Emergency Plan
for the Exelon Generation Company, LLC
Early Site Permit

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CHAPTER 1

Introduction

The purpose of this chapter is to present an overview of this major features Emergency Plan for the Exelon Generation Company (EGC), Limited Liability Company (LLC) Early Site Permit (ESP) Facility, and describe the planning standards and evaluation criteria used in the development of the plan. Contained in this chapter are the following sections:

- Overview (Section 1.1)
- Planning Standards and Evaluation Criteria (Section 1.2).

A list of the acronyms and abbreviations used in this report can be found in Appendix A of the Administrative Information.

1.1 Overview

This major features Emergency Plan was developed to comply with Title 10 Code of Federal Regulations (CFR) Part 52.17, using the guidance provided in NUREG-0654/FEMA-REP-1, Revision 1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants* (USNRC, 1980) and NUREG-0654/FEMA-REP-1, Revision 1, Supplement 2, *Criteria for Emergency Planning in an Early Site Permit* Application (USNRC, 1996). This Emergency Plan for the future EGC ESP Facility has been formatted similar to NUREG-0654/FEMA-REP-1, Revision 1, Supplement 2; the use of this format lends itself to an uncomplicated comparison to the criteria set forth in that NUREG. Appendix B of this Emergency Plan provides a cross-reference between this plan, the *Illinois Plan for Radiological Accidents* (IPRA) (State of Illinois, 2001), the DeWitt County Emergency Plan (as IPRA Volume VIII) (State of Illinois, 2001a) and applicable ESP requirements (10 CFR 50, 10 CFR 52).

This major features plan assumes the sharing of certain resources and cooperation between the Exelon Corporation and AmerGen Energy Company (AmerGen), LLC as the owner and licensee of the Clinton Power Station (CPS). Should the Exelon Corporation's rights in AmerGen change, the Exelon Corporation will ensure that the appropriate agreements are enacted with the successor in interest to AmerGen to satisfy the objectives of this major features plan.

This plan is also aligned with the *Exelon Nuclear Standardized Radiological Emergency Plan*, Revision 14, (EGC, 2003) so that the emergency response organization (ERO) operations, detailed herein, will parallel the other Applicant plants and corporate response operations within the State of Illinois. This EGC ESP Emergency Plan will not be updated following issuance of the ESP. When the EGC ESP is referenced in a construction permit or combined operating license (COL) application, an appropriate update will be provided as discussed in Section 16.4. At that time, this plan will be reviewed against the *Exelon Nuclear Standardized Radiological Emergency Plan* in effect. To the extent needed, this plan will be updated and brought into conformance with the *Exelon Nuclear Standardized Radiological Emergency Plan*.

Reference in this document to a "proposed" facility, site, or project should not be construed to be restrictive to the reactors discussed, but rather encompasses any design bounded by the plant parameters envelope (PPE) developed, or the associated environmental impacts evaluated, through consideration of those reactor designs.

1.2 Planning Standards and Evaluation Criteria

The Emergency Plan for the EGC ESP, in conjunction with future implementing and administrative procedures, documents the methods by which the Applicant's Emergency Preparedness Program meets the planning standards set forth in 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. Development of the Emergency Plan was based on NUREG-0654/FEMA-REP-1, Revision 1 (USNRC, 1980) and NUREG-0654/FEMA-REP-1, Revision 1, Supplement 2 (USNRC, 1996). This Emergency Plan incorporates the Occupational Safety and Health Administration hazardous waste operations and emergency response requirements of 29 CFR 1910 as well as National Fire Protection Association (NFPA) Standards 473 (NFPA, 1997) and 600 (NFPA, 1996).

The Emergency Plan for the EGC ESP recognizes the State of Illinois, in cooperation with the local emergency planning zone (EPZ) communities, as the overall authority responsible for protective action directives in order to protect the health and safety of the general public (State of Illinois, 2001). This plan was developed in coordination with Illinois' emergency response plans (State of Illinois, 2001). In addition, local (county-level) emergency response plans were also utilized in the development of this plan (State of Illinois, 2001a). The current versions of the state and local plans (State of Illinois, 2001 and 2001a) are on file with the Federal Emergency Management Agency (FEMA) Regional Assistance Center and are incorporated by reference (see Appendix B) in this submittal.

CHAPTER 2

Identification of Physical Characteristics

This chapter addresses the physical characteristics of the EGC ESP Site, and includes information regarding the following:

- Site Description (Section 2.1)
- Emergency Planning Zones (Section 2.2)
- Evacuation Time Estimate Analysis (Section 2.3)
- Results – Significant Impediments to the Development of an Emergency Plan (Section 2.4).

2.1 Site Description

The EGC ESP Site is located in Harp Township, within DeWitt County, IL, approximately 6 miles (mi) east of the City of Clinton, 22 mi south of Bloomington and 22 mi north of Decatur. The EPZ for the EGC ESP Site encompasses land areas in four counties: DeWitt, McLean, Piatt, and Macon; the EPZ is illustrated in Figure 2.1-1. The EGC ESP Site is located on the site of the existing CPS Facility; the EGC ESP Facility will be located approximately 700-ft south of the CPS.

Land use within 5 mi of the EGC ESP Site is primarily agricultural with some rural residences. Agriculture is primarily cash grain crops of corn and soybeans. The closest industries are located in the communities of DeWitt and Clinton.

Recreational facilities outside the municipalities include the Lake Clinton State Recreation Area and the Weldon Springs State Recreation Area. The latter park encompasses approximately 370 acres (ac) and contains a 28-ac lake with camping, fishing, and picnicking facilities. Weldon Springs is one of two sizeable lakes within 10 mi of the site.

Clinton Lake is a 4,895-ac man-made cooling lake within the CPS property lines. Recreational facilities accommodate camping, boating, hunting, fishing, and hiking.

The nearest major highways include State Routes 54, 10, and 48, all of which cross the CPS Facility property. Other major highways include United States (U.S.) Route 51, located about 6 mi west of the site, and Interstate Route 74, located about 11 mi northeast of the site. The nearest railroad is the Canadian National (CN), which crosses the CPS Facility property east to west and comes within 1 mi north of the EGC ESP Site's proposed reactor location.

The 2000 permanent population within 5 mi of the site is 983. Between 5 and 10 mi from the site lie three communities, with a total 2000 population of 8,576. An additional 2,781 people live in rural residences or on farmsteads for an estimated total of 11,375 people living between 5 and 10 mi of the site. The permanent population parsed by radial grid sector and miles from the site is listed in Table 2.1-1. The seasonal population is estimated to be 105; the total permanent and seasonal population living in the 10-mi radius surrounding the site is 12,463 (U.S. Census Bureau, 2002).

2.2 Emergency Planning Zones

2.2.1 Plume Exposure Pathway Emergency Planning Zone

The plume exposure pathway EPZ is the geographic area surrounding a nuclear power plant within which the U.S. Nuclear Regulatory Commission (USNRC) requires advance planning for evacuation or other short-term protective actions in the event of a radiological emergency. USNRC regulations define the plume exposure pathway EPZ as follows: "Generally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles (16 kilometers) in radius. The exact size and configuration of the EPZ surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes and jurisdictional boundaries…" (10 CFR 50, Appendix E).

The EGC ESP Site plume exposure pathway EPZ defines the area in which intensive efforts will be made to notify and protect residents and the transient population from exposure to radiation in the event of an accident at the EGC ESP Site.

The EGC ESP Site EPZ boundary is identical to the CPS EPZ boundary, which was defined in 1985 following a detailed review of the demography, topography, characteristics of the land, access routes, and jurisdictional boundaries in the area surrounding the power facility. This review resulted in a determination that the primary basis for the EPZ boundary definition should be political jurisdictions, strong topographical features (e.g., rivers, mountains), or man-made features (e.g., highways, railroads). Use of the same EPZ boundary is justified by the USNRC definition in the preceding paragraph. The area is about 10 mi in radius and has been determined in relation to local emergency response needs.

The radial boundary of the EGC ESP Site plume exposure pathway EPZ is shown in Figure 2.1-1. The actual EPZ superimposed on the 10-mi radial grid, along with evacuation routes and relocation centers, is also shown in Figure 2.2-1. Beginning in the east, the EPZ boundary follows County Highway 4 (Deland/Farmer City Blacktop) in DeWitt County and County Highway 5 in Piatt County, south from Salt Creek to State Highway 10. It then follows State Route 10, west to DeWitt County Road 425E in Goose Creek Township, and travels south along 425E to Piatt County Road 2200N. The EPZ boundary turns west along 2200N until reaching Piatt County Road 400E, and continues south on 400S to the Goose Creek/Willow Branch Township boundary. It subsequently travels westward along this township line for approximately 4 mi to the junction with State Route 48. The EPZ boundary then turns southward along State Route 48 for 1 mi before traveling westward for about 7 mi along Macon County Route 38 to the Friends Creek/Maroa Township line. It follows this township line northward for about 1 mi to the DeWitt County boundary. At this point, the EPZ boundary follows the DeWitt County boundary toward the west for approximately 4 mi before turning north along Business Route 51. It continues northward along State Route 51 for approximately 1.5 mi until reaching DeWitt County Route 11 (Kenney Road). From this junction, the boundary travels westward along County Route 11 to the western border of Texas Township. It then follows the entire length of the western borders of Texas, Clintonia, and Wapella townships northward for about 14 mi until

reaching the McLean County boundary. The EPZ boundary travels eastward along the McLean County boundary for nearly 6 mi before turning northward for 2 mi along the Randolph/Downs Township boundary in McLean County. The EPZ boundary heads eastward along State Route 136 for approximately 10 mi until its junction with Interstate Route 74. It then follows Interstate Route 74 in McLean County toward the southeast to approximately the junction of DeWitt County Road 2500E in Santa Anna Township. It follows this line in a southerly direction to Salt Creek and moves eastward along Salt Creek to County Route 4 in DeWitt County.

For evacuation and emergency response planning purposes, the EGC ESP Site EPZ has been further divided into eight subareas, which are identical to the CPS EPZ subareas. The EPZ and subarea boundaries are shown in Figure 2.2-1 and Figure 2.2-2. The subarea boundaries for the EGC ESP Site EPZ have been identified and established based on demography, topography, land characteristics, access routes, and jurisdictional boundaries. A description of each subarea is listed below.

- Subarea 1
  - In DeWitt County: Entire area of Harp Township; Creek Township north of County Route 15 (State Aid Road); DeWitt Township, west of State Route 48; Nixon Township, west of State Route 48 and north of County Route 15 (Leroy Blacktop); Rutledge Township, south of County Road 1400N (Solomon Road/Old Depot Road) and west of County Route 8; and Wilson Township, south of 1400N.

- Subarea 2
  - In DeWitt County: Wilson Township, north of County Road 1400N (Solomon Road/Old Depot Road); Rutledge Township, north of County Road 1400N and west of County Route 8 (Leroy Blacktop).
  - In McLean County: Downs Township, south of State Route 136; Empire Township, south of State Route 136 and west of County Route 21 (Leroy Blacktop).

- Subarea 3
  - In DeWitt County: Rutledge Township, east of County Route 8 (Leroy Blacktop); DeWitt Township, east of State Route 48 and north of County Road 900N; and Santa Anna Township, including west of County Route 4 (Farmer City/Deland Blacktop), south of the Salt Creek, west of County Road 2500E, north of the Salt Creek, and south of Interstate Route 74.
  - In Piatt County: Blue Ridge Township, west of County Route 5.
  - In McLean County: Empire Township, south of State Route 136 and Interstate Route 74 and east of County Route 21.

- Subarea 4
  - In DeWitt County: Nixon Township, east of State Route 48; DeWitt Township, east of State Route 48 and south of County Road 900N.
  - In Piatt County: Goose Creek Township including north of State Route 10, west of County Route 5 (Farmer City/Deland Blacktop), south of State Route 10, and west of County Roads 400E and 425E.

- Subarea 5
  - In DeWitt County: Nixon Township, south of County Route 15 (State Aid Road), Creek Township, and south of County Route 15.
  - In Macon County: Friends Creek Township, north of County Route 38 (Washington Street Road).
- Subarea 6
  - In DeWitt County: Texas Township, north of County Route 11, east of State Route 51 and Business Route 51 (except corporate areas of the City of Clinton).
- Subarea 7
  - In DeWitt County: Entire area of Clintonia Township (including the corporate areas of the City of Clinton).
- Subarea 8
  - In DeWitt County: Entire area of Wapella Township.

The EGC ESP Site EPZ includes the area within approximately a 10-mi radius of the EGC ESP Site. This area can be divided into sixteen 22.5-degree radial sectors. The EPZ and radial sector boundaries are shown in Figure 2.1-1. For the purposes of estimating evacuation times, the radial sectors are combined three at a time at distances of 5 and 10 mi, along with the entire area within 2 mi of the plant, resulting in 33 evacuation analysis areas. An additional six evacuation analysis areas result from considering the entire area within 5 and 10 mi of the EGC ESP Site, as well as each county. The remaining analysis areas consist of various combinations of the subareas, for a total of 51 evacuation analysis areas.

2.2.2 Ingestion Pathway Emergency Planning Zone

In the event of an accident that results in a radioactive release, human food and animal feed and water within approximately 50 mi of the EGC ESP Site may be contaminated. For the accident phase having an exposure pathway of ingestion (i.e., the "ingestion pathway"), the critical organs include the thyroid, the whole body, and the bone marrow. The duration of potential exposure could range from hours to months. The planning effort involves identification of exposure pathways and the associated interdiction points and methods. Regulatory guidance for this phase is to complete this planning effort within a 50-mi radius from the EGC ESP Site, but include processing plants for milk produced within the EPZ regardless of their location (USNRC, 1980).

