# 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, pocket pager 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.*

## 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 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* and Emergency Director location*) based on plant conditions and/or based on data derived from offsite dose assessment or actual field monitoring measurements. Emergency 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.6 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. Radio station KMKS FM, Bay City, is the primary Emergency Alert System station for the Station nuclear emergency response and KZRC FM is secondary. 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.6.1 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 estimate[1] 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.6.2 Special Needs Groups*

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

## *I.7 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.*

1 *Evacuation Time Estimates for the South Texas Project Electric Generating Station Plume Exposure Pathway Emergency Planning Zone,* ~~*Earth Tech 1994*~~ KLD Associates, 2007

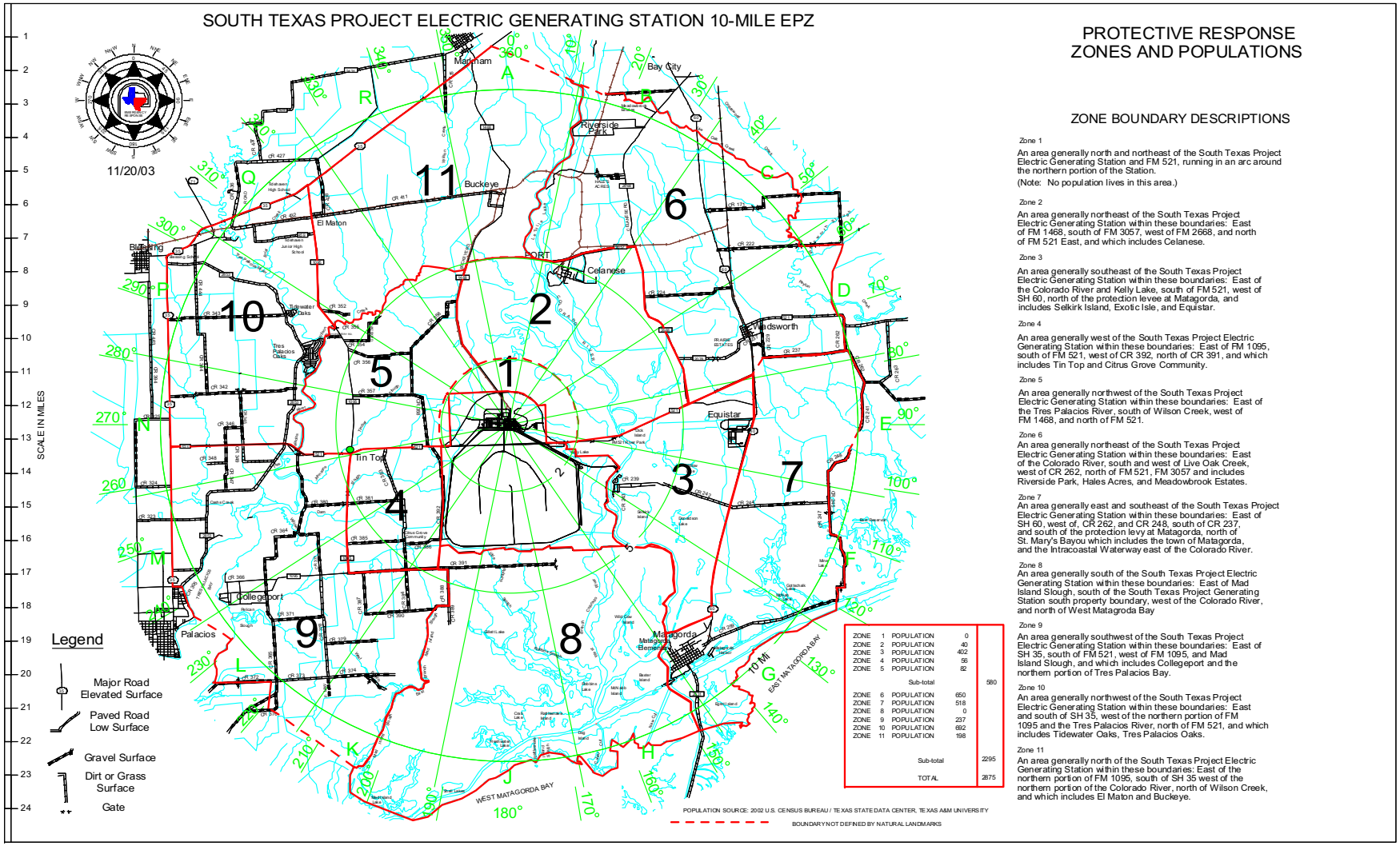
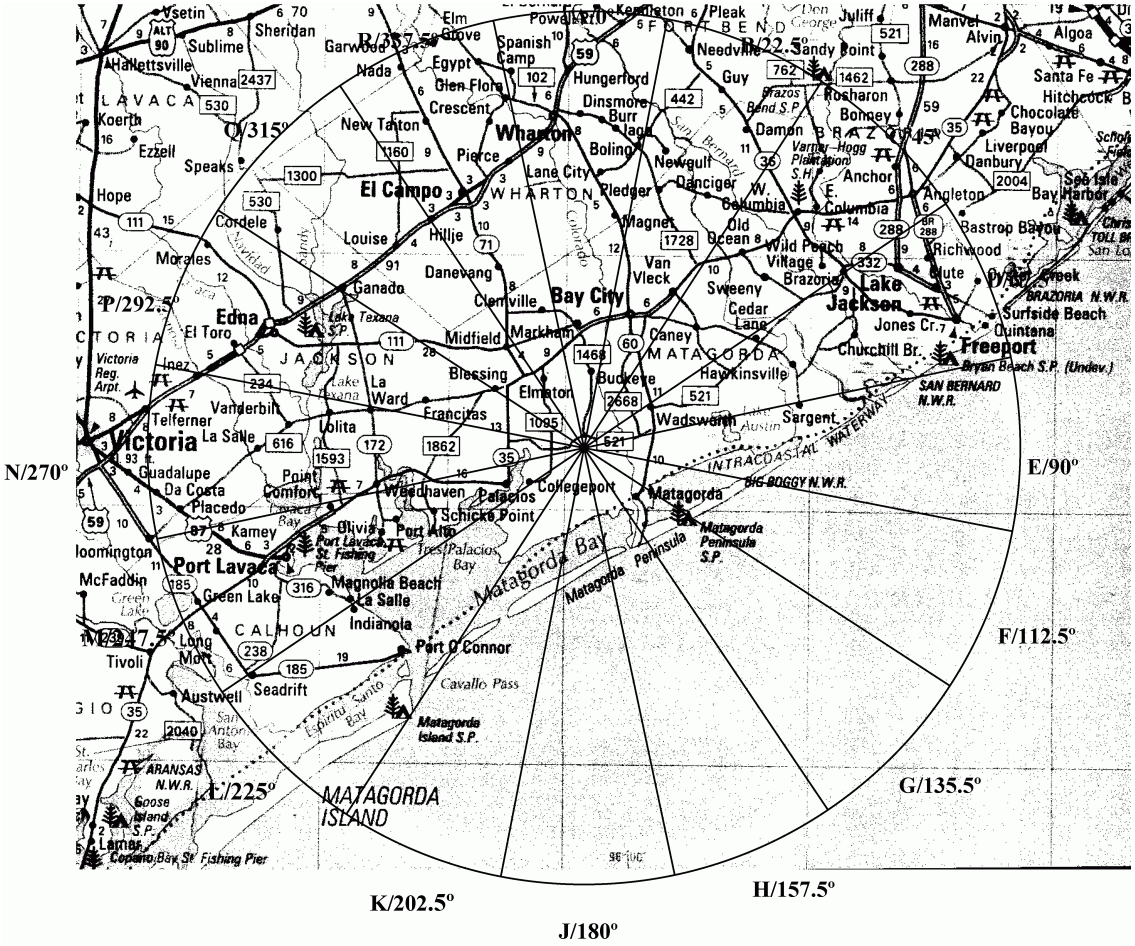



