and gross radioactivity measurements. Provision shall be made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with the protective action guides. The detailed provisions shall be described in separate procedures. | H.2, J.10.1 |
| | | |
| 11. | Arrangements to locate and track the airborne radioactive plume shall be made, using either or both Federal and State resources. | |

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J. Protective Response

Planning Standard

A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
1. Each licensee shall establish the means and time required to warn or advise onsite individuals and individuals who may be in areas controlled by the operator, including:	
a. Employees not having emergency assignments;	F.3, I.1, I.2, I.3
b. Visitors;	F.3, I.1, I.2, I.3
c. Contractor and construction personnel; and	F.3, I.1, I.2, I.3
d. Other persons who may be in the public access areas on or passing through the site or within the owner controlled area.	I.1, I.2, I.3
2. Each licensee shall make provisions for evacuation routes and transportation for onsite individuals to some suitable offsite location, including alternatives for inclement weather, high traffic density and specific radiological conditions.	F.5
3. Each licensee shall provide for radiological monitoring of people evacuated from the site.	F.3, F.5, J.6
4. Each licensee shall provide for the evacuation of onsite non-essential personnel in the event of a Site or General Emergency and shall provide a decontamination capability at or near the monitoring point specified in J.3.	F.5, J.6
5. Each licensee shall provide for a capability to account for all	F.3, I.2

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Evaluation Criteria

individuals onsite at the time of the emergency and ascertain the names of missing individuals within 30 minutes of the start of an emergency and account for all onsite individuals continuously thereafter.

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| <p>6. Each licensee shall, for individuals remaining or arriving onsite during the emergency, make provisions for:</p> <p style="margin-left: 20px;">a. Individual respiratory protection;</p> <p style="margin-left: 20px;">b. Use of protective clothing; and</p> <p style="margin-left: 20px;">c. Use of radioprotective drugs, (e.g. individual thyroid protection).</p> | <p>J.9</p> <p>J.3</p> <p>J.9</p> |
| <p>7. Each licensee shall establish a mechanism for recommending protective actions to the appropriate State and local authorities. These shall include Emergency Action Levels corresponding to projected dose to the population-at-risk, in accordance with Appendix 1 and with the recommendations set forth in Tables 2.1 and 2.2 of the Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA-400-R-92-001). As specified in Appendix 1, prompt notification shall be made directly to the offsite authorities responsible for implementing protective measures within the plume exposure pathway Emergency Planning Zone.</p> | <p>I.6, Addendum I-1</p> |
| <p>8. Each licensee's plan shall contain time estimates for evacuation within the plume exposure EPZ. These shall be in accordance with Appendix 4.</p> | <p>I.7.1</p> |
| <p>9. Each State and local organization shall establish a capability for implementing protective measures based upon protective action guides and other criteria. This shall be consistent with the recommendations for EPA regarding exposure resulting from passage of radioactive airborne plumes, (EPA-400-R-92-001) and with those of DHEW (DHHS)/FDA regarding radioactive contamination of human food and animal feeds as published in the Federal Register of December 15, 1978 (43 FR 58790).</p> | <p>N/A</p> |

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<u>Evaluation Criteria</u>	<u>Applicability and Cross Reference to Plans</u>
10. The organization's plans to implement protective measures for the plume exposure pathway shall include:	
a. Maps showing evacuation routes, evacuation areas, preselected radiological sampling and monitoring points, relocation centers in host areas, and shelter areas; (identification of radiological sampling and monitoring points shall include the designators in Table J-1 or an equivalent uniform system described in the plan);	Figures I-1
b. Maps showing population distribution around the nuclear facility. This shall be by evacuation areas (licensees shall also present the information in a sector format):	Figure I-1
c. Means for notifying all segments of the transient and resident population;	E.3
d. Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement;	I.7.2
e. Provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons within the plume exposure EPZ whose immediate evaluation may be infeasible or very difficult, including quantities, storage, and means of distribution.	Addendum I-1
f. State and local organizations' plans should include the method by which decisions by the State Health Department for administering radioprotective drugs to the general population are made during an emergency and the pre-determined conditions under which such drugs may be used by offsite emergency workers;	N/A
g. Means of relocation;	N/A