Actions to protect the public from the ingestion of these potentially contaminated foodstuffs are primarily the responsibility of the State of Illinois (State of Illinois, 2001), with support from DeWitt County (State of Illinois, 2001a). A 50-mi Ingestion Pathway Zone Planning Map (Map E of IPRA Volume VIII) identifies major roads, population centers, and public drinking water system intakes from surface water sources within Illinois in a 50-mi radius of the EGC ESP Site (State of Illinois, 2001 and 2001a). The State of Illinois maintains computerized databases of dairies, food processing plants, livestock producers, underground water supply systems, and medical facilities capable of treating radiologically contaminated individuals (State of Illinois, 2001).

2.3 Evacuation Time Estimate Analysis

The evacuation time estimate (ETE) provides an assessment of the relative feasibility of an evacuation for the EPZ 10-mi plume exposure pathway. The evacuation times are based on a detailed consideration of the EPZ roadway network and population distribution. The information in Table 2.3-5 presents representative evacuation times for daytime and nighttime scenarios under various weather conditions for the evacuation of various areas in the EPZ, once a decision has been made to evacuate. The evacuation times noted include notification, mobilization, and travel time. These times are for the general population which include permanent population and special facilities (schools, nursing homes, hospitals, and recreational areas).

The ETE performed in 1993 for the CPS plume exposure pathway EPZ served as the basis for the ETE supporting this Application for the EGC ESP.

2.3.1 Assumptions

The assumptions listed below served as the basis for the 1993 ETE. These assumptions have been evaluated and found to remain valid for the area surrounding the EGC ESP Site. Preparation and mobilization times developed for each population component (i.e., permanent residents, seasonal residents, transient, and special facilities) in the 1993 ETE are reasonable.

- The evacuation will be conducted in accordance with the current IPRA (State of Illinois, 2001).
- The ETEs represent the time required to evacuate the EGC ESP Site EPZ and designated analysis areas. They also include the time required for initial notification.
- Subsequent to initial notification, all persons within the EPZ area will evacuate. Evacuation of the EPZ will be considered complete after all evacuating vehicles are outside of the EPZ.
- The general public will be evacuated by the most direct route out of the EPZ and will proceed to registration and congregate care centers after leaving the EPZ. Children from schools will be transported directly to designated areas (registration centers). Registration centers are discussed in Section 10.1.8.1, with locations illustrated in Figure 2.3-1.
- The permanent population sector will evacuate from their places of residence. All households having more than one vehicle will use one automobile. This is consistent with existing research indicating the tendency of evacuees to evacuate, where possible, as a family unit.
- Existing lane utilization and existing traffic control devices will prevail during the course of the evacuation. Appropriate state, county, and local personnel will restrict unauthorized access into the EPZ as provided by the current IPRA (State of Illinois, 2001).

- The evacuation analysis cases that have been analyzed represent a range of conditions, per guidance presented in Appendix 4 of NUREG-0654, Revision 1 (USNRC, 1980). These cases have been carefully chosen to present an appropriate range of conditions to be used in the protective action decision-making process. Although additional conditions can be identified, the cases analyzed reflect the bounds (i.e., low, typical, and high) of possible cases.

- Vehicle occupancy rates used for the various population categories are as follows:
  - Permanent and seasonal residents: 1 vehicle per household;
  - Major places of employment: 1 vehicle per employee, except the CPS and the EGC ESP Site, which is 1.5 persons per vehicle;
  - Hotels/motels: 1 vehicle per room;
  - Recreational areas: 1 vehicle per campsite, and 3 persons per vehicle for all other recreational areas;
  - Students: 60 persons per bus; and
  - Hospitals/nursing homes/correctional facilities: 40 people per bus for all facility residents.

The transport-dependent population will be evacuated by bus or ambulance through efforts coordinated by state and local emergency preparedness officials (State of Illinois, 2001 and 2001a).

Adverse weather refers to sudden rainstorms that would reduce effective roadway capacity by 20 percent for summer conditions, and snowstorms that would reduce capacity by 30 percent for winter conditions.

2.3.2 Population Data

2.3.2.1 Permanent Population

Population estimates for permanent and seasonal residents were developed from 2000 U.S. Census Bureau data (U.S. Census Bureau, 2002). The permanent population in the EGC ESP Site EPZ is now 12,358 (see Table 2.1-1 and Figure 2.3-2).

2.3.2.2 Seasonal Population

Seasonal resident population was derived from the 2000 U.S. Census Bureau data category of Vacant Housing for Seasonal, Recreational or Occasional Use. This value was multiplied by the previously accepted household occupancy rate of three, resulting in a total seasonal population for the EGC ESP Site EPZ of 105 people (see Table 2.3-1).

2.3.2.3 Transient Population

Population estimates for transient facilities (hotels/motels, major employers, visitors to recreational areas) were developed from 2002 survey data and verified by the DeWitt County Emergency Services and Disaster Agency Coordinator. Transient facilities are defined as locations inhabited by people on a short-term basis for business, travel, or recreation. The most significant contributor to transient population will be from permanent or seasonal population in a non-residential location. Thus, there is some double counting inherent in this approach. However, this count is necessary because transients will exhibit a

vehicle occupancy rate of one, instead of the value of three assumed for the permanent or seasonal counts, which impacts the traffic flow, and hence, the time to evacuate.

For the EGC ESP Site EPZ, migrant farm workers are included in the transient population statistics due to the nature of the farming in this region. DeWitt County produces crops of corn, soybeans, wheat, hay, cattle and hogs, which require some human manual labor for harvesting (Clinton Chamber of Commerce [CCC], 2002; Illinois Agricultural Statistics Service [IASS], 2002). The estimate of the Migrant Labor Force in DeWitt County is 65 (IASS, 2002). This value is included in Table 2.3-2.

For the transient population evaluation, approximately 130 small businesses were estimated to have three or less employees, for a total of 390 (CCC, 2002). A survey of larger businesses showed a decrease from 918 in 1993 to 432 in 2002 for the fall/winter and summer weekday category. The transient population, without taking into account recreational facilities is 1,937 (see Table 2.3-2). Hotels and motels add 39 people (see Table 2.3-2). The estimate for the CPS and the EGC ESP Site during operations and outages is 1,115 for winter and summer weekdays (see Table 2.3-3).

Recreational facility use showed an increase of 754 people in the fall/winter weekday category from 949 in 1993 to 1,703 in 2002. The fall/winter weeknight category showed an increase of 271 people, from 49 in 1993 to 320 in 2002. Summer weekday use decreased by 1,125 people, from 7,334 in 1992 to 6,209 in 2002. Summer weekend use decreased by 14,059 people, from 15,355 in 1993 to 1,296 in 2002 (see Table 2.3-2). However, these data reflect an anomalous condition. Following the terrorist acts of September 11, 2001, the CPS prohibited access to the Clinton Lake for security reasons. As security conditions relax, recreational facility use should return to the previous numbers. For planning accuracy, this Emergency Plan for the EGC ESP will use the 1993 values for transient population using recreational facilities.

The current employment level at the CPS reflects estimated peak personnel. The employment level at the EGC ESP Site was obtained from the bounding composite values of the EGC ESP PPE information (see the Site Safety Analysis Report [SSAR] Section 1.4). The 1993 Clinton ETE Facility used a plant population during outages of 1,700 people for winter and summer weekdays, 400 people for winter weeknights, and 100 people for weekends.

The current CPS Site population is 550. The population is broken down as approximately 80 percent or 440 people for the day shift, and 110 for the night and weekend shifts. During the recent outage, the population was increased to about 650 per shift. The PPE bounding population values for the EGC ESP Site are 580 people for normal operation and 1,000 people for refueling outages (see SSAR Section 1.4). Assuming the same 80/20 percent day/night split during operations and 50/50 percent day/night split during outages, this means 465 people on days and 115 people on nights during normal operations and about 500 people for days and 500 people for nights during outages (see Table 2.3-3).

The most probable limiting day and night transient numbers using PPE bounding values are for the EGC ESP Facility operating and the CPS in a refueling outage: 1,115 people for days and 765 people for nights and weekends, compared to the 1,700 people for days and 400 people used for nights and weekends in the 1993 ETE.

The PPE bounding value for construction population is 3150 for the single unit advanced boiling water reactor (ABWR). This bounding value was not included in this evaluation because it will not impact this Emergency Plan. However, during this evaluation for significant impediments to the development of an emergency plan, the sequence of constructing and operating dual AP1000 units on the EGC ESP Site was considered. Using the PPE population values and developing various scenarios, the resulting worse case scenario became the CPS in a refueling outage, ESP Unit 1 construction completed and in a refueling outage, and ESP Unit 2 under construction. Using this low probability sequence, the combination CPS and ESP Site transient population increases to 2050 on days, which is 935 more than the limiting daytime transient population number presented above.

2.3.2.3.1 Special Population

Population estimates for special facilities (schools, hospitals, nursing homes, and correction facilities) were developed from 2002 survey data and verified by the DeWitt County Emergency Services and Disaster Agency Coordinator. Changes from the 1993 surveys include the DeWitt County Jail being functional (it was estimated in the 1993 survey), and an addition of the Clinton High Rise. The total summer weekday population for six special population facilities is 549, down 49 people from 598 people in the 1993 ETE (see Table 2.3-4).

The number of school facilities remained at 13. The staff population is 185 people, and the student population is 2,749 people. The total number of students and staff is 2,934, which has decreased from 3,076 people, calculated in 1993. The 1993 count did not include the Richland Community College Clinton Extension, with a current population of 225 people in the winter, fall, and spring, and a population of 90 people in the summer. The current number of students and teachers becomes 2,934 people, down 142 people from the 1993 count (see Table 2.3-4). This value is in the winter weekday category; the summer weekday category for school population is 165 students and staff (see Table 2.3-4).

2.3.3 Analysis - Comparison of Infrastructure and Population

To test the current validity of the 1993 ETE conclusions, the following analysis was completed. Population data were updated (see Section 2.3.2) and assumptions were reevaluated (see Section 2.3.1) in order to compare the inputs and assumptions used for the NETVAC computer simulation model and the current state.

The road and highway infrastructure that was the basis of the links and nodes input to the NETVAC Program employed in the 1993 ETE was compared to the current infrastructure. A Geographic Information System (GIS) plot of roads and highways based on data obtained from the Census 2000 TIGER/Line Files (U.S. Census Bureau, 2000) was compared to the EPZ blue line drawing and the written description of the 1993 ETE.

Three approaches were used in the infrastructure comparison. The first was to evaluate EPZ zones defined by 22.5-degree sectors and 1-mi incremental radii overlaying the current GIS plot by comparing them to the similar zones on the blue line drawing. This comparison revealed no differences in the infrastructure, although there were slight differences in the overlay locations due to the differences in accuracy of GIS data versus the 1993 drawing.

The second approach was to drive the principal roadways described in 1993 ETE in May of 2002. The verification of roadways included the links and nodes shown in Figure 2.1-1. Again, no differences were noted.

The third approach was to perform a direct comparison of the link evacuation routes 901-905 and 801-815, and nodes 1-75 indicated on the drawing and the GIS plot. No differences were noted.

The following conclusions were made based on the above approaches:

- Conclusion 1: The infrastructure baseline used in the 1993 ETE has not changed, and therefore, does not impact the conclusions of estimated evacuation times.

The remainder of this comparative analysis focused on the summer weekday case, since that was discovered to be the most limiting time in the 1993 ETE. The 1993 ETE concluded that the longest times to evacuate the Clinton EPZ during both fair and adverse weather, 200 and 255 minutes respectively, are associated with the summer weekday case. The highest level of population occurs during the summer cases with a total resident population (permanent and seasonal) of 12,455. During these times, the transient population is at peak levels, resulting in a high number of vehicles on the network. The summer weekday case has a total population of 23,171, which is about 5,000 people less than the summer weekend case whose evacuation times are 185 and 245 minutes for both fair and adverse weather respectively. The apparent discrepancy in the evacuation times is due to the different locations where population concentrations occur for the two cases.

The next analysis step in validating the use of the 1993 ETE was to compare population numbers. First, the permanent population decreased by 46 people or 0.4 percent (12,404 people to 12,358 people). The seasonal population increased by 48 people; the net total permanent and seasonal population increase was 5 people or 0.04 percent (12,458 people to 12,463 people).

- Conclusion 2: The permanent and seasonal population increase is considered negligible and has no negative impact on the 1993 ETE results. A numerical change this small (0.04 percent) is insignificant when considered within the framework of expected behaviors. For example, traffic rules are constant and traffic control will be employed as directed in the DeWitt County Local Emergency Plan (State of Illinois, 2001a). Increased traffic control and local government awareness is already in place; i.e., factors in place will accommodate such small increases in vehicular traffic arising from a minor increase in population.

Second, the special population increased from 598 people in the 1993 ETE to 714 people for the summer weekday case. The 19.4 percent increase was predominantly due to the addition of Richland Community College (15 percent) people. As this is a commuter school and students can be expected to evacuate 1 person per vehicle, the student population of 90 has been added to the transient total.

- Conclusion 3: The resulting special population increase of 26 has no negative impact on the estimate for evacuation time for the same reasons presented in Conclusion 2, above.

Third, the total transient population for the limiting summer weekday case has decreased by 1,778 people (17 percent) from 10,118 people in 1992 to 8,340 people in 2002. This number

includes the addition of the Richland Community College, which contributed an additional 90 people during the summer term.

