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### 13.3 Emergency Planning

This section, in conjunction with Part 4 (Emergency Plan) of the ESP Application, describes emergency planning for the proposed addition of nuclear reactor units at the VCS site. This section contains the information required by 10 CFR 52.17, *Contents of applications; technical information*, involving review of the VCS site physical characteristics for significant impediment to development of VCS emergency plans. In addition, Exelon has chosen to submit a proposed complete and integrated emergency plan (Part 4) for approval by the NRC in accordance with 10 CFR 52.17(b)(2)(ii).

The proposed emergency plan is designed to comply with 10 CFR 50.47, *Emergency plans*, and 10 CFR 50 Appendix E, *Emergency Planning and Preparedness for Production and Utilization Facilities*. The emergency plan was developed using the guidance contained in:

- NUREG-0654/FEMA-REP-1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, Revision 1, U.S. Nuclear Regulatory Commission, November 1980 (NUREG-0654).
- NEI 99-01, *Methodology for Development of Emergency Action Levels*.
- NUREG-0654/FEMA-REP-1, Revision 1, Supplement 2, *Criteria for Emergency Planning in an Early Site Permit Application*, Draft Report Comment, U.S. Nuclear Regulatory Commission, April 1, 1996.
- NUREG-0654, Supplement 3, *Criteria for Protective Action Recommendations for Severe Accidents*.

The VCS offsite emergency plan documents provided as part of this ESP application have received significant FEMA review as part of the previously submitted VCS COL application. It is noted that for the VCS ESP application, Emergency Action Levels (EALs) have been addressed in accordance with Option 2, as described in ([Reference 13.3-4](#)). Option 2 consists of submittal of Emergency Plan, Section D, *Emergency Classification System*, which addresses the four critical elements of an EAL scheme, as specified in ([Reference 13.3-4](#)).

Because details of some elements of the emergency plan cannot be completed during the ESP application phase, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) were developed and are provided in [Table 13.3-1](#).

The proposed emergency plan is intended to be used as the VCS site emergency plan (all units licensed for the site) after a license is issued for the first unit. It is expected that the site emergency plan will be implemented before the first full participation exercise for the initial unit. It is expected that

the first full participation exercise will occur approximately 1 year before the scheduled fuel load for the initial unit.

In the interim period before the first full participation exercise for the initial unit, the latest revision of the VCS emergency plan will remain in effect for VCS. Exelon will submit a revision to the latest revision of the VCS emergency plan in accordance with the provisions of 10 CFR 50.54(q) for the VCS units approximately 1 year before the scheduled full participation exercise for the initial unit. In the interim period between the approval of the emergency plan submitted in Part 4 of the ESP application and the implementation of the approved emergency plan, the emergency plan will be revised as necessary in accordance with 10 CFR 50.54(q).

### **13.3.1 Physical Characteristics**

#### **13.3.1.1 Site Description**

The VCS site is located in Victoria County, Texas. The site is an approximately 11,500 acre undeveloped property located in a rural area, approximately 13.3 miles southwest of the city of Victoria, Texas. The site boundary (owner controlled area) is the same as the property boundary.

Normal access to the site will be from U.S. Highway 77. Normal access to the owner controlled area is limited to one location. There are other access routes to the site, which are closed to normal site vehicular traffic. Local law enforcement is able to gain access through alternate routes to the site by using a variety of methods.

VCS is located approximately 3 miles west of Linn Lake and 4.3 miles northwest of the town of McFaddin. The closest operating railway, owned by Union Pacific, runs approximately 4 miles southeast of the power block. The Guadalupe River is approximately 4.1 miles east of the site, and the Victoria Barge Canal, which connects to the Gulf Intracoastal Waterway, is approximately 5.2 miles east of the site. The closest population center to the site with more than 25,000 residents is the city of Victoria.

[Figure 13.3-1](#) shows the general location of VCS. [Figure 13.3-2](#) shows the site layout. More specific information on the VCS site may be found in Section 2.1.

The exclusion area boundary is an oval, 9000 feet in the plant east-west direction and 8000 feet in the plant north-south direction. The center point for the EAB and LPZ is located at the midpoint of the power block area in the plant east-west direction and is offset approximately 250 feet to the south of the power block area midpoint in the north-south direction. The exclusion area boundary is entirely within the property and site boundaries.

There are no significant industrial facilities within 5 miles of the site. Between 5 and 10 miles there are six industrial facilities that are significant enough to be considered in the hazards screening

presented in Section 2.2. The general landscape of Victoria County is broad and nearly level. Victoria County extends across approximately 890 square miles of mostly open prairie and some notable water bodies and forested and wetland areas. No federal, state, or county roads, railways, or waterways traverse the exclusion area or the site. Exelon plans to allow no commercial, industrial, institutional, recreational, or residential structures within the proposed site area.

#### 13.3.1.2 **Area Population**

Situated to the east of the VCS site is the unincorporated town of Bloomington with a population of 2562 (during 2000 census). Bloomington is the largest community within 10 miles of the VCS site. Other communities within 10 miles are Dernal, Inari, and McFaddin. Among them, McFaddin is the nearest town and is approximately 4.3 miles southeast of the VCS power block area.

The permanent and transient population within approximately 10 miles of the VCS site is estimated to be 6995 in 2010. Transient populations consist of individuals in the workforce, hotels/motels, and recreational areas, as well as seasonal residents and migrant populations. The total peak transient population within the 10-mile radius is estimated to be 1270.

The closest population center to the site with more than 25,000 residents is the city of Victoria with a population of 60,603 (U.S. Census Bureau 2000 census data).

Exelon concludes that there are no physical characteristics unique to the VCS site, which pose a significant impediment to development of the VCS emergency plan.