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| h. | Relocation centers in host areas which are at least 5 miles, and preferably 10 miles, beyond the boundaries of the plume exposure emergency planning zone; (See J.12). | N/A |
| i. | Projected traffic capacities of evacuation routes under emergency conditions; | N/A |
| j. | Control of access to evacuated areas and organization responsibilities for such control; | N/A |
| k. | Identification of and means for dealing with potential impediments (e.g., seasonal impassability of roads) to use of evacuation routes, and contingency measures; | N/A |
| l. | Time estimates for evacuation of various sectors and distances based on a dynamic analysis (time-motion study under various conditions) for the plume exposure pathway emergency planning zone (See Appendix 4); and | I.7.1 |
| m. | The bases for the choice of recommended protective actions from the plume exposure pathway during emergency conditions. This shall include expected local protection afforded in residential units or other shelter for direct and inhalation exposure, as well as evacuation time estimates. | Addendum I-1 |

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| 11. Each State shall specify the protective measures to be used for the ingestion pathway, including the methods for protecting the public from consumption of contaminated food-stuffs. This shall include criteria for deciding whether dairy animals should be put on stored feed. The plan shall identify procedures for detecting contamination, for estimating the dose commitment consequences of uncontrolled ingestion, and for imposing protection procedures such as impoundment, decontamination, processing, decay, product diversion, and preservation. Maps for recording survey and monitoring data, key land use data (e.g., farming), dairies, food processing plants, water sheds, water supply intake and treatment plants and reservoirs shall be maintained. Provisions for maps showing detailed crop information may be by including reference to their availability and location and a plan for their use. The maps shall start at the facility and include all of the 50-mile ingestion pathway EPZ. Up-to-date lists of the name and location of all facilities which regularly process milk products and other large amounts of food or agricultural products originating in the ingestion pathway Emergency Planning Zone, but located elsewhere, shall be maintained. | N/A |
| 12. Each organization shall describe the means for registering and monitoring of evacuees at relocation centers in host areas. The personnel and equipment available should be capable of monitoring within about a 12 hour period all residents and transients in the plume exposure EPZ arriving at relocation centers. | N/A |

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K. Radiological Exposure Control

Planning Standard

Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

Evaluation Criteria

Applicability and Cross Reference to Plans

1. Each licensee shall establish onsite exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Actions Guides (EPA-400-R-92-001) for;
 - a. removal of injured persons; J.1, J.5
 - b. undertaking corrective actions;
 - c. performing assessment actions;
 - d. providing first aid;
 - e. performing personnel decontamination;
 - f. providing ambulance service; and
 - g. providing medical treatment services.
2. Each licensee shall provide an onsite radiation protection program to be implemented during emergencies, including methods to implement exposure guidelines. The plan shall identify individual(s), by position or title, who can authorize emergency workers to receive doses in excess of 10 CFR Part 20 limits. Procedures shall be worked out in advance for permitting onsite volunteers to receive radiation exposures in the course of caring out lifesaving and other emergency activities. These procedures shall include expeditious decision making and a reasonable consideration of relative risks. C.1.1.1, C.2.3, C.2.10, J.1

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| 3.a | Each organization shall make provision for 24-hour-per-day capability to determine the doses received by emergency personnel involved in any nuclear accident, including volunteers. Each organization shall make provisions for distribution of dosimeters, both self-reading and permanent record devices. | J.1 |
| b. | Each organization shall ensure that dosimeters are read at appropriate frequencies and provide for maintaining dose records for emergency workers involved in any nuclear accident. | J.2 |
| 4. | Each State and local organization shall establish the decision chain for authorizing emergency workers to incur exposures in excess of the EPA General Public Protective Action Guides (i.e., EPA PAGs for emergency workers and lifesaving activities). | N/A |
| 5.a. | Each organization as appropriate, shall specify action levels for determining the need for decontamination. | J.3 |
| b. | Each organization, as appropriate, shall establish the means for radiological decontamination of emergency personnel wounds, supplies, instruments and equipment, and for waste disposal. | J.5 |
| 6 | Each licensee shall provide onsite contamination control measures including: | |
| a. | area access control; | J.3 |
| b. | drinking water and food supplies; | J.4 |
| c. | criteria for permitting return of areas and items to normal use, see Draft ANSI 13.12. | J.3 |
| 7. | Each licensee shall provide the capability for decontaminating relocated onsite personnel, including provisions for extra clothing and decontaminants suitable for the type of contamination expected, with particular attention given to radioiodine contamination of the skin. | G.10, J.5, J.6 |

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L. Medical and Public Health Support

Planning Standard

Arrangements are made for medical services for contaminated injured individuals¹.