The total population, including permanent, seasonal, special and transient, for the summer weekday scenario, is estimated to be 21,427 people, which is 1,744 (8 percent) less people than the 23,171 presented in the 1993 ETE. Even given the anomalous conditions that caused the significant decrease in recreational facility use discussed in Section 2.3.2.3, and assuming the recreation use transient population number increases to the 1993 values, the total population for the summer weekday case will increase by 1,125 people. The net total population for this case will then rise to 22,552, which is a decrease of 619 people or 3.0 percent. One component of this total population estimate is the transient population value, using the CPS and ESP Site values presented in Section 2.3.2.3 above. If the low probability sequence involving dual AP1000s is substituted, the net total population increases by 316 (1.4 percent) over the 1993 estimate. While this is an unlikely scenario and the population increase would not be significant, should this condition arise, special emergency response transportation plans could be placed in effect. These plans might involve staging of busses to reduce the potential roadway congestion impact from the center of the EPZ. In any case, this scenario would not become an impediment to the development of an emergency plan.

- Conclusion 4: There has been no significant change in the total population estimate for the limiting summer weekday case, and therefore, no negative impact on the ETEs.

As found in the 1993 ETE, the majority of the population within the EGC ESP Site EPZ remains concentrated within the City of Clinton, where most of the transient and special facilities are situated (see Figure 2.3-2). On a summer weekday, the work force is at peak daytime level; thus, the greatest volume of people is in the City of Clinton. The population distribution has remained constant.

- Conclusion 5: There has been no significant change in the distribution of population and no significant change in the population; therefore, there is no change to the modeling of vehicle entry into the roadway network. With no changes to the roadway network (Conclusion 1) and no significant changes to the total population (Conclusion 4), there is no impact on the 1993 ETE and the conclusions of that analysis remain valid.

2.3.4 Analysis - Special Event

In 1993, an ETE was also developed for an evacuation of the full EPZ during the Apple and Pork Festival. This special event is held annually in the City of Clinton on Woodlawn Street during the last full weekend of September. The supplemental time estimate was developed using the summer weekend population and vehicle demand level as a base condition for evaluation purposes. Vehicles associated with the Apple and Pork Festival were subsequently added to the base case level to simulate probable conditions during the festival.

An average vehicle occupancy of 3 persons per vehicle was used to develop the vehicle demand levels for the population associated with this event. Therefore, there would be an additional 16,500 vehicles exiting the EPZ. The location of this event, in the City of Clinton, substantially increases the evacuation time to 380 minutes for fair weather conditions, and 530 minutes for adverse weather conditions, with queuing occurring throughout the major roadways in the city.

For the 1993 ETE, the estimated total peak population in the area at any given time during the festival was 50,000 people. The summer weekend population estimate exclusive of this special event was 28,412 in 1993. Therefore, the estimated population for the festival was about 22,000 additional people. The current estimate for the festival remains the same: about 22,000 people per day. Therefore, the evacuation times of 380 minutes for fair weather and 530 minutes for adverse weather during the Apple and Pork Festival remains valid (see Table 2.3-5).

2.4 Results – Significant Impediments to the Development of an Emergency Plan

The CPS ETE performed in 1993 is valid for current conditions. The estimates of evacuation times for the most limiting conditions of summer weekdays are acceptable. The estimate of evacuation time for the one special case of the Apple and Pork Festival is also acceptable. Therefore, there are no geographic or political impediments to the development of an Emergency Plan. Table 2.3-5 contains the ETEs from the 1993 ETE that are valid for this Application for the EGC ESP.

CHAPTER 2

Tables

TABLE 2.1-1

Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
11.25	33.75	0	1	0	0
11.25	33.75	1	2	2	6
11.25	33.75	2	3	3	9
11.25	33.75	3	4	13	24
11.25	33.75	4	5	12	32
11.25	33.75	5	6	9	27
11.25	33.75	6	7	7	23
11.25	33.75	7	8	10	32
11.25	33.75	8	9	7	25
11.25	33.75	9	10	8	13
33.75	56.25	0	1	0	1
33.75	56.25	1	2	1	3
33.75	56.25	2	3	1	3
33.75	56.25	3	4	3	6
33.75	56.25	4	5	3	8
33.75	56.25	5	6	3	7
33.75	56.25	6	7	5	12
33.75	56.25	7	8	6	18
33.75	56.25	8	9	9	29
33.75	56.25	9	10	11	27
56.25	78.75	0	1	0	0
56.25	78.75	1	2	1	3
56.25	78.75	2	3	81	180
56.25	78.75	3	4	4	15
56.25	78.75	4	5	7	16
56.25	78.75	5	6	7	21
56.25	78.75	6	7	15	37
56.25	78.75	7	8	15	51
56.25	78.75	8	9	14	31
56.25	78.75	9	10	34	51
78.75	101.25	0	1	0	0
78.75	101.25	1	2	1	1
78.75	101.25	2	3	6	2
78.75	101.25	3	4	9	15
78.75	101.25	4	5	10	37
78.75	101.25	5	6	4	8
78.75	101.25	6	7	5	13
78.75	101.25	7	8	5	16
78.75	101.25	8	9	3	4
78.75	101.25	9	10	6	12
101.25	123.75	0	1	0	0

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
101.25	123.75	1	2	0	0
101.25	123.75	2	3	1	2
101.25	123.75	3	4	7	11
101.25	123.75	4	5	2	4
101.25	123.75	5	6	6	37
101.25	123.75	6	7	4	10
101.25	123.75	7	8	6	21
101.25	123.75	8	9	6	10
101.25	123.75	9	10	7	19
123.75	146.25	0	1	0	0
123.75	146.25	1	2	0	0
123.75	146.25	2	3	2	7
123.75	146.25	3	4	4	11
123.75	146.25	4	5	3	8
123.75	146.25	5	6	210	438
123.75	146.25	6	7	4	8
123.75	146.25	7	8	6	12
123.75	146.25	8	9	2	5
123.75	146.25	9	10	4	11
146.25	168.75	0	1	0	0
146.25	168.75	1	2	0	0
146.25	168.75	2	3	7	12
146.25	168.75	3	4	3	5
146.25	168.75	4	5	4	9
146.25	168.75	5	6	6	12
146.25	168.75	6	7	5	16
146.25	168.75	7	8	3	8
146.25	168.75	8	9	4	10
146.25	168.75	9	10	16	38
168.75	191.25	0	1	0	0
168.75	191.25	1	2	0	0
168.75	191.25	2	3	3	5
168.75	191.25	3	4	6	17
168.75	191.25	4	5	4	9
168.75	191.25	5	6	3	10
168.75	191.25	6	7	5	15
168.75	191.25	7	8	7	11
168.75	191.25	8	9	7	21
168.75	191.25	9	10	11	29
191.25	213.75	0	1	0	0
191.25	213.75	1	2	1	0
191.25	213.75	2	3	1	6
191.25	213.75	3	4	43	94
191.25	213.75	4	5	6	14
191.25	213.75	5	6	6	11
191.25	213.75	6	7	4	8
191.25	213.75	7	8	7	14

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
191.25	213.75	8	9	10	22
191.25	213.75	9	10	7	16
213.75	236.25	0	1	1	1
213.75	236.25	1	2	1	0
213.75	236.25	2	3	1	2
213.75	236.25	3	4	12	33
213.75	236.25	4	5	15	35
213.75	236.25	5	6	17	47
213.75	236.25	6	7	26	53
213.75	236.25	7	8	9	19
213.75	236.25	8	9	13	48
213.75	236.25	9	10	33	63
236.25	258.75	0	1	0	0
236.25	258.75	1	2	1	0
236.25	258.75	2	3	7	17
236.25	258.75	3	4	11	23
236.25	258.75	4	5	8	18
236.25	258.75	5	6	97	42
236.25	258.75	6	7	446	602
236.25	258.75	7	8	677	1,281
236.25	258.75	8	9	148	328
236.25	258.75	9	10	42	91
258.75	281.25	0	1	0	0
258.75	281.25	1	2	5	12
258.75	281.25	2	3	18	63
258.75	281.25	3	4	7	23
258.75	281.25	4	5	6	17
258.75	281.25	5	6	100	637
258.75	281.25	6	7	1,329	3,952
258.75	281.25	7	8	957	1,702
258.75	281.25	8	9	66	126
258.75	281.25	9	10	19	35
281.25	303.75	0	1	1	0
281.25	303.75	1	2	4	14
281.25	303.75	2	3	2	5
281.25	303.75	3	4	3	7
281.25	303.75	4	5	5	9
281.25	303.75	5	6	7	20
281.25	303.75	6	7	11	31
281.25	303.75	7	8	278	664
281.25	303.75	8	9	15	21
281.25	303.75	9	10	11	31
303.75	326.25	0	1	0	3
303.75	326.25	1	2	3	8
303.75	326.25	2	3	4	8
303.75	326.25	3	4	4	10
303.75	326.25	4	5	5	10

TABLE 2.1-1
Census 2000 Demographics within 10 Mi of the Clinton Power Station in 1-Mi Bands by Radial Grid Sector

Radial Bisector From Degree	Radial Bisector To Degree	From Mile	To Mile	Total Housing Units	Total Population
303.75	326.25	5	6	5	9
303.75	326.25	6	7	4	10
303.75	326.25	7	8	8	18
303.75	326.25	8	9	19	41
303.75	326.25	9	10	36	83
326.25	348.75	0	1	0	0
326.25	348.75	1	2	2	4
326.25	348.75	2	3	6	13
326.25	348.75	3	4	4	9
326.25	348.75	4	5	4	7
326.25	348.75	5	6	6	10
326.25	348.75	6	7	4	9
326.25	348.75	7	8	5	11
326.25	348.75	8	9	8	21
326.25	348.75	9	10	9	20
348.75	11.25	0	1	0	0
348.75	11.25	1	2	2	5
348.75	11.25	2	3	5	12
348.75	11.25	3	4	8	14
348.75	11.25	4	5	14	25
348.75	11.25	5	6	7	23
348.75	11.25	6	7	5	13
348.75	11.25	7	8	4	6
348.75	11.25	8	9	5	16
348.75	11.25	9	10	7	18
				TOTAL	**12,358**

Source: U.S. Census Bureau, 2002

Note: Statistics were calculated from block level census data. If a block was bisected by a 1-mi band or radial grid line and parts of the same block fell in two or more cells, demographic data were proportioned by percent block area. This implicitly assumes population is fairly uniform in the block. Since a block is the smallest census data unit, this assumption was used. This assumption was made in lieu of assigning the entire block population to a particular grid cell and potentially double-counting some block level populations. Due to rounding, the sum of the values in the total population column may not equal the total population within 10 miles.

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

				Vacancy Status	
From Degree	**To Degree**	**From Radial Distance (mi)**	**To Radial Distance (mi)**	**Total Vacant Housing Units**	**Seasonal, Recreational, or Occasional Use**
11.25	33.75	0	1	0	0
11.25	33.75	1	2	0	0
11.25	33.75	2	3	0	0
11.25	33.75	3	4	1	0
11.25	33.75	4	5	3	2
11.25	33.75	5	6	0	0
11.25	33.75	6	7	0	0
11.25	33.75	7	8	1	0
11.25	33.75	8	9	0	0
11.25	33.75	9	10	1	0
33.75	56.25	0	1	0	0
33.75	56.25	1	2	0	0
33.75	56.25	2	3	0	0
33.75	56.25	3	4	0	0
33.75	56.25	4	5	0	0
33.75	56.25	5	6	0	0
33.75	56.25	6	7	0	0
33.75	56.25	7	8	0	0
33.75	56.25	8	9	0	0
33.75	56.25	9	10	0	0
56.25	78.75	0	1	0	0
56.25	78.75	1	2	0	0
56.25	78.75	2	3	7	1
56.25	78.75	3	4	1	0
56.25	78.75	4	5	1	0
56.25	78.75	5	6	0	0
56.25	78.75	6	7	0	0
56.25	78.75	7	8	0	0
56.25	78.75	8	9	1	0

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

				Vacancy Status	
From Degree	To Degree	From Radial Distance (mi)	To Radial Distance (mi)	Total Vacant Housing Units	Seasonal, Recreational, or Occasional Use
56.25	78.75	9	10	1	0
78.75	101.25	0	1	0	0
78.75	101.25	1	2	0	0
78.75	101.25	2	3	0	0
78.75	101.25	3	4	1	0
78.75	101.25	4	5	1	0
78.75	101.25	5	6	0	0
78.75	101.25	6	7	0	0
78.75	101.25	7	8	0	0
78.75	101.25	8	9	0	0
78.75	101.25	9	10	1	0
101.25	123.75	0	1	0	0
101.25	123.75	1	2	0	0
101.25	123.75	2	3	0	0
101.25	123.75	3	4	1	0
101.25	123.75	4	5	1	0
101.25	123.75	5	6	0	0
101.25	123.75	6	7	0	0
101.25	123.75	7	8	0	0
101.25	123.75	8	9	0	0
101.25	123.75	9	10	1	0
123.75	146.25	0	1	0	0
123.75	146.25	1	2	0	0
123.75	146.25	2	3	0	0
123.75	146.25	3	4	0	0
123.75	146.25	4	5	0	0
123.75	146.25	5	6	18	1
123.75	146.25	6	7	0	0
123.75	146.25	7	8	0	0