#### 13.3.2 **Emergency Plan**

Part 4 of the ESP application contains the complete and integrated VCS emergency plan. The VCS emergency plan includes the following documents:

- Exelon Nuclear Standardized Radiological Emergency Plan (EP-AA-1000)
- Exelon Nuclear Radiological Emergency Plan Annex for Victoria County Station (EP-AA-1011)
- State and county certification letters
- State of Texas Emergency Plan for VCS
- Goliad, Refugio, and Victoria County emergency plans
- VCS Evacuation Time Estimate Report
- VCS Alert Notification System Study

### 13.3.3 Emergency Planning Zones

The emergency planning zones (EPZs) for the VCS site are based on the requirements contained in 10 CFR 50 Appendix E that requires the plume exposure pathway to be an area approximately 10 miles in radius and the ingestion pathway EPZ to be an area approximately 50 miles in radius. The VCS site EPZs meet these requirements and are defined as the area approximately 10 miles and 50 miles in radius, respectively, from a point midway between a two-unit layout. The plume exposure EPZ is shown in [Figure 13.3-3](#) (Figure 1-2, ([Reference 13.3-3](#))), and the ingestion pathway EPZ is shown in [Figure 13.3-4](#) (Figure 1-3, ([Reference 13.3-3](#))).

#### 13.3.3.1 Plume Exposure Pathway

Using the guidance contained in NUREG-0654, the plume exposure has been further defined into a set of geopolitical zones (subareas) as shown in [Figure 13.3-3](#) (Figure 1-2, ([Reference 13.3-3](#))). The exact boundaries are determined by the local governments and the state of Texas. The counties participating in the EPZ are Victoria, Goliad, and Refugio. Calhoun County is within 10 miles of the station; however, there are no residents inside of that area. Calhoun County has elected to not be considered within the EPZ because of the lack of residents in the affected area.

#### 13.3.3.2 Ingestion Pathway

The EPZ for ingestion exposure includes an area within a 50-mile radius of the VCS. Counties that are located within the ingestion pathway are shown in [Figure 13.3-4](#) (Figure 1-3, ([Reference 13.3-3](#))). Planning for the ingestion exposure pathway is a responsibility of the state of Texas. Detailed information about the ingestion exposure pathway EPZ can be obtained from the state of Texas Emergency Management Plan ([Reference 13.3-1](#)) provided in Part 4 of the ESP application. The counties within 50 miles of the station include: Aransas, Bee, Calhoun, DeWitt, Goliad, Gonzales, Jackson, Karnes, Lavaca, Matagorda, Refugio, San Patricio, Victoria, and Wharton. All of these counties are in the state of Texas.

### 13.3.4 Evacuation Time Estimates

To support the VCS ESP application for the proposed new units at VCS, Exelon contracted with Innovative Emergency Management, Inc. (IEM) to produce evacuation time estimates (ETE) for the VCS plume exposure pathway. IEM conducted the analysis using estimated 2008 population data. The methods used to obtain population data and to estimate the ETEs are documented in the IEM report ([Reference 13.3-2](#)) provided in Part 4 of the ESP application.

In compliance with NRC and FEMA guidelines and criteria for preparing ETE studies (NUREG-0654/FEMA-REP-1, NUREG/CR-4831/PNL-7776, NUREG/CR-6863, NUREG/CR-6864), this report breaks down the population by subarea and by sector. Three population categories have been identified in this report:

- Permanent residents
- Transients
- Special facilities

The permanent resident population is made up of individuals residing in the 10-mile EPZ. The total year 2008 permanent resident population within the proposed 10-mile EPZ around VCS is estimated at approximately 6435. The transient population consists of workers employed within the area, recreational sportsmen, and visitors to the area. The total transient population within the 10-mile EPZ is estimated to be approximately 3150. The special facilities populations in the VCS EPZ include one school, one religious retreat center, and the VCS itself. In these analyses, IEM contacted special facilities with more than 50 people to collect current enrollment and staff figures. The total special facility population for the 10-mile EPZ, obtained through the facilities' response to IEM's communication, is estimated to be 5995. ([Reference 13.3-2](#))

ETEs for the NUREG-0654 evacuation areas ranged from 2 hours 5 minutes to 4 hours 10 minutes. ETEs for the PAR evacuation areas ranged from 2 hours 10 minutes to 4 hours 10 minutes. ETEs for the individual subareas ranged from 1 hour 20 minutes to 3 hours 40 minutes. The factors that contributed to the variations in ETEs between scenarios include differences in the number of evacuating vehicles, capacity of the evacuation routes, type of proposed warning systems within the subareas, and/or distance from the origin subareas to the EPZ boundary. The weekend scenario produced the highest evacuation times, because this scenario included the most recreational transients, the population segment with the longest mobilization times. The evacuation times for the above scenarios were primarily driven by the loading times and, for the most part, not influenced by significant congestion. The evacuation times for the VCS special scenario were 6 hours 30 minutes and 6 hours 35 minutes for normal and adverse weather conditions, respectively. Recommendations to help emergency managers to improve the evacuation times during an event at VCS are described in ([Reference 13.3-2](#)).

#### **13.3.5 Contacts and Agreements**

Exelon currently maintains letters of agreement with state and local government agencies, law enforcement, medical support facilities, and independent industry support organizations (all referred to as simply "agencies"), in support of emergency planning at the VCS. ([Reference 13.3-3](#)) provided in Part 4 of the ESP application identifies the agencies Exelon maintains current letters of agreements with, including the point of contact for each agency. The state and local emergency plans provided in Part 4 of the ESP application describe interfaces with local radio and television companies. Copies of the existing letters of agreement are included in ([Reference 13.3-3](#)).