<u>Evaluation Criteria</u>		<u>Applicability and Cross Reference to Plans</u>
1.	Each organization shall arrange for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake, including assurance that persons providing these services are adequately prepared to handle contaminated individuals.	B.4.6 J.5
2.	Each licensee shall provide for onsite first aid capability.	F.7, G.11, J.5
3.	Each State shall develop lists indicating the location of public, private and military hospitals and other emergency medical services facilities within the State or contiguous States considered capable of providing medical support for any contaminated injured individual. The listing shall include the name, location, type of facility and capacity and any special radiological capabilities. These emergency medical services should be able to radiologically monitor contamination personnel, and have facilities and trained personnel able to care for contaminated injured persons.	N/A
4.	Each organization shall arrange for transporting victims of radiological accidents to medical support facilities.	B.5.6, J.5

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M. Recovery and Reentry Planning and Post-Accident Operations

Planning Standard

General plans for recovery and reentry are developed.

<u>Evaluation Criteria</u>		<u>Applicability and Cross Reference to Plans</u>
1.	Each organization, as appropriate, shall develop general plans and procedures for reentry and recovery and describe the means by which decisions to relax protective measures (e.g., allow reentry into an evacuated area) are reached. This process should consider both existing and potential conditions.	L.1, L.2, L.3, L.4, L.5, L.6
2.	Each licensee plan shall contain the position/title, authority and responsibilities of individuals who will fill key positions in the facility recovery organization. This organization shall include technical personnel with responsibilities to develop, evaluate and direct recovery and reentry operations. The recovery organization recommended by the Atomic Industrial Forum's Nuclear Power Plant Emergency Response Plan dated October 11, 1979, is an acceptable framework.	L.6
3.	Each licensee and State plan shall specify means for informing members of the response organizations that a recovery operation is to be initiated, and of any changes in the organizational structure that may occur.	L.7
4.	Each plan shall establish a method for periodically estimating total population exposure.	L.4

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N. Exercises and Drills

Planning Standard

Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

Applicability and Cross Reference to Plans

Evaluation Criteria

- 1.a. An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. The emergency preparedness exercise shall simulate an emergency that results in offsite radiological releases which would require response by offsite authorities. Exercises shall be conducted as set forth in NRC and FEMA rules.
- b. An exercise shall include mobilization of State and local personnel and resources adequate to verify the capability to respond to an accident scenario requiring response. The organization shall provide for a critique of the annual exercise by Federal and State observers/evaluators. The scenario should be varied from year to year such that all major elements of the plans and preparedness organizations are tested within an eight-year period. Each organization should make provisions to start a drill or exercise between 6:00 p.m. and 4:00 a.m. at least once in every eight-year exercise cycle. Exercises should be conducted under various weather conditions. Some exercises should be unannounced.
2. A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. A drill is often a component of an exercise. A drill shall be supervised and evaluated by a qualified drill instructor. Each organization shall conduct drills, in addition to the annual exercise at the frequencies indicated below:

N.1, N.2

N.1, N.2.2

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a. Communication Drills

Communications with State and local governments within the plume exposure pathway Emergency Planning Zone shall be tested monthly. Communications with Federal emergency response organizations and States within the ingestion pathway shall be tested quarterly. Communications between the nuclear facility, State and local emergency operations centers, and field assessment teams shall be tested annually. Communication drills shall also include the aspect of understanding the content of messages.

N.1, Addendum N-1

b. Fire Drills

Fire drills shall be conducted in accordance with the plant (nuclear facility) technical specifications.

Addendum N-1

c. Medical Emergency Drills

A medical emergency drill involving a simulated contaminated individual which contains provisions for participation by the local support services agencies (i.e., ambulance and offsite medical treatment facility) shall be conducted annually. The offsite portions of the medical drill may be performed at part of the required annual exercise.

Addendum N-1

d. Radiological Monitoring Drills

Plant environs and radiological monitoring drills (onsite and offsite) shall be conducted annually. These drills shall include collection and analysis of all sample media (e.g., water, vegetation, soil and air), and provisions for communications and record keeping. The State drills need not be at each site. Where appropriate, local organization shall participate.