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

				Vacancy Status	
From Degree	To Degree	From Radial Distance (mi)	To Radial Distance (mi)	Total Vacant Housing Units	Seasonal, Recreational, or Occasional Use
123.75	146.25	8	9	0	0
123.75	146.25	9	10	0	0
146.25	168.75	0	1	0	0
146.25	168.75	1	2	0	0
146.25	168.75	2	3	1	0
146.25	168.75	3	4	0	0
146.25	168.75	4	5	1	0
146.25	168.75	5	6	1	0
146.25	168.75	6	7	0	0
146.25	168.75	7	8	0	0
146.25	168.75	8	9	0	0
146.25	168.75	9	10	6	2
168.75	191.25	0	1	0	0
168.75	191.25	1	2	0	0
168.75	191.25	2	3	0	0
168.75	191.25	3	4	2	1
168.75	191.25	4	5	0	0
168.75	191.25	5	6	0	0
168.75	191.25	6	7	0	0
168.75	191.25	7	8	0	0
168.75	191.25	8	9	0	0
168.75	191.25	9	10	0	0
191.25	213.75	0	1	0	0
191.25	213.75	1	2	0	0
191.25	213.75	2	3	0	0
191.25	213.75	3	4	2	0
191.25	213.75	4	5	0	0
191.25	213.75	5	6	0	0
191.25	213.75	6	7	1	0

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

From Degree	To Degree	From Radial Distance (mi)	To Radial Distance (mi)	Vacancy Status	
				Total Vacant Housing Units	Seasonal, Recreational, or Occasional Use
191.25	213.75	7	8	0	0
191.25	213.75	8	9	0	0
191.25	213.75	9	10	0	0
213.75	236.25	0	1	0	0
213.75	236.25	1	2	0	0
213.75	236.25	2	3	0	0
213.75	236.25	3	4	1	0
213.75	236.25	4	5	1	0
213.75	236.25	5	6	2	0
213.75	236.25	6	7	2	0
213.75	236.25	7	8	1	0
213.75	236.25	8	9	1	0
213.75	236.25	9	10	2	0
236.25	258.75	0	1	0	0
236.25	258.75	1	2	0	0
236.25	258.75	2	3	0	0
236.25	258.75	3	4	1	0
236.25	258.75	4	5	0	0
236.25	258.75	5	6	1	0
236.25	258.75	6	7	14	2
236.25	258.75	7	8	14	0
236.25	258.75	8	9	6	0
236.25	258.75	9	10	2	0
258.75	281.25	0	1	0	0
258.75	281.25	1	2	0	0
258.75	281.25	2	3	0	0
258.75	281.25	3	4	0	0
258.75	281.25	4	5	1	0
258.75	281.25	5	6	17	2

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

				Vacancy Status	
From Degree	To Degree	From Radial Distance (mi)	To Radial Distance (mi)	Total Vacant Housing Units	Seasonal, Recreational, or Occasional Use
258.75	281.25	6	7	164	13
258.75	281.25	7	8	43	6
258.75	281.25	8	9	3	0
258.75	281.25	9	10	3	1
281.25	303.75	0	1	0	0
281.25	303.75	1	2	1	0
281.25	303.75	2	3	0	0
281.25	303.75	3	4	0	0
281.25	303.75	4	5	0	0
281.25	303.75	5	6	0	0
281.25	303.75	6	7	1	0
281.25	303.75	7	8	24	2
281.25	303.75	8	9	1	0
281.25	303.75	9	10	1	0
303.75	326.25	0	1	0	0
303.75	326.25	1	2	1	0
303.75	326.25	2	3	0	0
303.75	326.25	3	4	0	0
303.75	326.25	4	5	0	0
303.75	326.25	5	6	0	0
303.75	326.25	6	7	0	0
303.75	326.25	7	8	1	0
303.75	326.25	8	9	1	0
303.75	326.25	9	10	4	0
326.25	348.75	0	1	0	0
326.25	348.75	1	2	0	0
326.25	348.75	2	3	0	0
326.25	348.75	3	4	0	0
326.25	348.75	4	5	0	0

TABLE 2.3-1

Census 2000 Demographic Data within 10 Mi of the Clinton Power Station by Radial Grid Sector

				Vacancy Status	
From Degree	**To Degree**	**From Radial Distance (mi)**	**To Radial Distance (mi)**	**Total Vacant Housing Units**	**Seasonal, Recreational, or Occasional Use**
326.25	348.75	5	6	1	0
326.25	348.75	6	7	0	0
326.25	348.75	7	8	0	0
326.25	348.75	8	9	0	0
326.25	348.75	9	10	0	0
348.75	11.25	0	1	0	0
348.75	11.25	1	2	0	0
348.75	11.25	2	3	0	0
348.75	11.25	3	4	0	0
348.75	11.25	4	5	3	1
348.75	11.25	5	6	0	0
348.75	11.25	6	7	0	0
348.75	11.25	7	8	0	0
348.75	11.25	8	9	0	0
348.75	11.25	9	10	0	0
Total Vacant Housing for Seasonal, Recreational, or Occasional Use					**35**

Source: U.S. Census Bureau, 2002

Note: Statistics were calculated from block level census data. If a block was bisected by a sector boundary, thus parts of the same block fell in two or more sectors, demographic data were proportioned by percent block area. This implicitly assumes demographic statistics are fairly uniform in the block. Since a block is the smallest census data unit, this assumption was used. This assumption was made in lieu of assigning the entire block demographic to a particular sector and potentially double-counting some block level demographic data.

TABLE 2.3-2
2002 Transient Population

Name	Subarea	Fall/Winter Weekday	Fall/Winter Weekend	Summer Weekday	Summer Weekend
Businesses					
Estimate for all Small Businesses		390	--	390	--
Action Technology	6	95	--	95	--
Miller Container Corp	6	42	--	42	--
Wallace Computer Services	6	150	--	150	--
BFI	6	50	--	50	--
McElroy Metals	6	95	--	95	--
Clinton Power Station	1	1,115	765	1,115	765
Subtotal		**1,937**	**765**	**1,937**	**765**
Hotels/Motels					
Sunset Inn	7	20	20	20	20
Town & Country Motel	7	5	6	6	10
Wye Motel	7	13	12	13	12
Subtotal		**38**	**38**	**39**	**42**
Migrant Agricultural Workers		**0**	**0**	**65**	**65**
Recreation Facilities					
Arrowhead Acres Park	6	50	50	100	100
Clinton Country Club	6	--	--	50	--
Little Galilee Christian Camp	6	0	0	300	300
Weldon Springs State Recreation Area	6,1	325	195	676	626
Camp Quest	closed	--	--	--	--
Lane Day Use Area	1	--	--	--	--
Clinton Marine	1	176	--	630	--
Mascoutin State Recreation Area	1	483	--	1,848	--
Northfork Boat and Canoe Access	1	56	--	73	0
Parnell Boat Access	1	64	--	261	--
Peninsula Area	1	44	--	134	--
Spillway Access Area	1	103	--	303	--

TABLE 2.3-2
2002 Transient Population

Name	Subarea	Fall/Winter Weekday	Fall/Winter Weekend	Summer Weekday	Summer Weekend
Visitor Center	closed	--	--	--	--
Weldon Boat Access	1	126	--	744	--
Westside Boat Access	1	201	--	820	--
Calvary United Church Camp	8	0	0	150	150
Green Acres Campground	7	75	75	120	120
Subtotal		**1,703**	**320**	**6,209**	**1,296**
Total Transient Population		**3,678**	**1,123**	**8,250**	**2,168**
Total Transient & Special Populations		**6,528**	**1,672**	**8,964**	**2,717**

Note: Dashes (--) indicate data not available.

TABLE 2.3-3
Estimated EPZ Site Transient Population

Case	Clinton[a] Only	ESP[a] Only	Clinton Outage	ESP Outage	ESP[a] / Clinton[a]	Clinton[a]/ ESP Outage	ESP[a]/ Clinton Outage	Current ETE Value
Day	440	465	650	500	905	940	1,115	1,700
Night	110	115	650	500	225	610	765	400
Total	550	580	1,300	1,000	1,130	1,550	1,880	2,100
Weekend	110	115	650	500	225	610	765	100

[a.] Normal power operations.

TABLE 2.3-4
2002 Special Population in 10-Mi EPZ

Name	Winter				Summer			
	Weekday		Weekend		Weekday		Weekend	
	Staff	Residents	Staff	Residents	Staff	Residents	Staff	Residents
John Warner Hospital	175	43	175	43	175	43	175	43
Crestview Nursing Home	60	103	60	103	60	103	60	103
DeWitt County Jail	14	54	14	54	14	54	14	54
Clinton High Rise	--[a]	50	--	50	--	50	--	50
Allen Court 1829 E. Main	--	25	--	25	--	25	--	25
Allen Court 1650 E. Main	--	25	--	25	--	25	--	25
Total	**249**	**300**	**249**	**300**	**249**	**300**	**249**	**300**

	Number of Staff	Number of Students	Number of Staff & Students	Source
Douglas Elementary School	16	253	0	NCES
Webster Elementary School	19	255	0	NCES
Clinton Junior High School	41	467	0	NCES
Lincoln Elementary School	15	245	0	NCES
Washington Elementary School	18	301	0	NCES
Clinton Christian Academy	--	100	50	
Clinton Alternative Education	[b]	[b]	0	
Clinton High School	53	738	0	NCES
Richland Community College	5	225	90	

TABLE 2.3-4
2002 Special Population in 10-Mi EPZ

	Winter			Summer		
	Weekday		Weekend	Weekday	Weekend	
	Number of Staff	Number of Students		Number of Staff & Students		Source
De Land Elementary School	9	121		0		NCES
De Land Weldon Middle School	2	26		0		NCES
Head Start	5	10		15		
Dora's Daycare	2	8		10		
Total Staff and Students		**2,934**		**165**		
Total Special Population		**3,483**		**714**		

Source: NCES, 2002

[a.] Dashes (--) indicate data not available.

[b.] The Clinton Alternative Education facility staff and students are collocated with and included in the data for the Clinton High School facility.

TABLE 2.3-5
Evacuation Time Estimates

		Evacuation Time in Minutes							
		Fair Weather				Adverse Weather			
	Analysis Area	Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend	Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend
1	2-mi ring[a]	170	150	170	150	180	150	180	150
2	2-mi ring + Sectors[b] A, B, C to 5 mi	180	160	180	160	190	160	190	160
3	2-mi ring + Sectors A, B, C to 10 mi	185	160	185	160	200	165	200	165
4	2-mi ring + Sectors B, C, D to 5 mi	180	160	180	160	190	160	190	160
5	2-mi ring + Sectors B, C, D to 10 mi	185	170	185	170	200	175	200	175
6	2-mi ring + Sectors C, D, E to 5 mi	180	160	180	160	190	160	190	160
7	2-mi ring + Sectors C, D, E to 10 mi	185	170	185	170	200	175	200	185
8	2-mi ring + Sectors D, E, F to 5 mi	180	160	180	155	185	160	185	170
9	2-mi ring + Sectors D, E, F to 10 mi	185	170	185	175	200	180	200	185
10	2-mi ring + Sectors E, F, G to 5 mi	180	160	180	160	190	160	190	170
11	2-mi ring + Sectors E, F, G to 10 mi	185	170	185	175	200	180	200	185
12	2-mi ring + Sectors F, G, H to 5 mi	180	160	180	160	190	160	190	170
13	2-mi ring + Sectors F, G, H to 10 mi	185	170	185	170	200	175	200	180
14	2-mi ring + Sectors G, H, J to 5 mi	180	160	180	160	190	160	190	160
15	2-mi ring + Sectors G, H, J to 10 mi	185	170	185	170	200	175	200	180
16	2-mi ring + Sectors H, J, K to 5 mi	170	150	170	150	180	150	180	150
17	2-mi ring + Sectors H, J, K to 10 mi	185	170	185	180	200	175	200	185
18	2-mi ring + Sectors J, K, L to 5 mi	170	150	170	150	180	155	180	160
19	2-mi ring + Sectors J, K, L to 10 mi	185	160	200	185	240	180	250	240

TABLE 2.3-5
Evacuation Time Estimates

	Analysis Area	Evacuation Time in Minutes							
		Fair Weather				Adverse Weather			
		Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend	Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend
20	2-mi ring + Sectors K, L, M to 5 mi	170	150	170	150	180	155	180	160
21	2-mi ring + Sectors K, L, M to 10 mi	185	160	200	185	240	180	250	240
22	2-mi ring + Sectors L, M, N to 5 mi	170	150	170	150	185	155	200	185
23	2-mi ring + Sectors L, M, N to 10 mi	185	160	200	185	240	180	250	240
24	2-mi ring + Sectors M, N, P to 5 mi	175	150	185	180	225	160	200	235
25	2-mi ring + Sectors M, N, P to 10 mi	185	175	200	185	240	180	250	240
26	2-mi ring + Sectors N, P, Q to 5 mi	170	150	170	150	185	150	200	185
27	2-mi ring + Sectors N, P, Q to 10 mi	185	175	200	185	240	180	250	240
28	2-mi ring + Sectors P, Q, R to 5 mi	170	150	170	150	180	155	180	155
29	2-mi ring + Sectors P, Q, R to 10 mi	185	175	185	180	190	180	185	185
30	2-mi ring + Sectors Q, R, A to 5 mi	170	150	170	150	180	155	180	155
31	2-mi ring + Sectors Q, R, A to 10 mi	185	175	185	180	190	180	185	185
32	2-mi ring + Sectors R, A, B to 5 mi	170	150	170	150	180	155	180	155
33	2-mi ring + Sectors R, A, B to 10 mi	185	160	185	155	200	160	200	160
34	5-mi ring	175	160	175	160	190	160	200	185
35	Full EPZ	185	180	200	185	240	185	255	245
36	DeWitt County	185	175	185	185	240	180	250	240
37	Piatt County	185	170	185	175	200	180	200	185
38	Macon County	185	170	185	170	200	175	200	180
39	McLean County	185	160	185	155	200	160	200	160
40	Subarea 1[c]	185	165	185	175	200	175	200	185
41	Subarea 1, 2	185	155	185	155	200	165	200	160