*Figure I-1 10 Mile Emergency Planning Zones*


N/270°
E/90°
F/112.5°
G/135.5°
H/157.5°
J/180°
K/202.5°
L/225°
M/247.5°
N/270°
P/292.5°
Q/315°
R/337.5°
R/22.5°
R/45°
Victoria
Port Lavaca
Edna
El Campo
Wharton
Bay City
Lake Jackson
Freeport
Matagorda
Palacios
Port O'Connor
Matagorda Bay
MATAGORDA ISLAND
INTRACOASTAL WATERWAY
Cavallo Pass
Matagorda Peninsula S.P.
Matagorda Island S.P.
Bryan Beach S.P. (Undev.)
SAN BERNARD N.W.R.
BIG BOGGY N.W.R.
BRAZORIA N.W.R.
ARANSAS N.W.R.
Goose Island S.P.
Copano Bay St. Fishing Pier
Port Lavaca St. Fishing Pier
Lake Texana S.P.
Brazos Bend S.P.
Varner-Hogg Plantation S.H.
Surfside Beach
Quintana
Sargent
Wadsworth
Hawkinsville
Churchill Br.
Jones Cr.
Sweeny
Cedar Lane
Brazoria
Wild Peach Village
Old Ocean
Columbia
Angleton
Danbury
Liverpool
Chocolate Bayou
Rosharon
Damon
Alvin
Manvel
Algoa
Santa Fe
Hitchcock
Pleak
Needville
Sandy Point
Guy
Richmond
Rosenberg
Sugar Land
Stafford
Missouri City
Fresno
Pearland
Alvin
Angleton
Lake Jackson
Freeport
Clute
Richwood
Bastrop Bayou
Van Vleck
Danciger
Newgulf
Magnet
Pledger
Lane City
Boling
Wharton
Hungerford
Dinsmore
Burr
Egypt
Glen Flora
Crescent
Spanish Camp
Elm Grove
Garwood
Nada
Sheridan
Sublime
Vienna
Hallettsville
Koerth
Ezzell
Speaks
Hope
Cordele
Louise
Hillje
Danevang
Ganado
Edna
El Toro
Inez
Vanderbilt
Telferner
La Salle
Victoria
Guadalupe
Da Costa
Placedo
Kamey
Olivia
Port Alto
Port Lavaca
Magnolia Beach
La Salle
Indianola
Port O'Connor
Seadrift
Austwell
Tivoli
Long Mott
Green Lake
McFaddin
Bloomington
Comfort
Weesdhaven
Palacios
Schicke Point
Collegeport
Matagorda
Midfield
Markham
Blessing
Elmaton
Buckeye
Francitas
Lolita
La Ward
Clemville
Caney
Usetin
Pierce
New Tahon
Speaks
Ezzell
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Hawkinsville
Sargent

## Addendum I.1 Recommended Protective Actions for the Public
## Page 1 of 1

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.

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, Emergency Operations Facility or the Alternate 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.