Addendum N-1

e. Health Physics Drills

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| <p>(1) Health Physics drills shall be conducted semi-annually which involve response to, and analysis of, simulated elevated airborne and liquid samples and direct radiation measurements in the environment. The State drills need not be at each site.</p> | <p>Addendum N-1</p> |
| <p>(2) Analysis of inplant liquid samples with simulated elevated radiation levels shall be included in Health Physics drills annually. These drills will include appropriate radiation protection and contamination controls.</p> | <p>Addendum N-1</p> |
| <p>3. Each organization shall describe how exercises and drills are to be carried out to allow free play for decision making and to meet the following objectives. Pending the development of exercise scenarios and exercise evaluation guidance by NRC and FEMA the scenarios for use in exercises and drills shall include but not be limited to, the following:</p> | |
| <p>a. The basic objective(s) of each drill and exercise and appropriate evaluation criteria:</p> | <p>N.1.1, N.2</p> |
| <p>b. The date(s), time period, place(s) and participating organization</p> | |
| <p>c. The simulated events;</p> | |
| <p>d. A time schedule of real and simulated initiating events</p> | <p>N.2.2</p> |
| <p>e. A narrative summary describing the conduct of the exercises or drills to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities; and</p> | <p>N.2.2</p> |
| <p>f. A description of the arrangements for and advance materials to be provided to official observers.</p> | <p>N.2.2</p> |
| <p>4. Official observers from Federal, State or local governments will observe, evaluate, and critique the required exercises. A critique shall be scheduled at the conclusion of the exercise to evaluate the ability</p> | |

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of organizations to respond as called for in the plan. The critique shall be conducted as soon as practicable after the exercise, and formal evaluation should result from the critique.

5. Each organization shall establish means for evaluating observer and participant comments on areas needing improvement, including emergency plan procedural changes, and for assigning responsibility for implementing corrective actions. Each organization shall establish management control used to ensure that corrective actions are implemented.

N.1.3

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O. Radiological Emergency Response Training

Planning Standard

Radiological emergency response training is provided to those who may be called on to assist in an emergency.

Evaluation Criteria

Applicability and Cross Reference to Plans

- | | | |
|----|---|-----|
| 1. | Each organization shall assure the training of appropriate individuals. | |
| a. | Each facility to which the plant applies shall provide site specific emergency response training for those offsite emergency organizations who may be called upon to provide assistance in the event of an emergency. | M.8 |
| b. | Each offsite response organization shall participate in and receive training. Where mutual aid agreements exist between local agencies such as fire, police and ambulance/rescue, the training shall also be offered to the other departments who are members of the mutual aid district. | N/A |
| 2. | The training program for members of the onsite emergency organization shall, besides classroom training, include practical drills in which each individual demonstrates ability to perform his assigned emergency function. During the practical drills, on-the-spot correction of erroneous performance shall be made and a demonstration of the proper performance offered by the instructor. | M.6 |
| 3. | Training for individuals assigned to licensee first aid teams shall include courses equivalent to Red Cross Multi-Media. | M.7 |
| 4. | Each organization shall establish a training program for instructing and qualifying personnel who will implement radiological emergency response plans. The specialized initial training and periodic retraining programs (including the scope, nature and frequency) shall be provided in the following categories: | |

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- | | | |
|---|---------------------|--|
| a. Directors or coordinators of the response organizations; | M.3 | |
| b. Personnel responsible for accident assessment; | M.4 | |
| c. Radiological monitoring teams and radiological analysis personnel; | M.4 | |
| d. Police, security and fire fighting personnel; | M.8 | |
| e. Repair and damage control/correctional action teams (onsite); | M.3 | |
| f. First aid and rescue personnel; | M.4 | |
| g. Local support services personnel including Civil Defense/Emergency Service personnel; | M.8 | |
| h. Medical support personnel; | M.4, M.8 | |
| i. Licensee's headquarters support personnel; | M.3 | |
| j. Personnel responsible for transmission of emergency information and instructions. | M.4 | |
| 5. Each organization shall provide for the initial and annual retraining of personnel with emergency response responsibilities. | M.1.1, M.2.3, M.2.5 | |

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- P. Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans.

Planning Standard

Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

<u>Evaluation Criteria</u>		<u>Applicability and Cross Reference to Plans</u>
1.	Each organization shall provide for the training of individuals responsible for the planning effort.	O.1
2.	Each organization shall identify by title the individual with the overall authority and responsibility for radiological emergency response planning.	O.1
3.	Each organization shall designate an Emergency Planning Coordinator with responsibility for the development and updating of emergency plans and coordination of these plans with other response organizations.	
4.	Each organization shall update its plan and agreements as needed, review and certify it to be current on an annual basis. The update shall take into account changes identified by drills and exercises.	O.1
5.	The emergency response plans and approved changes to the plans shall be forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. Revised pages shall be dated and marked to show where changes have made.	O.1
6.	Each plan shall contain a detailed listing of supporting plans and their source.	A.2
7.	Each plan shall contain as an appendix listing, by title, procedures required to implement the plan. The listing shall include the section(s) of the plan to be implemented by each procedure.	Attachment 2
8.	Each plan shall contain a specific table of contents. Plans submitted	Table-of-Contents

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**Applicability and Cross
Reference to Plans**

Evaluation Criteria

for review should be cross-referenced to these criteria.