TABLE 2.3-5
Evacuation Time Estimates

		Evacuation Time in Minutes							
		Fair Weather				Adverse Weather			
	Analysis Area	Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend	Winter Weekday	Winter Weeknight	Summer Weekday	Summer Weekend
42	Subarea 1, 3	185	170	185	170	200	175	200	175
43	Subareas 1, 4	185	170	190	175	205	175	200	185
44	Subareas 1, 5	185	170	185	180	200	175	200	180
45	Subareas 1, 6	185	165	200	185	240	180	250	240
46	Subareas 1, 7	185	175	200	185	240	180	250	240
47	Subareas 1, 8	185	175	180	180	190	180	185	185
48	Subareas 1, 2, 3	185	170	185	175	200	175	200	185
49	Subareas 1, 4, 5	185	170	190	180	205	175	200	185
50	Subareas 1, 5, 6	185	170	200	185	240	180	250	240
51	Subareas 1, 2, 7, 8	185	175	200	185	240	180	250	240
*	Apple & Pork Festival				380				530

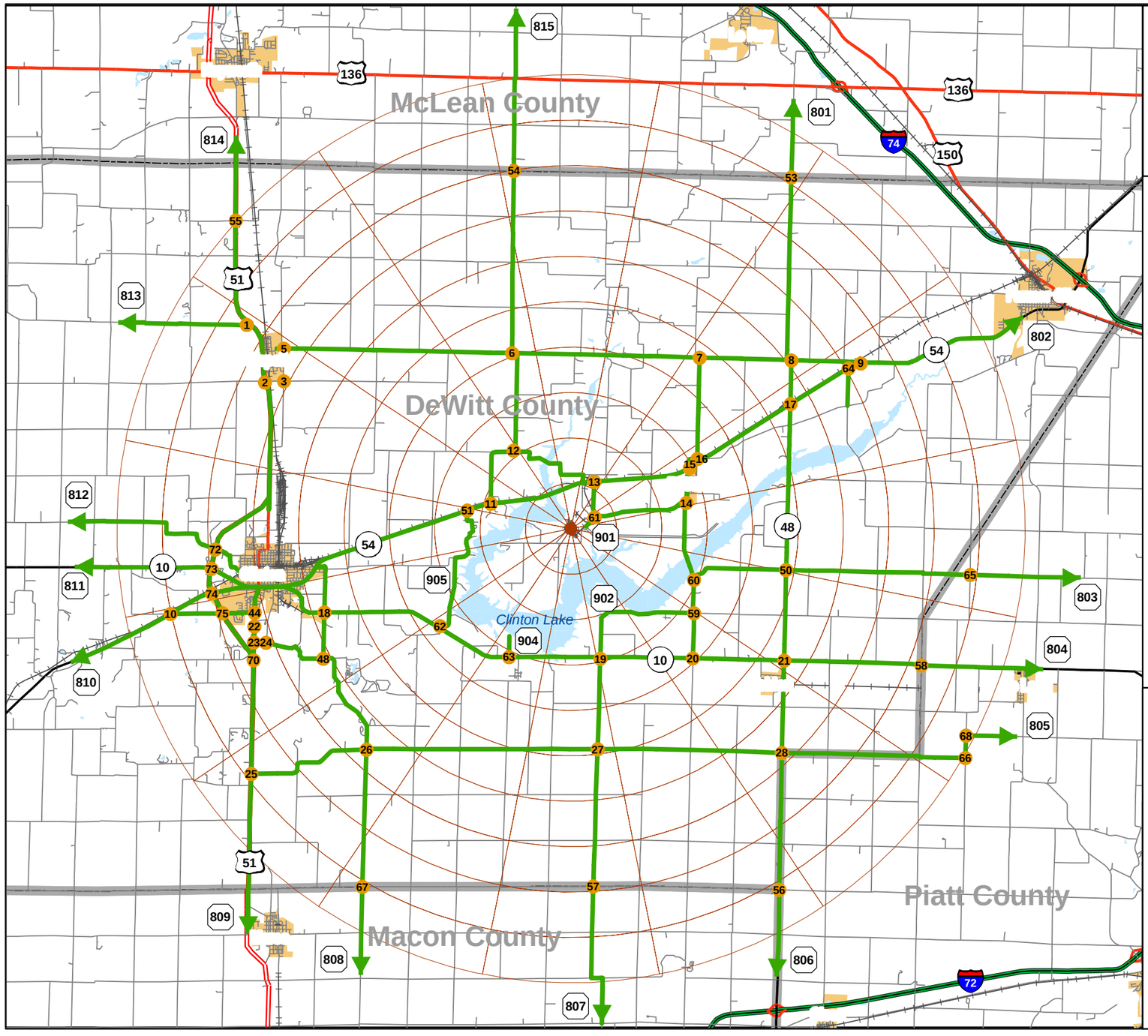
[a.] Refer to Figure 2.3-2 for illustrations of sectors and rings. Rings are concentric circles beginning with 1 at a 1-mi radius from the center of the proposed site and ending with 10 as the circumference of the 10-mi EPZ.

[b.] Refer to Figure 2.3-2 for illustrations of sectors and rings. Sector A opens to the north; sectors are lettered sequentially clockwise from A to R, not including I and O.

[c.] Subareas 1 through 8 are shown on Figures 2.2-2 and 2.3-1.

Emergency Plan for the EGC Early Site Permit

Figure 2.1-1
ESP EPZ with Radial Grid



Legend

- ETE Nodes
- ETE Links
- EGC ESP Site
- Radial Grid: 10 mi
- Railroads
- Interstate, Fully access controlled
- Interchange Ramp
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- County or other minor road
- Water: Lakes and Rivers
- Census 2000 Incorporated/Designated Places
- County Boundary

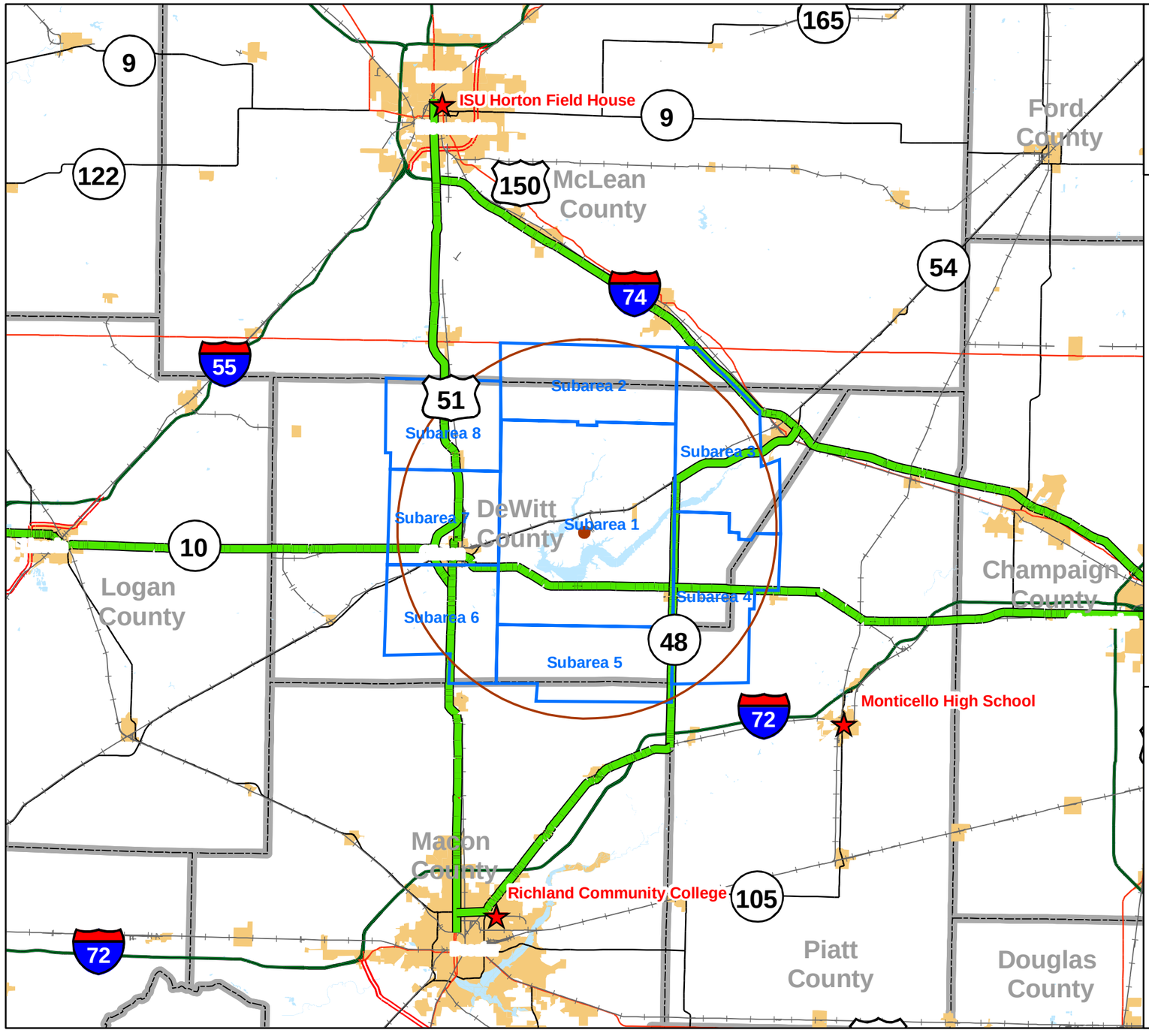
Data Sources:
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b

N

Miles
0 1 2 4

Emergency Plan for the EGC Early Site Permit

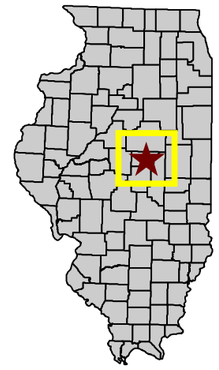
Figure 2.2-1
ESP EPZ Subareas, Evacuation Routes, and Relocation Centers



Legend

- Relocation Centers
- EGC ESP Site
- ESP EPZ: 10 mi Site Buffer
- EPZ Subareas
- Emergency Evacuation Route
- Interstate, Fully access controlled
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- Railroads
- Water: Lakes and Rivers
- Census 2000 Incorporated/Designated Places
- County Boundary

Data Sources:
Bureau of Transportation Statistics, 2000
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b



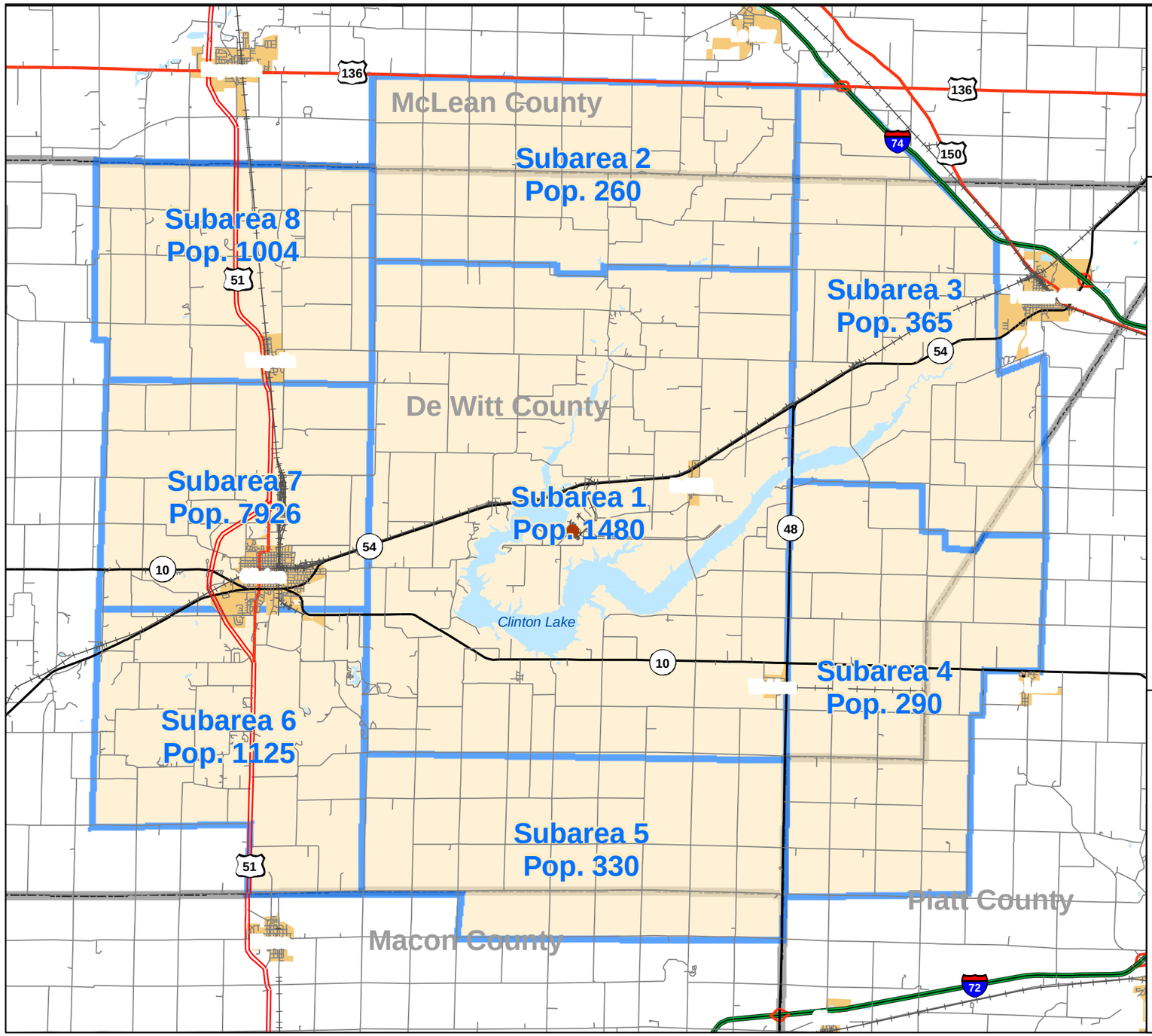
N

Miles

0 3 6 12

Emergency Plan for the EGC Early Site Permit

Figure 2.2-2
ESP EPZ Subarea Population



Legend

- EGC ESP Site
- EPZ Subarea
- Interstate, Fully access controlled
- Interchange Ramp
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- County or other minor road
- Railroads
- Water: Lakes and Rivers
- Incorporated/Designated Places
- County Boundary