In support of this ESP application, Exelon contacted each of the agencies listed in (Reference 13.3-3) by letter (i.e., supplemental letters of agreement) notifying them of the proposed addition of reactor plants at the VCS site and the revised emergency plans for VCS. Each agency received one of two types of supplemental letters of agreement, depending on the type of agency. One type of supplemental letter of agreement requested the agency to commit to continued participation in any further development of the VCS emergency plans. The second type of supplemental letter of agreement requested the agency to concur that the proposed VCS emergency plans are practicable and to commit to participating in any further development of the VCS emergency plans, including required field demonstrations under the plans. Each agency committed to their requested responsibilities specified in the supplemental letters of agreement by signing the letter. Therefore, the executed supplemental letters of agreement, along with the existing letters of agreement, certify that (1) the proposed VCS emergency plan is practicable, (2) the agencies are committed to participating in any further development of the proposed VCS emergency plan, including any required field demonstrations, and (3) the agencies are committed to executing their responsibilities under the VCS emergency plan in the event of an emergency. Item (3) is addressed in the existing letters of agreement with state and local government agencies, law enforcement, medical support facilities, and independent industry support organizations. Copies of the supplemental letters of agreement are provided as an Appendix in (Reference 13.3-3), included in Part 4 of the ESP application.

#### 13.3.6 References

- 13.3-1 State of Texas, *Texas Emergency Management Plan, Annex D — Radiological Emergency Management*, Tab 1: *Fixed Nuclear Facility Accident Response*, Chapter 3: *Exelon's Victoria County Station*.
- 13.3-2 IEM, *Final Report — Evacuation Time Estimates: Exelon Nuclear Holdings, LLC Victoria County Station*, Report No. TEC08-033, August 14, 2008.
- 13.3-3 Exelon Nuclear, *Exelon Nuclear Radiological Emergency Plan Annex For Victoria County Station*, EP-AA-1101, Revision B, September 2009.
- 13.3-4 USNRC, Christopher G. Miller, *U.S. Nuclear Regulatory Commission Review of Emergency Action Levels for New Reactor Applications*, December 2, 2008, ADAMS Accession Number: ML083220276.

**Table 13.3-1 (Sheet 1 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>1.0 Emergency Classification System</b>			
10 CFR 50.47(b)(4) — A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by 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.	<p>1.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.1]</p> <p><u>ITAAC element addressed in:</u> EP II.D.1</p>	<p>1.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters identified in the following list of EALs (Reference Section 3, Emergency Plan VCS Annex):</p> <p>Abnormal Rad Levels/Radiological Effluents: AU1 (EALs 1, 2), AU2, AA1 (EALs 1, 2), AA2, AA3, AS1 (EALs 1), AG1 (EAL 1) Cold Shutdown/Refueling System Malfunction CU1, CU2, CU3, CU4, CU7, CU8, CA1, CA4, CS1, CG1</p> <p>Fission Product Barrier Thresholds:</p> <p><u>Fuel Clad Barrier Thresholds Values:</u></p> <ol style="list-style-type: none"> <li>1. Primary coolant activity level</li> <li>2. Reactor vessel water level</li> <li>3. Primary containment radiation monitoring</li> <li>4. Other indications</li> </ol> <p><u>RCS Barrier Threshold Values:</u></p> <ol style="list-style-type: none"> <li>1. Primary containment pressure</li> <li>2. Reactor vessel water level</li> <li>3. RCS leak rate</li> <li>4. Primary containment radiation monitoring</li> </ol>	<p>1.1.1 A report exists that confirms the specific parameters identified in the EALs listed in ITA Section 1.1 have been retrieved and displayed in the control room, TSC, and EOF.</p> <p>1.1.2 A report exists that confirms the displays available in the control room, TSC, and EOF are capable of displaying the range of values for the specific parameters identified in the EALs listed in Section 1.1.</p>

**Table 13.3-1 (Sheet 2 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>1.0 Emergency Classification System (Continued)</b>			
		<p><u>Containment Barrier Threshold Values:</u></p> <ol style="list-style-type: none"> <li>1. Primary containment conditions</li> <li>2. Primary containment isolation failure or bypass</li> <li>3. Primary containment radiation monitoring</li> </ol> <p>Hazards or Other Conditions Affecting Plant Safety: HU1 (EAL 2), HA1 (EALs 1, 2)</p> <p>System Malfunction: SU1, SU4 (EAL 1), SU8, SA1, SA2, SA4, SS1, SS2, SS3, SS6, SG1, SG2</p>	
<b>2.0 Notification Methods and Procedures</b>			
<p>10 CFR 50.47(b)(5) — Procedures have been established for notification, by the licensee, of state and local response organizations and for notification of emergency personnel by all organizations, the content of initial and follow-up messages 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 (EPZ) have been established.</p>	<p>2.1 The means exist to notify responsible state and local organizations within 15 minutes after the licensee declares an emergency. [E.1]</p> <p><u>ITAAC element addressed in:</u>            EP II.E.1</p>	<p>2.1 A test will be performed of the capabilities.</p>	<p>2.1.1 A report exists that confirms communications have been established via the Operational Hotline among the control room, the state of Texas, Victoria County, Refugio County, and Goliad County.</p>