9. Each licensee shall arrange for and conduct independent reviews of the emergency preparedness program at least every 12 months. (An independent review is one conducted by any competent organization either internal or external to the licensee's organization, but who are not immediately responsible for the emergency preparedness program). The review shall include the emergency plan, its implementing procedures and practices, training, readiness testing, equipment, and interfaces with State and local governments. Management controls shall be implemented for evaluation and correction of review findings. The results of the review, along with recommendations for improvements, shall be documented, reported to appropriate licensee corporate and plant management, and involved Federal, State and local organizations, and retained for a period of five years.
10. Each organization shall provide for updating telephone numbers in emergency procedures at least quarterly.

O.3

E.2, Addendum E-1

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IMPLEMENTING PROCEDURES

<u>Procedure</u>		<u>Plan Section</u>
0ERP01-ZV-EF01	EOF Director	C
0ERP01-ZV-EF02	Deputy EOF Director	
0ERP01-ZV-EF03	Radiological Director	C
0ERP01-ZV-EF04	Technical Director	C
0ERP01-ZV-EF07	Support Organization Director	C
0ERP01-ZV-EF08	Licensing Director	C
0ERP01-ZV-EF09	Procurement/Resources Supervisor	F
0ERP01-ZV-EF10	Offsite Field Team Supervisor	J
0ERP01-ZV-EF11	Records Supervisor	
0ERP01-ZV-EF12	Communications Systems Supervisor	
0ERP01-ZV-EF15	Dose Assessment Specialist	H, I, J
0ERP01-ZV-EF17	System Status Evaluator	
0ERP01-ZV-EF18	Offsite Agency Communicator	
0ERP01-ZV-EF19	Matagorda County EOC Liaison	
0ERP01-ZV-EF20	State of Texas Liaison	
0ERP01-ZV-EF21	Federal Response Agency Liaison	
0ERP01-ZV-EF22	Emergency Operations Facility Liaison	
0ERP01-ZV-EF24	Support Orientation Coordinator	

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<u>Procedure</u>	<u>Plan Section</u>
0ERP01-ZV-EF25 Site Public Affairs Coordinator	K
0ERP01-ZV-EF26 Materials Engineer	
0ERP01-ZV-EF27 Engineering Assistant	
0ERP01-ZV-EF28 Assistant Support Organization Director	F
STPEGS Emergency Action Level Technical Bases Document	D
0ERP01-ZV-IN01 Emergency Classification	D, H
0ERP01-ZV-IN02 Notifications to Offsite Agencies	D, E, F, H, I
0ERP01-ZV-IN03 Emergency Response Organization Notification	E, F
0ERP01-ZV-IN04 Assembly and Accountability	F, I
0ERP01-ZV-IN05 Site Evacuation	F, I, J
0ERP01-ZV-IN06 Radiological Exposure Guideline	F, H, I, J
0ERP01-ZV-IN07 Offsite Protective Action Recommendations	H, I
0ERP01-ZV-IN10 Administration of Potassium Iodide	J
0ERP01-ZV-OF02 Joint Information Center Activation, Operations, and Deactivation	C, G, K
0ERP01-ZV-OF03 Alternate TSC/OSC	G
0ERP01-ZV-OS01 OSC Coordinator	C
0ERP01-ZV-OS02 Assistant OSC Coordinator	C
0ERP01-ZV-OS03 Radiological Coordinator	C
0ERP01-ZV-OS04 Security Coordinator	C
0ERP01-ZV-OS05 Materials Handler	
0ERP01-ZV-OS06 Emergency Teams	C

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<u>Procedure</u>		<u>Plan Section</u>
0ERP01-ZV-RE01	Recovery Operations	F, L
0ERP01-ZV-RE02	Documentation	L
0ERP01-ZV-SH01	Shift Manager	C, H
0ERP01-ZV-SH02	Acting Radiological Manager	C
0ERP01-ZV-SH03	Acting Security Manager	C
0ERP01-ZV-SH04	Acting OSC Coordinator	C
0ERP01-ZV-TP01	Offsite Dose Calculations	F, H, I, J
0ERP01-ZV-TP02	Offsite Field Teams	H, I, J
0ERP01-ZV-TS01	TSC Manager	C
0ERP01-ZV-TS02	Assistant TSC Manager	
0ERP01-ZV-TS03	Operations Manager	C
0ERP01-ZV-TS04	Radiological Manager	C, H, I, J
0ERP01-ZV-TS05	Chemical/Radiochemical Manager	
0ERP01-ZV-TS06	Maintenance Manager	C
0ERP01-ZV-TS07	Technical Manager	C
0ERP01-ZV-TS08	Security Manager	C
0ERP01-ZV-TS09	Administrative Manager	C
0ERP01-ZV-TS11	Engineering Supervisor	
0POP04-ZO-0004	Personnel Emergencies	E, F, J