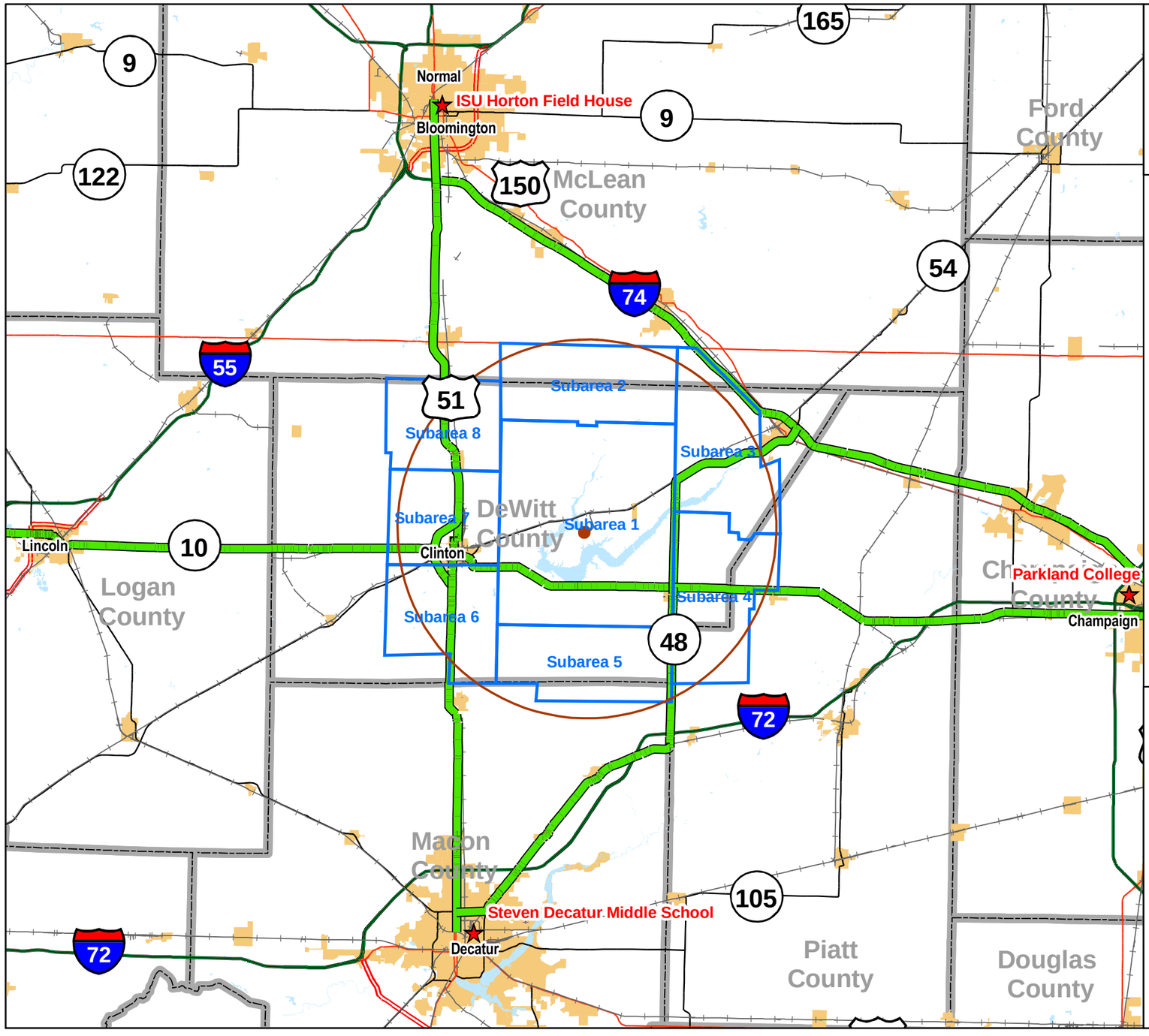
Data Sources:
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b

N

Miles
0 1 2 4

Emergency Plan for the EGC Early Site Permit

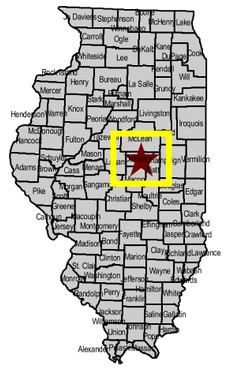
Figure 2.3-1
Evacuation Routes to Registration and Congregate Care Centers



Legend

- Registration and Congregate Care Centers
- EGC ESP Site
- ESP EPZ: 10 mi Site Buffer
- EPZ Subareas
- Emergency Evacuation Route
- Interstate, Fully access controlled
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- Water: Lakes and Rivers
- Incorporated/Designated Places
- County Boundary

Data Sources:
Bureau of Transportation Statistics, 2000
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b



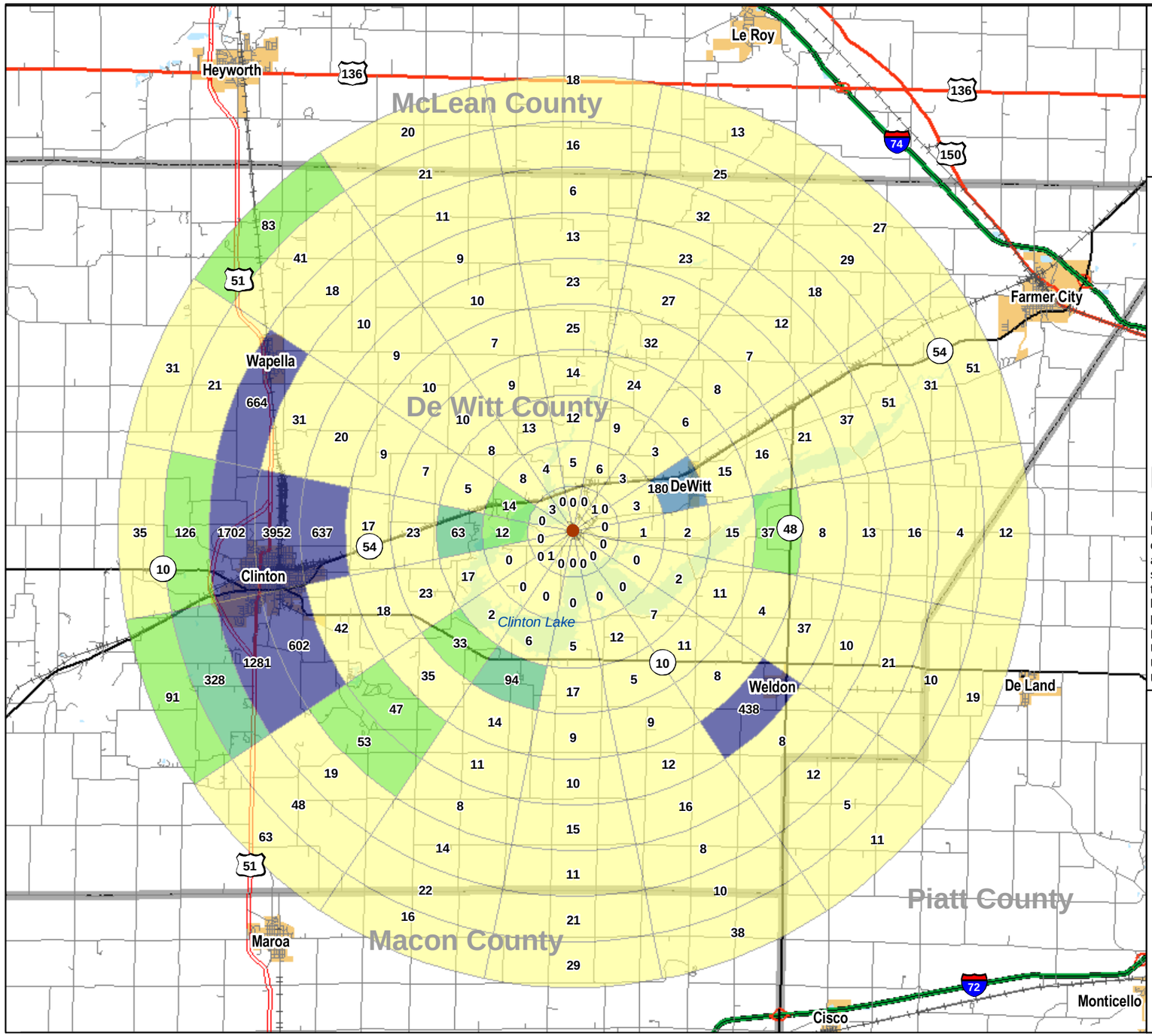
N

Miles

0 3 6 12

Emergency Plan for the EGC Early Site Permit

Figure 2.3-2
ESP EPZ Permanent Population by Radial Grid Sector



Legend

- EGC ESP Site
- Interstate, Fully access controlled
- Interchange Ramp
- U.S. Highway, Multilane divided
- U.S. Highway
- State Route
- County or other minor road
- Railroads
- Water: Lakes and Rivers
- Incorporated/Designated Places
- County Boundary

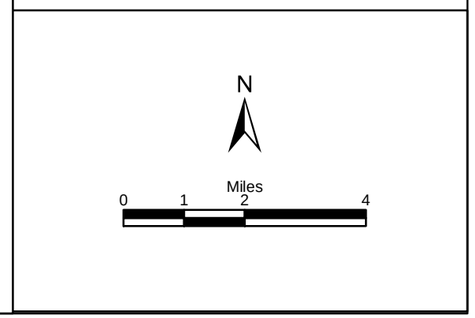
Persons per Sq Mi

- 0 - 20
- 21 - 50
- 51 - 100
- 101 - 200
- > 200

Census 2000 Population shown for each radial grid sector

Note: Census 2000 Population shown for each Radial Grid Sector. Statistics were calculated from BLOCK level census data. If a BLOCK was bisected by a 1-mi band or radial grid line, and parts of the same BLOCK fell in 2 or more sectors, population data were proportioned by percent BLOCK area. This implicitly assumes population is fairly uniform in the BLOCK. Since BLOCK is the smallest Census unit, this assumption was used. This assumption was made in lieu of assigning the entire BLOCK population to a particular grid cell and potentially double-counting some BLOCK level population. Due to rounding, the sum of the population values may not equal the total population within 10-mi as reported in the document.

Data Sources:
U.S. Census Bureau, 2000
U.S. Census Bureau, 2002a
U.S. Census Bureau, 2002b



CHAPTER 3

Assignment of Responsibility (Organizational Control)

This chapter describes the concept of operations, primary responsibilities and organizational control of Applicant, federal, state, county, and other responders within the EGC ESP Site plume exposure pathway, in the following sections:

- Concept of Operations (Section 3.1)
- Emergency Response Organization Assignments (Section 3.2)
- The Applicant Emergency Organization (Section 3.3)
- Emergency Response Support and Resources (Section 3.4).

The information in this chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003). Supporting organizations are named with their responsibilities described, and details of staffing for initial and continuous response are provided. Finally, relationships and communication links between organizations and facilities are explained and illustrated. This concept of operations is aligned with the intent of incident command systems, in that this Emergency Plan for the EGC ESP establishes common terminology between responders, organizational functions, resource elements and facilities, integrated communications, and a unified command structure.

The concept of operations for this Emergency Plan for the EGC ESP includes the alignment of federal agencies legally bound to respond to emergencies at nuclear facilities with state and local agencies who have agreed and established plans to do so. Responsibilities and relationships between the Applicant and these agencies are set forth in Section 3.1.1. A general description of the roles and interrelationships of the Applicant ERO from the EGC ESP Facility to the Corporate and Public Information Organizations is provided in Section 3.1.2.

Details regarding how the EGC ESP Facility operating shift assignments fulfill emergency response roles and the steps for transitioning from normal operations to emergency response are provided in Section 3.2. Section 3.3 sets forth in some detail the entire EGC ESP ERO, listing each positional responsibility, authority for decision-making, reporting relationships, and communications links. Finally, Section 3.4 lists non-Applicant firms and associations that have established agreements for supporting the EGC ESP Facility in the event of an emergency.

3.1 Concept of Operations

This section describes the relationships and the concept of operations for the organizations and agencies that are a part of the overall ERO that will respond to an emergency at the EGC ESP Site.

3.1.1 Federal, State, and County Organizations

Identified in the following sections are government organizations that may be involved in a response to an emergency at the EGC ESP Site.