**Table 13.3-1 (Sheet 3 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>2.0 Notification Methods and Procedures (Continued)</b>			
	2.2 The means exist to notify emergency response personnel. [E.2]  <u>ITAAC element addressed in:</u> EP II.E.2	2.2 A test will be performed of the capabilities.	2.2 A report exists that confirms notification to the emergency response organization has been performed.
	2.3 The means exist to notify and provide instructions to the populace within the plume exposure EPZ. [E.6]  <u>ITAAC element addressed in:</u> EP II.E.6	NOTE: The means to notify and provide instructions to the populace within the plume exposure EPZ is addressed by Acceptance Criteria 8.1.1.2.	
<b>3.0 Emergency Communications</b>			
10 CFR 50.47(b)(6) — Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exist for communications among the control room, TSC, EOF, principal state and local emergency operations centers (EOCs), and radiological field assessment teams. [F.1.d]  <u>ITAAC element addressed in:</u> EP II.F.1	3.1 A test will be performed of the capabilities.	3.1.1 A report exists that confirms communications have been established among the control room, operations support center (OSC), and TSC.  3.1.2 A report exists that confirms communications have been established among the control room, TSC, and EOF.  3.1.3 A report exists that confirms communications via the Operational Hotline have been established among the TSC, state of Texas, Victoria County, Refugio County, and Goliad County.  3.1.4 A report exists that confirms communications have been established between the TSC and radiological monitoring teams.

**Table 13.3-1 (Sheet 4 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>3.0 Emergency Communications (Continued)</b>			
	<p>3.2 The means exist for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center.) [F.1.f]</p> <p><u>ITAAC element addressed in:</u>            EP II.H</p>	3.2 A test will be performed of the capabilities.	3.2 A report exists that confirms communications have been established from the control room, TSC, and EOF to the NRC headquarters and Region IV EOCs and an access port for ERDS is provided.

**Table 13.3-1 (Sheet 5 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>4.0 Public Education and Information</b>			
10 CFR 50.47(b)(7) — 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.	<p>4.1 The licensee has provided space that may be used for a limited number of the news media at the EOF. [G.3.b]</p> <p><u>ITAAC element addressed in:</u>            EP II.H</p>	4.1 An inspection of the emergency news center will be performed to verify that space is provided for a limited number of the news media.	4.1 A report exists that confirms the emergency news center has space for a limited number of the news media.

**Table 13.3-1 (Sheet 6 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>5.0 Emergency Facilities and Equipment</b>			
10 CFR 50.47(b)(8) — Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	<p>5.1 The licensee has established a TSC and onsite OSC. [H.1]</p> <p><u>ITAAC element addressed in:</u> EP II.H</p>	5.1 An inspection of the as-built TSC and OSC will be performed.	<p>5.1.1 A report exists that confirms the TSC has at least 174 square meters (1875 square feet) of floor space.</p> <p>5.1.2 A report exists that confirms the following communications equipment have been provided in the TSC and voice transmission and reception have been accomplished:</p> <ul style="list-style-type: none"> <li>• NRC systems: emergency notification system, health physics network, management counterpart link</li> <li>• Dedicated telephone to EOF</li> <li>• Dedicated telephone to control room</li> <li>• Dedicated telephone to OSC</li> </ul> <p>5.1.3 A report exists that confirms the common TSC (i.e., for both Unit 1 and Unit 2) has been located in the Unit 1 electrical building.</p> <p>5.1.4 A report exists that confirms the TSC includes radiation monitors and a ventilation system with a HEPA and charcoal filter.</p>

**Table 13.3-1 (Sheet 7 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>5.0 Emergency Facilities and Equipment (Continued)</b>			
			<p>5.1.5 A report exists that confirms backup electrical power supply is available for the TSC.</p> <p>5.1.6 A report exists that confirms the OSC for each unit is in a location separate from the control room (i.e., each unit will have a separate OSC).</p> <p>5.1.7 A report exists that confirms the following communications equipment have been provided in the OSC and voice transmission and reception have been accomplished:</p> <ul style="list-style-type: none"> <li>• Dedicated telephone to control room</li> <li>• Dedicated telephone to TSC</li> <li>• Plant page system (voice transmission only)</li> </ul>
	<p>5.2 The licensee has established an EOF. [H.2]</p> <p><u>ITAAC element addressed in:</u> EP II.H</p>	5.2 An inspection of the EOF will be performed.	<p>5.2.1 A report exists that confirms the EOF has at least 243 square meters (2625 square feet).</p> <p>5.2.2 A report exists that confirms voice transmission and reception have been accomplished between the EOF and TSC.</p> <p>5.2.3 A report exists that confirms voice transmission and reception have been accomplished via the Operational Hotline among the EOF, state of Texas, Victoria County, Refugio County, and Goliad County.</p>



**Table 13.3-1 (Sheet 8 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>6.0 Accident Assessment</b>			
10 CFR 50.47(b)(9) — Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	<p>6.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	6.1 A test of the emergency plan will be conducted by performing an exercise or drill to verify the capability to perform accident assessment.	<p>6.1 A report exists that confirms an exercise or drill has been accomplished including use of selected monitoring parameters identified in the EALs listed in ITA Section 1.1, to assess simulated degraded plant conditions and initiate protective actions in accordance with the following criteria:</p> <ul style="list-style-type: none"> <li>A. Accident Assessment and Classification <ul style="list-style-type: none"> <li>1. Initiating conditions identified, EALs parameters determined, and the emergency correctly classified throughout the drill.</li> </ul> </li> <li>B. Radiological Assessment and Control <ul style="list-style-type: none"> <li>1. Onsite radiological surveys performed and samples collected.</li> <li>2. Radiation exposure of emergency workers monitored and controlled.</li> <li>3. Field monitoring teams assembled and deployed.</li> <li>4. Field team data collected and disseminated.</li> <li>5. Dose projections developed.</li> <li>6. The decision whether to issue radioprotective drugs to VCS emergency workers made.</li> <li>7. Protective action recommendations developed and communicated to appropriate authorities.</li> </ul> </li> </ul>

**Table 13.3-1 (Sheet 9 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>6.0 Accident Assessment (Continued)</b>			
	<p>6.2 The means exist to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	6.2 An analysis of emergency plan implementing procedures will be performed.	6.2.1 A report exists that confirms a methodology has been established to determine the source term of releases of radioactive materials within plant systems.
	<p>6.3 The means exist to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	6.3 An analysis of emergency plan implementing procedures will be performed.	6.3 A report exists that confirms a methodology has been provided to establish the relationship between effluent monitor readings and onsite and offsite exposures and contamination for various radiological conditions.