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<u>Procedure</u>	<u>Plan Section</u>
0PGP03-ZA-0106 Emergency Medical Response Plan	F, J
0PGP03-ZT-0139 Emergency Preparedness Training Program	M
0PGP03-ZV-0002 Hurricane Plan	F
0PGP05-ZV-0003 Emergency Response Organization	C, F
0PGP05-ZV-0004 Emergency Plan Implementing Procedures Users Guide	A
0PGP05-ZV-0005 Emergency Response Program	A, O
0PGP05-ZV-0006 Emergency Notification and Response System	C
0PGP05-ZV-0007 Prompt Notification System	E, G
0PGP05-ZV-0009 Emergency Facilities Inventories and Inspections	G, O
0PGP05-ZV-0010 Emergency Plan Revision	A, O
0PGP07-ZA-0011 Communications System	E
0PGP05-ZV-0011 Emergency Communications	E, G
0PGP05-ZV-0014 Emergency Response Activities	E, N
0PGP05-ZV-0017 Severe Accident Management Guidelines	C

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GLOSSARY

1. ALARA (As Low As Reasonably Achievable): A radiation protection philosophy requiring that personnel exposure to radiation and radioactive material be kept not only within regulatory limits but be maintained As Low As Reasonably Achievable in the light of current technology with appropriate consideration for economic and social factors and for the benefits to be expected. ALARA applies not only to minimizing occupational exposure to radiation workers, but also to limiting the radioactivity of plant effluent and minimizing the potential for exposure to the public.
2. ANNUAL: Based on a calendar year unless otherwise designated.
3. COMMITTED DOSE EQUIVALENT (CDE): Total Dose from internally deposited radionuclide over subsequent 50 year period to a specific organ.
4. COMMITTED EFFECTIVE DOSE EQUIVALENT (CEDE): Sum of risk-weighted Committed Dose Equivalents to organs.
5. CODE OF FEDERAL REGULATIONS: The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles that represent broad areas subject to Federal regulation. Each title is divided into chapters that usually bear the name of the issuing agency. Each chapter further subdivided into parts covering specific regulatory areas.
6. COLD SHUTDOWN: A reactor condition in which the coolant temperature has been reduced to 200° F or below and the pressure has essentially been reduced to atmospheric pressure.
7. CONTAMINATED AREA: An area where radioactive material is deposited where it is not desired.
8. CO-OWNER - One of the four owners of the South Texas Project Electric Generating Station.
9. DEEP DOSE EQUIVALENT (DDE): Dose equivalent from external radiation at a tissue depth of 1 centimeter.
10. DERIVED AIR CONCENTRATION (DAC): The concentration of a given radionuclide in air.
11. DOSE (Radiation): The quantity of radiation absorbed per unit of mass by the body or by any portion of the body. The unit of radiation dose is the RAD.

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12. DOSE EQUIVALENT: Quantity that expresses all radiations on a common scale for calculating the absorbed dose. It is defined as the product of the absorbed dose in rads and certain modifying factors. The unit is rem.
13. DOSE RATE: Dose delivered per unit time.
14. DOSIMETER: An instrument used for measuring the absorbed dose, exposure, or similar radiation quantity.
15. DOSIMETRY: A system of dosimeters for evaluating the absorbed dose, exposure, or similar radiation quantity.
16. EMERGENCY ALERT SYSTEM (EAS): A network of broadcast stations and interconnecting facilities authorized by the Federal Communications Commission to operate in a controlled manner during a war, state of public peril, disaster or other national, state and local emergencies.
17. EMERGENCY PLANNING ZONE (EPZ): A generic area defined about a nuclear facility to facilitate offsite emergency planning and develop a significant response base. It is defined for the plume and ingestion exposure pathways.
18. EVACUATION: The removal of people from an area on an emergency basis to avoid or reduce possible short term radiation exposure.
19. EXPOSURE: Being exposed to ionizing radiation or to radioactive material.
20. EXTERNAL DOSE: Dose from a source of radioactive material outside the body.
21. FILTER, HEPA: High-efficiency particulate air filter.
22. FRISKER: Radiation monitoring equipment. This is a hand-held probe that is slowly passed near the area of interest to determine the presence or absence of radioactive material.
23. GAMMA RAYS: High-energy, short-wavelength electromagnetic radiation. Gamma rays are essentially similar to x-rays, but are usually more energetic and are nuclear in origin.
24. GASEOUS EFFLUENT STREAM: Processed gaseous wastes containing radioactive materials resulting from the plant operation.