3.1.1.1 Federal Agencies

The *Federal Radiological Emergency Response Plan* (FRERP) outlines the statutory and regulatory responsibilities for the primary federal response for supporting an emergency at the EGC ESP Site (FERA, 1996).

3.1.1.1.1 United States Nuclear Regulatory Commission

The USNRC is responsible for licensing and regulating nuclear facilities and materials, and for conducting research in support of the licensing and regulatory process. These responsibilities include protecting the public health and safety, protecting the environment, protecting and safeguarding materials and plants in the interest of national security, and assuring conformity with antitrust laws.

The USNRC Region III Regional Office has the responsibility of auditing the EGC ESP Site. It is responsible for ensuring that site-licensed activities are conducted in accordance with the terms and conditions of such USNRC licenses, and that as a result of such operations, there is no undue risk to the health and safety of the public.

The USNRC Office of Nuclear Reactor Regulation performs licensing functions associated with the construction and operation of nuclear reactors and with the receipt, possession, ownership, and use of special nuclear and byproduct materials used at reactor facilities. With regard to emergency preparedness, the USNRC shall perform the following tasks:

- Assess licensee and Applicant emergency plans for adequacy;
- Review the FEMA findings and determinations on the adequacy and capability of implementation of state and local plans; and
- Make decisions with regard to the overall state of emergency preparedness and issuance of operating licenses and ESP.

The USNRC shall respond to incidents at licensed facilities or vehicular accidents involving licensed materials, including radionuclides in transit. The USNRC shall act as the lead federal agency with regard to technical matters during a nuclear incident, including radiological assistance. The USNRC shall be prepared to recommend appropriate protective actions for the public and technical actions to the licensee. The FEMA shall act as the lead federal agency for off-site, non-technical concerns (MOU, 1991; USNRC, 1987, 1994, and 1996a).

During an incident, the Chairman of the Commission is the senior USNRC authority for all aspects of a response. The chairman shall transfer control of emergency response activities

to the Director of Site Operations when deemed appropriate by the chairman (USNRC, 1987, 1994, and 1996a).

All USNRC regions, as well as headquarters, are prepared to respond to potential emergencies. All regions and headquarters have developed plans and procedures for responding to radiological incidents involving USNRC licensees. Headquarters have developed the USNRC Incident Response Plans and Implementing Procedures. Each USNRC region has developed Regional Supplements that detail how the region will fulfill all of the responsibilities assigned in the USNRC *Incident Response Plan* (USNRC, 1987). All USNRC organizations are responsible for maintaining an effective state of preparedness through periodic training, drills, and exercises (USNRC, 1987, 1994 and 1996a).

Each region and headquarters has established and maintains an Incident Response Center designed to centralize and coordinate the emergency response function. Adequate communications are established to link the licensee, headquarters, and the region. The USNRC has established lines of communication with local government, state government, other federal agencies, Congress, and the White House. Public information will be disseminated in a timely manner and periodically.

Each region is prepared to send a team of qualified specialists to the scene expediently. All of the necessary supplies and equipment needed for emergency response will be provided and maintained by the USNRC.

The USNRC *Incident Response Plan* objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents, which may occur at licensed facilities, or which involve licensed materials including radionuclides in transit (USNRC, 1987).

The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that USNRC has an effective emergency response program (USNRC, 1987, 1994, and 1996a).

The plan is intended to ensure USNRC preparedness to complete the following tasks:

- Receive and evaluate notification information of incidents, accidents and unusual events, and determine the extent of USNRC response necessary to meet USNRC responsibilities for mitigating the consequences of these events;
- Determine the cause of incidents, accidents, and unusual events in order to ensure that appropriate corrective actions are taken by the licensee to minimize the consequences of these events;
- Provide on-site expertise in a timely manner to evaluate the nature and extent of the incident, ascertain plant status (for reactors and fuel facilities), monitor licensee activities, determine compliance, make recommendations, and, if necessary, issue orders relative to the event;
- Inform the public and others of plant status and technical details concerning the incident;
- Recommend adequate protective actions to the responsible local and/or state agencies;
- Provide technical assistance;

- Ensure the plant is returned to a safe condition; and
- Return the USNRC headquarters and regional office to normal operations.

3.1.1.1.2 Federal Emergency Management Agency

The FEMA is responsible for the overall coordination of a multi-agency Federal response to a significant radiological incident. The primary role of FEMA is to support the State by coordinating the delivery of Federal non-technical assistance. The FEMA coordinates State requests for Federal assistance, identifying which Federal agency can best address specific needs. If deemed necessary by FEMA, it will establish a Federal Response Center from which it will manage its assistance activities (FERA, 1996; MOU, 1991).

3.1.1.1.3 Federal Radiological Preparedness Coordinating Committee

The Federal Radiological Preparedness Coordinating Committee (FRPCC) consists of the FEMA, which chairs the committee, the USNRC, the U.S. Environmental Protection Agency (USEPA), the U.S. Department of Health and Human Services, the U.S. Department of Energy (USDOE), the U.S. Department of Transportation (USDOT), the U.S. Department of Defense, the U.S. Department of Agriculture, the U.S. Department of Commerce (USDOC), and, where appropriate and on an ad hoc basis, other federal departments and agencies. The FRPCC shall assist the FEMA in providing policy direction for the program of federal assistance to state and local governments in their radiological emergency planning and preparedness activities (FERA, 1996).

3.1.1.1.4 United States Department of Energy

The USDOE has extensive radiological monitoring equipment and personnel resources that it can assemble and dispatch to the scene of a radiological incident. The USDOE local operations office can assist the Applicant following a radiological incident, as outlined in the Federal Radiological Monitoring and Assessment Plan. If the Applicant, the USNRC, or the State of Illinois deem that assistance from USDOE is necessary or desirable, the State of Illinois would notify the appropriate USDOE operations office (FERA, 1996).

3.1.1.1.5 United States Environmental Protection Agency

The USEPA assists with field radiological monitoring/sampling and non-plant-related recovery and reentry guidance (FERA, 1996; USDOE, no date).

3.1.1.1.6 Federal Bureau of Investigation

Support from the Federal Bureau of Investigation (FBI) is available through its statutory responsibility based in Public Law and the U.S. code, and through a memorandum of understanding (MOU) for cooperation with the USNRC. Notification to the FBI of emergencies in which they would have an interest will be made through provisions of the EGC ESP Facility Security Plan, or by the USNRC (FBI, 1979).

3.1.1.1.7 United States National Weather Service

The U.S. National Weather Service (USNWS) provides meteorological information during emergency situations, if required (15 CFR 950.3). Available data will include existing and forecasted wind directions, wind speed, and ambient air temperature.

3.1.1.2 State Agencies

The State of Illinois has the statutory responsibility and authority for protecting the health and safety of the public in Illinois. The State of Illinois has developed an IPRA (State of

Illinois, 2001). This plan was developed in accordance with the guidance suggested by NUREG-0396 (USNRC, 1978) and NUREG-0654/FEMA-REP-1, Revision 1 (USNRC, 1980). The IPRA has received 44 CFR 350 unconditional approvals from FEMA for all of the Applicant's current (2003) generating facilities within the State of Illinois. Basic descriptions for the Illinois State agencies responsible for actions in the event of a nuclear power facility are as follows:

- Governor of the State of Illinois: The Governor of the State of Illinois has overall command authority for both the radiological and non-radiological aspects of a nuclear incident. The Governor shall make the final recommendation for protective actions, and shall serve as the state's primary spokesperson (State of Illinois, 2001).
- Illinois Department of Nuclear Safety: The Illinois Department of Nuclear Safety (IDNS) has both the command authority for radiological aspects of a nuclear incident and the responsibility for performing various radiological functions. These functions include milk, water and food control, radiation exposure control for state emergency workers, and confirmatory accident assessment. During an emergency situation, the IDNS shall make protective action recommendations (PARs) to the Governor and the Illinois Emergency Management Agency (IEMA) (State of Illinois, 2001). The Director of IDNS has acknowledged support of this Emergency Plan for the EGC ESP (see Appendix A). The IDNS response to a nuclear incident utilizes two functional subgroups: the Radiological Emergency Assessment Center (REAC) and the Radiological Assistance Field Team (RAFT) (State of Illinois, 2001).
  - The REAC: The IDNS has established the REAC at its Springfield headquarters. The REAC will serve as the command location for all state-related radiological aspects of a nuclear incident. The Manager of the Office of Nuclear Facility Safety, or his/her designated alternate, is in command of REAC.
  - The RAFT: The RAFT has been organized to perform the field radiological functions of confirmatory accident assessments during a nuclear emergency. RAFT includes a Mobile Command Center, a Mobile Nuclear Laboratory, and monitoring and sampling teams.
- Illinois Emergency Management Agency: The IEMA coordinates the operational response and recovery functions of all state agencies, coordinates with IDNS to propose PARs to the Governor, and coordinates the implementation of the Governor's PARs (State of Illinois, 2001). The Director of IEMA has acknowledged support of this Emergency Plan for the EGC ESP (see Appendix A).

3.1.1.3 County Government Agencies

The Applicant and the surrounding communities that comprise the plume exposure pathway EPZ have developed integrated emergency response programs that call upon the resources of the community. The community organizations are responsible for implementing and coordinating the community response to an emergency (State of Illinois, 2001a; EGC, 2003). The surrounding communities include DeWitt, Macon, McLean, and Piatt Counties; the municipalities of Clinton, Wapella, Weldon; and the Village of DeWitt.

The county emergency operations centers (EOCs) serve as the primary coordinating center for local government response within the county's jurisdiction and for coordination between counties.

3.1.2 Applicant Response Organizations

During an emergency condition at an alert, site area emergency, or general emergency level, the ERO replaces the normal plant organization. The Applicant's ERO will consist of the EGC ESP Facility, corporate, and public information response suborganizations.

3.1.2.1 Facility Organization

Directed by the Station Emergency Director, the EGC ESP Facility organization will provide for the following:

- Control and operation of the plant;
- Mitigation of the emergency condition;
- Protection of facility personnel;
- Emergency event classification;
- Notification of the appropriate individuals and agencies prior to the emergency operations facility (EOF) taking command and control; and
- Emergency support for operations, engineering, maintenance, fire fighting, material acquisition, security, and first aid.

The EGC ESP Facility organization is subdivided into on-shift in Section 3.2 and on-site in Section 3.3.

3.1.2.2 Corporate Organization

Directed by the Corporate Emergency Director, the Applicant corporate organization will provide for the following:

- Emergency notifications to federal, state and local organizations;
- Off-site radiological accident assessment and PARs to off-site authorities; and
- Services as the primary interface between the Applicant and outside organizations responsible for the protection of the public.

The Applicant's corporate organization is described in Section 3.3.5.2.

3.1.2.3 Public Information Organization

Directed by the Corporate Spokesperson, the Applicant's public information organization will coordinate with public information officers from other organizations to provide information to the public through the news media. The public information organization is described in Section 3.3.5.3.

3.1.2.4 Interrelationships

Major Applicant organizations and suborganizations as well as governmental inter-relationships, in the total response effort, are illustrated in a block diagram in Figure 3.1-1 and Figure 3.1-2.

3.1.2.5 Corporate Emergency Director

The Corporate Emergency Director will be a senior employee of the Applicant with overall responsibility for coordinating emergency response actions in support of the EGC Facility, emergency public information organization, and state(s) and local agencies.

3.1.2.6 Procedures for Training and Maintenance

The procedures for training and maintenance of the emergency organization will be developed to ensure 24-hr per day staffing for emergency response including established communication links (see Chapter 15).

3.2 Emergency Response Organization Assignments

Initial response to any emergency will be made by the normal plant organization present at the site. This organization, which includes positions that are on site 24-hrs per day, is described in Table 3.2-1.

3.2.1 On-Shift Personnel

The EGC ESP Facility will have the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event. When a transition to severe accident management guidelines (SAMG) is initiated, the shift crew assumes the duties and responsibilities of the SAMG implementers.

3.2.1.1 Shift Manager

The Shift Manager will act as the Shift Emergency Director to take immediate action during an emergency and will activate the Facility ERO, as appropriate. In the Shift Manager's absence or incapacitation, the line of succession for the Shift Emergency Director will be defined by EGC ESP Facility procedures.

3.2.1.2 Shift Technical Advisor

During normal plant operations, the Senior Reactor Operator will report to the Shift Manager. The Senior Reactor Operator will directly supervise the licensed Reactor Operators and all activities in the control room (CR). During an abnormal condition, the Shift Manager will assume direct supervision of personnel and all activities in the CR while a qualified individual will step back and assume an overview role as a shift technical advisor (STA), with the specific responsibility of monitoring the maintenance of core cooling and containment integrity. An individual assigned to be a STA shall be available to the CR at all times.

3.2.1.3 Radiation Protection

The EGC ESP Facility radiation protection (RP) personnel will be responsible for the handling and monitoring of radioactive materials. This organization includes health physicists, RP supervisors, and technicians.

3.2.1.4 Chemistry

The EGC ESP Facility Chemistry personnel will be responsible for the sampling of system effluents, and the chemical and radio-analytical analysis of those samples. This organization will include chemists, chemistry supervisors, and technicians.

3.2.1.5 Security

The Security personnel will be responsible for the physical security of the site. This organization will include security supervisors and security guards.