**Table 13.3-1 (Sheet 10 of 14)  
ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>6.0 Accident Assessment (Continued)</b>			
	<p>6.4 The means exist to acquire and evaluate meteorological information. [I.5]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	<p>6.4 An inspection of the control room, TSC, and EOF will be performed to verify the availability of the following meteorological data:</p> <ul style="list-style-type: none"> <li>• Wind speed (at 10 m and 60 m)</li> <li>• Wind direction (at 10 m and 60 m)</li> <li>• Ambient air temperature (at 10 m and 60 m)</li> </ul>	<p>6.4 A report exists that confirms the specified meteorological data was available at the control room, TSC, and EOF.</p>
	<p>6.5 The means exist to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	<p>6.5 An analysis of emergency plan implementing procedures will be performed.</p>	<p>6.5 A report exists that confirms a methodology has been established to provide rapid assessment of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.</p>

**Table 13.3-1 (Sheet 11 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>6.0 Accident Assessment (Continued)</b>			
	<p>6.6 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as <math>1 \times 10^{-7}</math> <math>\mu\text{Ci/cc}</math> (microcuries per cubic centimeter) under field conditions. [I.9]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	<p>6.6 A test of VCS field survey instrumentation will be performed to verify the capability to detect airborne concentrations as low as <math>1 \times 10^{-7}</math> microcuries per cubic centimeter.</p>	<p>6.6 A report exists that confirms instrumentation used for monitoring I-131 to detect airborne concentrations as low as <math>1 \times 10^{-7}</math> microcuries per cubic centimeter has been provided.</p>
	<p>6.7 The means exist to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guidelines. [I.10]</p> <p><u>ITAAC element addressed in:</u> EP II.I</p>	<p>6.7 An analysis of emergency plan implementing procedures will be performed to verify that a methodology is provided to establish means for relating contamination levels and airborne radioactivity levels to dose rates and gross radioactivity measurements for the following isotopes — Kr-88, Ru-106, I-131, I-132, I-133, I-134, I-135, Te-132, Xe-133, Xe-135, Cs-134, Cs-137, Ce-144.</p>	<p>6.7 A report exists that confirms the means for relating contamination levels and airborne radioactivity levels to dose rates and gross radioactivity measurements for the specified isotopes have been established.</p>

**Table 13.3-1 (Sheet 12 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>7.0 Protective Response</b>			
10 CFR 50.47(b)(10) — A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. 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 EPZ appropriate to the locale have been developed.	<p>7.1 The means exist to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:</p> <p>[J.1]</p> <p>a. Employees not having emergency assignments</p> <p>b. Visitors</p> <p>c. Contractor and construction personnel</p> <p>d. Other people who may be in the public access areas, on or passing through the site, or within the owner controlled area.</p> <p><u>ITAAC element addressed in:</u> EP II.E</p>	7.1 A test of the onsite warning and communications capability will be performed during a drill or exercise.	<p>7.1.1 A report exists that confirms that, during a drill or exercise, notification and instructions were provided to onsite workers and visitors, within the protected area, over the plant public announcement system.</p> <p>7.1.2 A report exists that confirms that, during a drill or exercise, audible warnings were provided to individuals outside the protected area, but within the owner controlled area.</p>

**Table 13.3-1 (Sheet 13 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>8.0 Exercises and Drills</b>			
10 CFR 50.47(b)(14) — 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.	<p>8.1 Licensee conducts a full participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each state and local agency within the plume exposure EPZ, and each state within the ingestion control EPZ. [N.1]</p> <p><u>ITAAC element addressed in:</u> EP II.N.1</p>	8.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.	<p>8.1.1.1 A report exists that confirms an exercise was conducted within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives were met, and there were no uncorrected onsite exercise deficiencies.</p> <p>8.1.1.2 A report exists that confirms exercise objectives, including specific acceptance criteria, addressed each of the following Emergency Planning (EP) Program Elements:</p> <ul style="list-style-type: none"> <li>• Emergency classification</li> <li>• Notification and emergency communications</li> <li>• Emergency public information</li> <li>• Emergency facilities and equipment</li> <li>• Accident assessment</li> <li>• Protective response and protective action recommendations</li> <li>• Radiological exposure control</li> <li>• Recovery and reentry</li> </ul> <p>8.1.2.1 A report exists that confirms onsite emergency response personnel were mobilized to fill emergency response positions.</p> <p>8.1.2.2 A report exists that confirms onsite emergency response personnel performed their assigned responsibilities.</p>

**Table 13.3-1 (Sheet 14 of 14)**  
**ITAAC For Emergency Planning**

Planning Standard	EP Program Elements <sup>(a)</sup>	Inspections, Tests, Analyses (ITA)	Acceptance Criteria
<b>9.0 Implementing Procedures</b>			
10 CFR Part 50, App. E.V — No less than 180 days before the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days before fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed implementing procedures for the onsite emergency plan no less than 180 days before fuel load.

(a) The alphanumeric designations in square brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1, evaluation criteria.