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25. **GUIDELINES:** The Severe Accident Management Guidelines are designated guidelines rather than procedures, because the specific actions discussed in the guidelines are not requirements, but rather are subject to evaluation and may be rejected or implemented according to the circumstances.
26. **HEALTH PHYSICS:**
- A profession devoted to the protection of man and his environment from unwarranted radiation exposure.
 - A general term used as a modifying phrase that may refer to facilities, equipment, programs, etc. used in the discipline of health physics.
27. **HIGH RADIATION AREA:** Any area, accessible to personnel, in which there exists radiation originating in whole or in part within licensed material at such levels that a dose equivalent could be received in any one hour in excess of 100 millirem at 30 centimeters.
28. **HOSTILE ACTION:** An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, takes hostages, and/or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)
29. **INGESTION EXPOSURE PATHWAY (IPZ):** The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk or fresh vegetables. The duration of principal exposures could range in length from hours to months.
30. **INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO):** An organization established by the utilities to set up standardized operations. By Letter of Agreement, INPO agrees to provide the service provided by their organization, coordinate the activities of the organization and provide telephone contacts of the organization during an emergency at the Station.
31. **INTERNAL DOSE:** Dose from a source of radioactive material within the body (as a result of deposition of radionuclides in body tissue).

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32. IONIZATION CHAMBER: An instrument that detects and measures ionizing radiation by measuring the electrical current that flows when radiation ionizes gas in a chamber, making the gas a conductor of the electricity.
33. JOINT INFORMATION CENTER (JIC): A Center set up in a central location where public information officers from the involved agencies come together to ensure coordination of information to be released to the media and the public. This center becomes the central point for media access to latest developments and emergency information. All information released is coordinated among the agencies involved to ensure its consistency and accuracy.
34. LIQUID EFFLUENT STREAM: Processed liquid wastes containing radioactive materials resulting from the operation of a nuclear power reactor.
35. LOSS OF COOLANT ACCIDENT (LOCA): A loss of coolant accident can result from an opening in the primary cooling system, such as a pipe break or a stuck open relief valve.
36. MONITOR (Radiation): A radiation detector whose purpose is to measure the level of ionizing radiation (or quantity of radioactive material).
37. MONITORING (Radiation): The continuous or periodic collection and assessment of pertinent information:
- Determine the adequacy of radiation protection practices.
 - Ascertain potentially significant changes in conditions or protection performance.
38. NUREG-0654 (Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants): The purpose of this guidance and upgraded acceptance criteria is to provide a basis for NRC licensees, and State and local governments to develop radiological emergency plans and improve emergency preparedness.
39. OCCUPATIONAL DOSE: A dose received by a permanent or temporary employee while engaged in activities relating to the use, possession, or surveillance of licensed radioactive material or sources of ionizing radiation. Occupational dose shall not include any exposure of an individual to radiation for the purpose of medical diagnosis or therapy. Determination of occupational dose is the responsibility of the licensee.

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40. **PERSONNEL MONITORING EQUIPMENT:** Devices designed to be worn or carried by an individual for the purpose of measuring occupational radiation doses, e.g. thermoluminescent dosimeters, pocket dosimeters, and finger badges.
41. **PLUME EXPOSURE PATHWAY:** The principal exposure sources from this pathway are:
 - external exposure to gamma radiation from the plume and from deposited materials and
 - inhalation exposure from the passing radioactive plume.
42. **POCKET DOSIMETER:** An ionization chamber carried or worn by an individual for personnel dose monitoring.
43. **PORTAL MONITOR:** A walk-through radiation detector whose purpose is to detect beta and gamma emitting contamination on personnel exiting selected areas.
44. **POSTED AREA:** An area in which radiation and/or contamination exists or might exist at levels such that the use of warning signs or devices is required.
45. **PRIMARY COOLANT or REACTOR COOLANT SYSTEM:** The fluid circulated through the reactor to remove heat.
46. **PROJECTED DOSE:** An estimate of the radiation dose that affected individuals could potentially receive if protective actions are not taken.
47. **PROTECTION FACTOR:** A measure of the protection afforded by a respirator; the ratio of the concentration of the radionuclide in the ambient atmosphere to the concentration inside the respiratory equipment (usually inside the facepiece) under conditions of use.
48. **PROTECTIVE ACTION:** An action taken to avoid or reduce a projected dose.
49. **PROTECTIVE CLOTHING:** Used interchangeably with the term anti-contamination clothing and has the same general meaning in radiation protection procedures.
50. **RAD:** A measure of the dose produced by directly or indirectly ionizing radiation in terms of the energy absorbed per unit mass of any irradiated material. One rad is the dose corresponding to 100 ergs of absorbed energy per gram of irradiated material.

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- 51. **RADIATION (Ionizing):** Any or all of the following: alpha, beta, gamma, X-rays, neutrons, high speed protons or electrons, and other atomic particles (sound, radio waves, visible, and infrared or ultraviolet light are non-ionizing forms of radiation).
- 52. **RADIATION AREA:** Any area, accessible to personnel, in which radiation levels could result in an individual receiving a dose equivalent in excess of 5 millirem in 1 Hour at 30 centimeters.
- 53. **RADIATION EXPOSURE:** Refers very broadly to the act or state of being exposed to ionizing radiation.
- 54. **RADIATION PROTECTION:** Used interchangeably with the term health physics.
- 55. **RADIATION WORK PERMIT (RWP):** A document providing radiological evaluation and authorization to perform specific activities involving personnel exposure to ionizing radiation or radioactive material. It describes the radiological conditions and specifies radiation protection controls to be used when performing the activities.
- 56. **RADIOACTIVE CONTAMINATION:** The presence of radioactive material in an undesired location. Contamination may be loose, fixed, or present in air.
- 57. **RADIONUCLIDE:** A radioactive nuclide is one that has the capability of spontaneously emitting radiation.
- 58. **REACTOR TRIP (SCRAM):** An automatic procedure by which control rods are rapidly inserted into the core of a reactor to stop the chain reaction.
- 59. **RECOVERY:** The process of reducing radiation exposure rates and concentrations in the environment to acceptable levels for unconditional occupancy.
- 60. **RELOCATION:** The removal or continued exclusion of people from contaminated areas to avoid chronic radiation exposure.
- 61. **REM:** Special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor.
- 62. **SECONDARY COOLANT:** A separate stream of coolant that is converted to steam by the primary coolant in a heat exchange (steam generator) to power the turbine.

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- 63. SELF-READING DOSIMETER: A self-reading dosimeter is a direct-reading pocket dosimeter shaped like a pen with a pocket clip. It is generally used to measure X and gamma radiation.
- 64. SEVERE ACCIDENT: A nuclear accident involving a loss of core cooling and damage so severe that there are core geometry changes and possible relocation of core materials, e.g. a core melt. In accordance with the Severe Accident Management Guidelines, a severe accident has occurred when core exit thermocouple temperatures are greater than 1200 degrees F and actions to cool the core have been, and continue to be, unsuccessful. The plant is outside of the Design Bases for the station.
- 65. SHELTER: The use of the closest available structure that will provide protection from exposure to an airborne plume.
- 66. THERMOLUMINESCENT DOSIMETER (TLD): A dosimeter based on the effect of ionizing radiation on certain thermoluminescent crystals, in which radiation excites orbital electrons of some atoms to a higher energy state orbit than normal. Stimulating the crystal by controlled heating allows the electrons to return to normal orbit, thereby emitting discrete quanta of light proportional to the amount of ionizing radiation absorbed by the crystal. Emitted light can be measured and related to personnel dose from ionizing radiation.
- 67. TOTAL EFFECTIVE DOSE EQUIVALENT (TEDE): Sum of the deep dose equivalent and the committed effective dose equivalent.
- 68. X-RAY: Highly penetrating radiation similar to gamma rays.
- 69. ZIRCALOY CLADDING: The outer covering (a zirconium alloy) in which the nuclear fuel is sealed.

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LIST OF ACRONYMS

ALARA	-	As Low As Reasonably Achievable
CDE	-	Committed Dose Equivalent
ERFDADS	-	Emergency Response Facility Data Acquisition and Display System
HVAC	-	Heating Ventilation and Air Conditioning
ICS	-	Integrated Computer System
INPO	-	Institute of Nuclear Power Operations
NRC	-	Nuclear Regulatory Commission
QDPS	-	Qualified Display Parameter System (same as SPDS)
SPDS	-	Safety Parameter Display System
STPEGS	-	South Texas Project Electric Generating Station
STPNOC	-	South Texas Project Nuclear Operating Company
TEDE	-	Total Effective Dose Equivalent