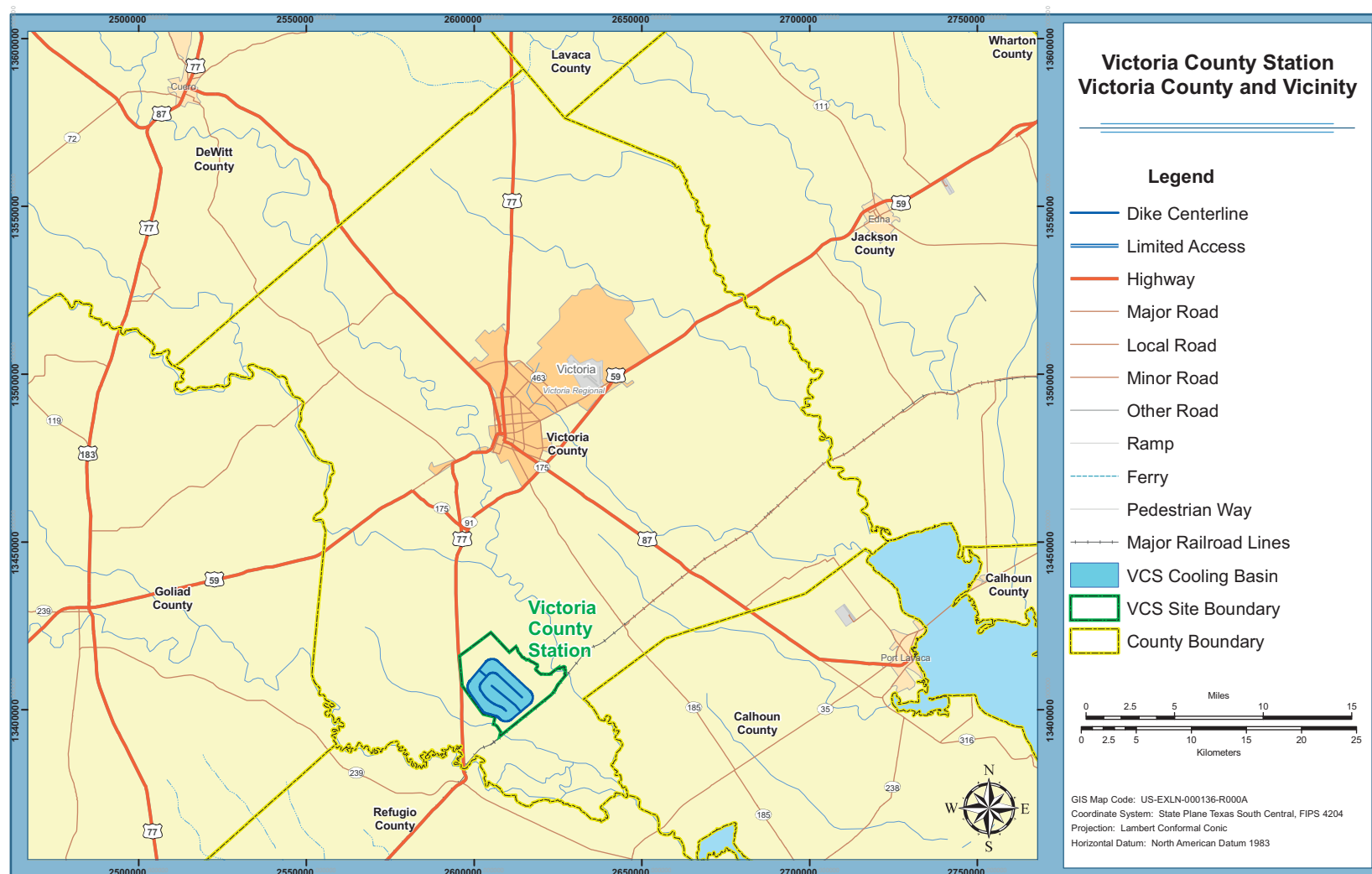


Figure 13.3-1 Victoria County Station Vicinity



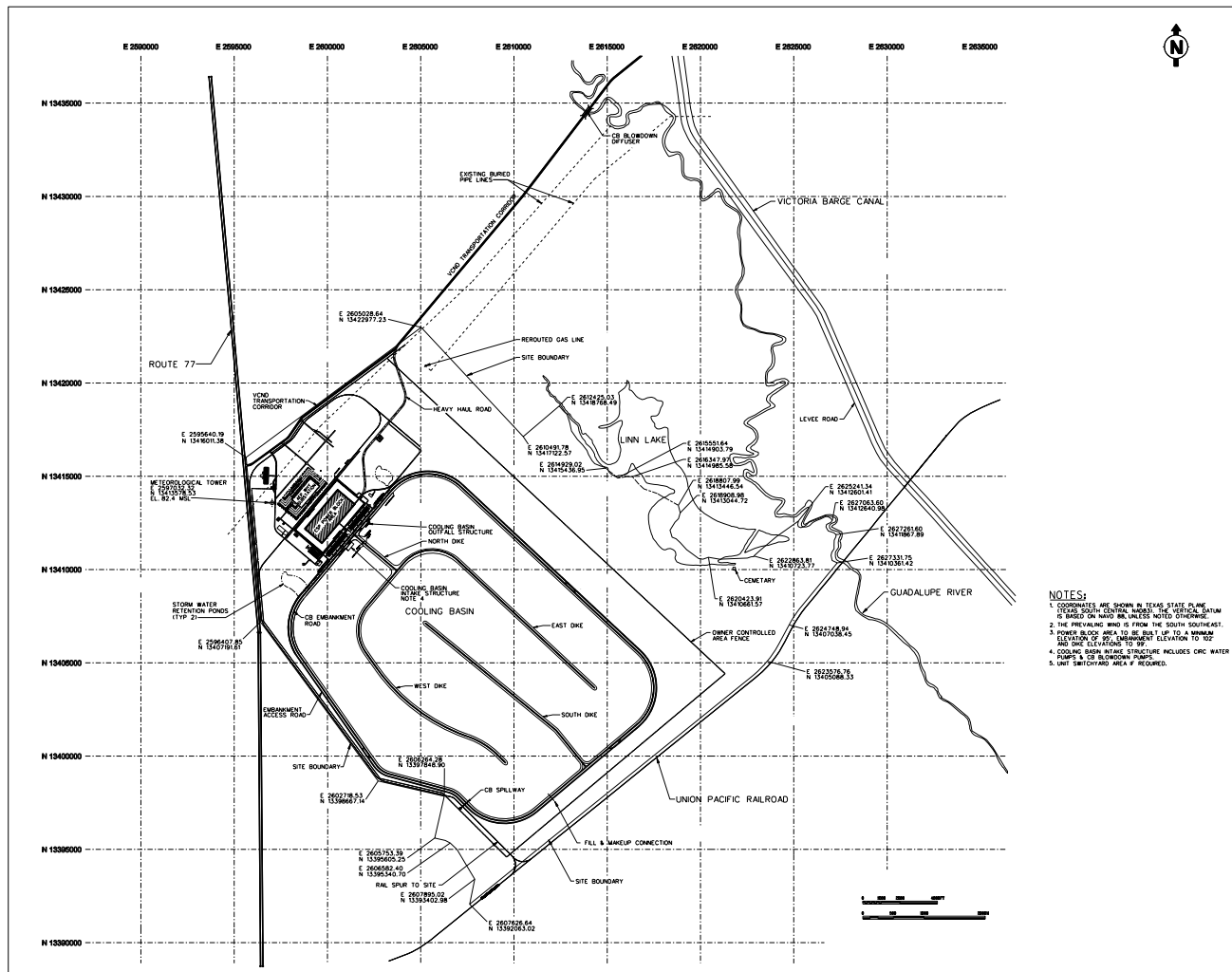


Figure 13.3-2 Victoria County Station Site Layout

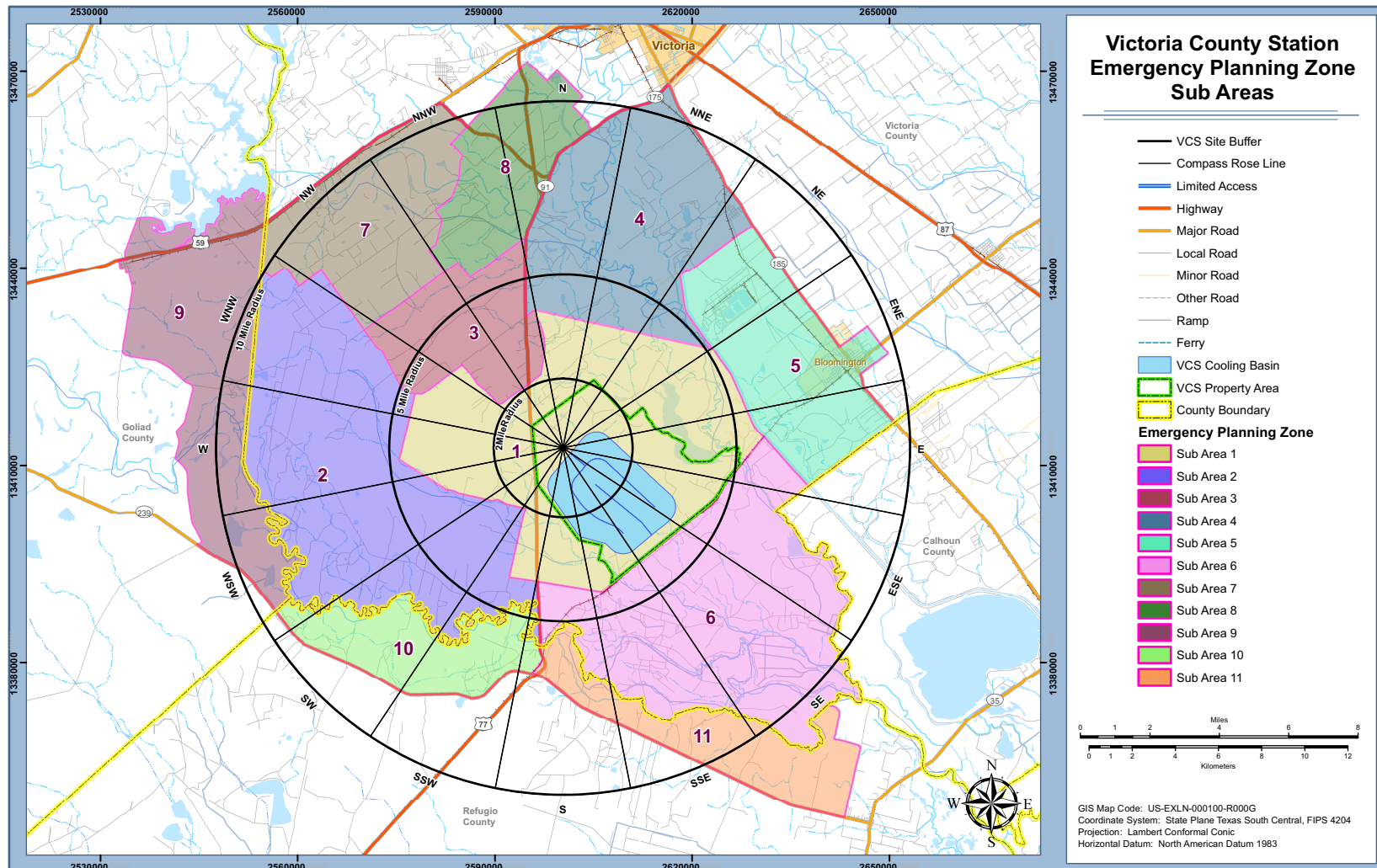
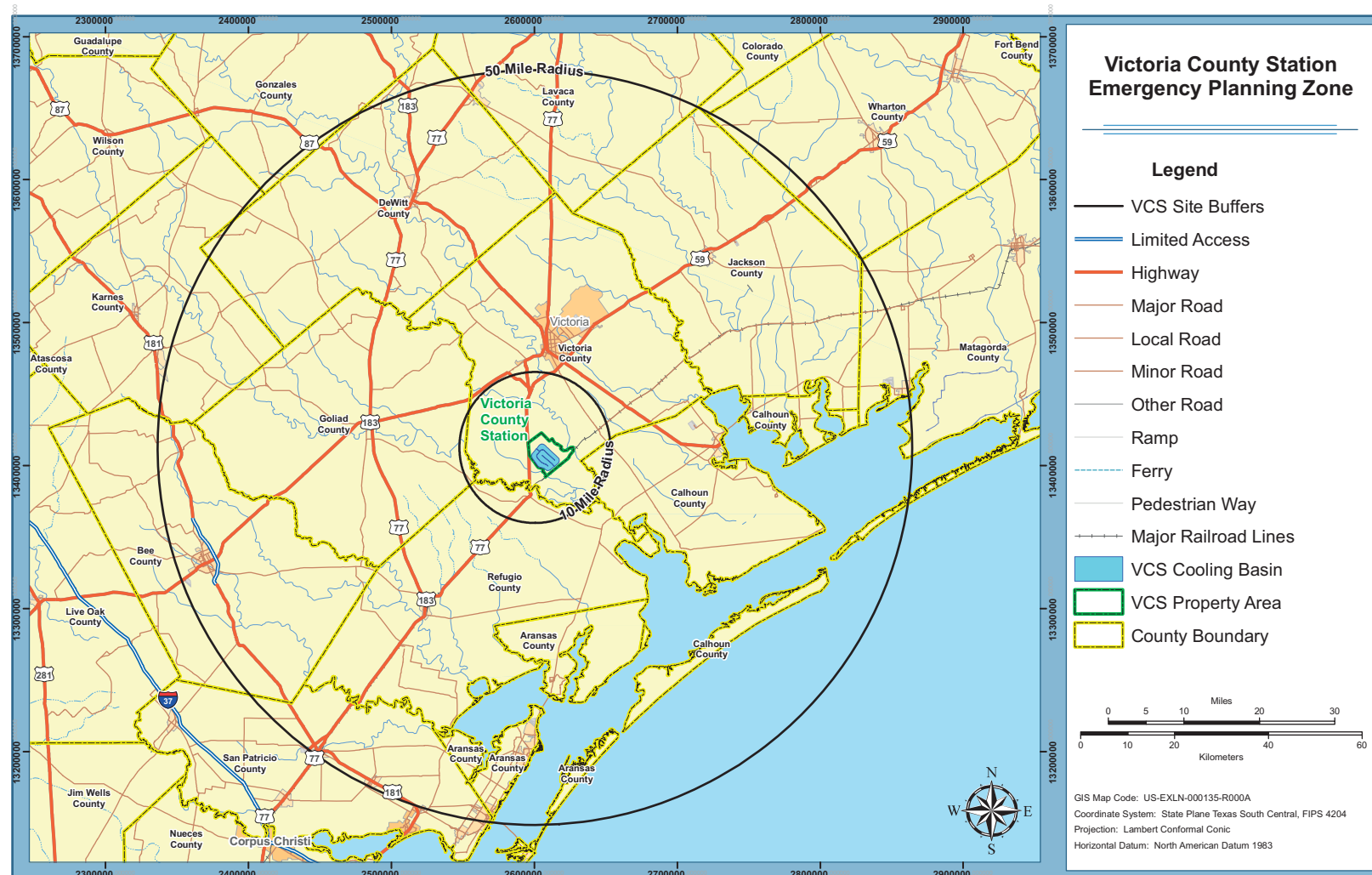


Figure 13.3-3 Victoria County Station 10 Mile EPZ



**Figure 13.3-4 Victoria County Station 50 Mile EPZ**

## 13.6 Industrial Security

Physical protection of the new units would be based on controlling access to the VCS site and the new units, screening operating personnel, monitoring security equipment, designing and arranging station features, and obtaining assistance from local law enforcement personnel. Once construction reaches conclusion on the first new unit, a Vehicle Barrier System will be implemented at the appropriate stand-off distance.

The characteristics of the ESP site and plant footprint are such that implementation of the applicable requirements of 10 CFR 73.55, Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage, and NRC Regulatory Guide 4.7, General Site Suitability Criteria for Nuclear Power Stations, as well as the post-9/11 NRC Orders, and NEI 03-12, Template for Security Plan and Training and Qualification Plan guidance, can be met. The VCS site is sufficiently large to provide adequate distances between structures and the probable location of a security boundary.

The final design of the new units power block and supporting buildings would utilize design features as appropriate to assure that the existing security distances outlined in the regulations above, as well as the Design Basis Threat requirements, and any Interim Compensatory measures that may apply, are adequate. In accordance with 10 CFR 100.21(f), Exelon will ensure that site characteristics are adequate to provide security plans and measures. The COL application will address the specific design features to assure site security as well as include the design of security monitoring equipment and methods to screen station operating personnel. A security assessment will be conducted as part of the COL application and will address all aspects of security for the new units.

There are no security hazards in the vicinity. The ESP site is located in Victoria County in the state of Texas. A memorandum of understanding with Victoria County is currently in place to establish a single point of contact for law enforcement response in the event of a VCS security or radiological emergency. Victoria County has mutual aid agreements with surrounding counties in place, if necessary, to provide support during station emergencies.