3.2.1.6 Incident Assessor

An optional Incident Assessor may be utilized in situations where the STA qualification is held by others such as the Shift Manager. The Incident Assessor will be required to be present in all modes, and will be present within the owner-controlled area when filling the emergency plan function. The Incident Assessor will be an ERO position that can be filled by an individual who is qualified as the STA or Incident Assessor. Upon declaration of an emergency, the Incident Assessor will fulfill the role of the On-Shift Technical Advisor and report to the Shift Emergency Director (Shift Manager). The Incident Assessor shall function as an advisor to the Shift Manager on matters of safety, act as an On-Shift Technical Advisor, and, if qualified, the Nuclear Engineer. As an advisor to the Shift Manager, the Incident Assessor shall have no authority to direct the activities of the shift during an emergency. The Incident Assessor shall be available for briefing individuals who are preparing to assume command authority.

3.2.2 Emergency Response Organization Activation

Once an emergency is declared, the ERO will be activated as described in Chapter 5.

3.2.3 Non-Applicant Nuclear Support Groups

Agreements with several support agencies (see Appendix A) exist on file at the Applicant's Warrenville, IL offices and in the IPRA Volume I. These agencies and their support roles will be as follows:

- The DeWitt County Sheriff's Office will provide services of law enforcement.
- John Warner Hospital of Clinton, IL will act as the supporting medical facility and provide medical services.
- Decatur Memorial Hospital in Decatur, Illinois, will act as a supporting medical facility and will provide medical services.
- Clinton Fire Department will provide services of fire protection, response to Level A releases, and confined space rescue operations.
- Clinton Ambulance (Warner Hospital) will provide advanced life support (ALS) ambulance services.
- The Illinois State Police district offices will provide communication capability with outside medical support, including most ambulances and Warner Hospital, through a dedicated radio frequency. This radio system can also be used to relay messages from one hospital to another.
- The EGC ESP Site architect-engineer (A-E), and the nuclear steam supply system (NSSS) vendor may provide technical assistance upon request. Letters of agreement will be maintained and procedures will be developed to obtain this assistance. If needed, the Applicant may request technical assistance from the suppliers or consultants/vendors of various equipment used on site. Technical assistance by telephone would be available almost immediately. It is anticipated that communication could be established in around 2 hrs with most of the above contacts under the most limiting conditions (i.e., weekend

night). Some representatives may be available on site for consultation within 24 hrs or less.

Additionally, the Applicant has contractual agreements with several companies whose services would be available in the event of a radiological emergency. These agencies and their available services are described in Section 3.4. Where written agreements are needed, these are listed in Appendix A.

3.2.4 State and County Functions and Responsibilities

The state and counties have emergency response plans that specify the responsibilities and functions for the major agencies, departments, and key individuals of their EROs. This information is located in their respective plans (State of Illinois, 2001 and 2001a). Sections of those plans that have been incorporated into this planning effort are set forth in Appendix B.

3.2.5 Agreements in Planning Effort

Written agreements establishing the concept of operations developed between the Applicant and other support organizations having an emergency response role within the CPS EPZ have been developed. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the agreements for exchange of information. Letters of agreement, contracts, and purchase orders between the Applicant and support organizations having a response role within CPS EPZ are located in IPRA Volumes I and VIII and Appendix A. The Illinois Department of Nuclear Safety and the Illinois Emergency Management Agency are aware of and have concurred with the Applicant's intent to take credit for IPRA Volumes I and VIII in this ESP Application. These agreement letters are provided in Appendix A.

Agreement letters are not necessary with federal agencies that are legally required to respond based on federal law. However, agreements are necessary if the agency is expected to provide assistance not required by law. Letters of agreement with private contractors and others who provide services in support of a specific nuclear facility shall be obtained by the respective nuclear facility. Letters of agreement, as a minimum, will state that the cooperating organization will provide their normal services in support of an emergency at the affected facility. A contract/purchase order with a private contractor will be considered acceptable in lieu of a letter of agreement for the specified duration of the contract.

3.2.6 Continuous Coverage

The Applicant will maintain 24-hr emergency response capability at the EGC ESP Facility. The normal on-shift complement will provide the initial response to an emergency. This group will be trained to handle emergency situations (e.g., initiate implementation of the emergency plan, make initial accident assessment, emergency classification, notifications, communications, and PARs) until the augmented ERO arrives. The ERO will be composed of a broad spectrum of personnel with specialties in operations, maintenance, engineering, radiochemistry, health physics, material control, fire protection, security, and emergency planning. In addition, the ERO personnel will be available and trained to augment on-shift personnel in an emergency. Procedures for training and maintenance of the emergency

organization will be developed in order to provide the capability of continuous (24-hr) operations (see Chapter 15).

The Corporate Emergency Director, located in the EOF, will have the authority and responsibility for assuring continuity of resources (technical, administrative, and material) through the EOF Director in the event of the activation of the ERO (see Section 3.3.5.2.3).

3.3 The Applicant Emergency Organization

This section describes the EGC ESP Facility Nuclear ERO, key positions, and associated responsibilities, and outlines the staffing requirements, which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. This section also describes interfaces among the Applicant's emergency response personnel and specifies the off-site support available to respond to the EGC ESP Facility.

3.3.1 On-Shift Emergency Response Organization

The initial phases of an emergency situation at a nuclear facility will involve the existing plant staff with the potential of that staff consisting only of the minimum plant shift complement. The available staff will be capable of initial response to the emergency and proper activation of the emergency plan. Subsequent phases of the emergency situation may require an increasing augmentation of the ERO. Table 3.2-1 outlines the EGC ESP Facility on-shift staff and their respective emergency response positions.

3.3.2 Authority Over the Emergency Response Organization

The Emergency Director will be the designated Applicant individual with overall authority and responsibility, management ability, and technical knowledge for coordinating all emergency response activities at the EGC ESP Facility. The Emergency Director will have the non-delegable responsibilities listed in Section 3.3.4; the function may be fulfilled in any of three locations, depending on the succession criteria listed in Section 3.3.3:

- Control Room: Shift Emergency Director (Shift Manager);
- Technical support center (TSC): Station Emergency Director; and
- EOF: Corporate Emergency Director.

3.3.3 Criteria for Assuming Command and Control (Succession)

Emergency personnel will assume their ERO positions upon receiving notification to activate. The Shift Manager will initially assume the Emergency Director's responsibilities for assessment and notification. The Shift Manager will maintain these responsibilities until relieved. The Shift Manager will normally be relieved by the Station Emergency Director, who will be responsible for continued assessment and notification in accordance with the Emergency Plan. Final succession will be achieved when the Corporate Emergency Director assumes Emergency Director responsibilities for the Applicant's emergency response.

The Shift Manager will be relieved of command and control as soon as possible after Emergency Plan activation. Command and control may be transferred directly to the Corporate Emergency Director or the Station Emergency Director. Emergency Director responsibilities cannot be transferred until the respective emergency response facility (ERF) has been activated. The minimum requirements for ERF activation will be as follows:

- Adequate staff levels in support of the non-delegable functions;

- Staff in the facility have been fully briefed as to the status of the event and the currently proposed plan of action; and
- Turnover between the Emergency Director relinquishing command and control and the Emergency Director assuming command and control is complete.

Although the Applicant's ERO will fulfill all regulatory requirements for emergency response, it may be altered by the Emergency Director. This type of alteration will be based upon identified needs within the ERO, event dependent criteria, and identified needs of the company as a whole.

3.3.4 Non-Delegable Responsibilities

The Emergency Director shall maintain the following non-delegable responsibilities:

- Event classification;
- Final decision to notify and make PARs for the general public to off-site authorities (approval of State/local and USNRC notifications); and
- Authorization of emergency exposure controls in excess of 5 Rem total effective dose equivalent (TEDE) and the issuance of potassium iodide (KI) to the Applicant's emergency workers per USEPA-400.

The Shift Manager is responsible for the initial classification of an event and assumes the position as Shift Emergency Director. In this capacity, the Shift Manager has responsibility for performing the non-delegable responsibilities until relieved.

The Station Emergency Director will assume overall authority and responsibility for performing all of the non-delegable duties from the Shift Manager. The Corporate Emergency Director (EOF) will subsequently relieve the Station Emergency Director (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to off-site authorities.

Transition of "Non-Delegable" Responsibilities

Control Room	**TSC**	**EOF**
Shift Emergency Director	Station Emergency Director	Corporate Emergency Director
Classification →	Classification	
PARs →	PARs →	PARs
Notifications →	Notifications →	Notifications
Emergency Exposure Controls →	Emergency Exposure Controls	

3.3.5 Emergency Response Organization Positional Responsibilities

Table 3.3-1 outlines ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible events. For extended events (one which lasts for more than 24 hrs), actual staffing will be established by the Emergency Director based on the event and

personnel availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.

In addition to maintaining adequate documentation of the event, responsibilities for each position are described in the following sections.

3.3.5.1 Facility Emergency Response Organization

The Facility ERO will be the on-site group activated during an emergency. This organization will function under a Station Emergency Director, who will be responsible for organizing and coordinating the emergency efforts at and within the immediate vicinity of the station (including carrying out all on-site emergency efforts and the Applicant's initial off-site environs monitoring efforts necessary to assess plant releases).

The Facility ERO will consist of facility personnel who are involved with emergency response efforts at the affected facility necessary to control the plant during an incident. This organization will operate out of the CR, the technical TSC, and the operations support center (OSC). Collectively, members of the Facility ERO provide for the following activities during an emergency:

- Plant systems operations;
- Radiological survey and monitoring (including environs monitoring);
- Fire fighting;
- Rescue operations and first aid;
- Decontamination;
- Security of plant and access control;
- Repair and damage control;
- Personnel protection including assembly, accountability, and evacuation;
- Communications; and
- Initial liaison responsibilities with federal, state, and local authorities.

When plant conditions warrant entry into the SAMG, the Station Emergency Director or other qualified individual (i. e., Operations Manager) will assume the role of decision-maker. The Technical Manager and/or another qualified individual(s) will assume the role of evaluator (at least two will be required), and the CR staff will assume the role of the implementers.Control room personnel will perform mitigating actions for severe accidents per emergency operating procedures prior to TSC activation.

All Facility ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan. These are listed in the following sections by position title and location.

3.3.5.1.1 Shift Manager (Shift Emergency Director), Control Room

A Shift Manager will be on duty 24-hrs a day and will serve as the Shift Emergency Director in a declared emergency until relieved of this function. While serving in this capacity, the

Shift Manager will be additionally responsible for activating the ERO, as deemed appropriate or as procedurally required, initiating the USNRC Emergency Response Data System (ERDS), and those duties outlined in Section 3.3.5.1.2 for the Station Emergency Director. The responsibilities described for the Station Emergency Director will apply to either the Shift Emergency Director or the Station Emergency Director, depending on which individual may be in command and control.

The on-duty Shift Manager will direct the activities of the operating crew and be responsible for operating the plant in compliance with the facility USNRC operating license and the facility's operating procedures. The Shift Manager, after relinquishing command and control, will functionally report to the Operations Manager in the TSC. When not in command and control, the Shift Manager will be responsible for the following tasks:

- Authorize and be responsible for shutting down the reactor if the safety of the reactor is determined to be in jeopardy, or when operating parameters exceed any of the reactor protection circuit set-points and automatic shutdown does not occur;
- Ensure that a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction;
- Be responsible for being present at the plant and for providing direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction;
- Adhere to the facility technical specifications and to review routine operating data to assure safe operation;
- Identify applicable emergency action levels (EALs) and emergency classifications;
- Adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y); and
- Supervise the activities of the CR crew, Operations Communicator and Damage Control Communicator in the CR.

3.3.5.1.2 Station Emergency Director, Technical Support Center

The Station Emergency Director will report to the Corporate Emergency Director and will supervise and direct the Facility ERO. The Station Emergency Director's responsibilities will include organizing and coordinating on-site emergency efforts. Additionally, the Station Emergency Director will have the requisite authority, plant operating experience, and qualifications to implement in-plant recovery operations. While in command and control, the Station Emergency Director will be responsible for the following tasks:

- Perform all non-delegable responsibilities as the Emergency Director in command and control until relieved by the EOF;
- Conduct personnel assembly/accountability and evacuation of non-essential personnel at site area emergency, general emergency, or as conditions warrant (see Section 10.1.3 and Section 10.1.4);

- Ensure, if the emergency involves a hazardous substance and/or oil discharges, that appropriate notifications and responses have been made; and
- Determine whether the OSC is to remain activated at the alert classification.

While not in command and control, the Station Emergency Director will be responsible for the following tasks:

- Event classification;
- Emergency exposure controls;
- Protective actions for all on-site personnel;
- Supervision of the Facility ERO;
- Inform the Corporate Emergency Director and the on-site USNRC as to the status of the plant;
- Assist the Corporate Emergency Director in the acquisition of information for the state/and local notifications, USNRC event notification worksheet, and off-site agency updates;
- Provide information and recommendations to the Corporate Emergency Director;
- Implement plans, procedures, and schedules to meet emergency response objectives as directed by the Corporate Emergency Director;
- Request from the Corporate ERO any additional material, personnel resources, or equipment needed to implement response plans and operations; and
- Assume the duties and responsibilities of decision-maker when a transition to SAMG is initiated. This responsibility can be delegated to the Operations Manager, if qualified.

3.3.5.1.3 Technical Support Center Director

The TSC Director will report to the Station Emergency Director and be responsible for the content of information transmitted from the TSC to other agencies (or facilities) and for documenting information received at the TSC in coordination with the Station Emergency Director. The TSC Director responsibilities will include the following tasks:

- Verify that qualified individuals are filling communicator positions in the CR, TSC, and OSC;
- Activate, or verify activation of the ERDS;
- Supervise the activities of the Logistics Coordinator and state/local Communicator;
- Ensure that communications are established with appropriate parties, as directed by the Station Emergency Director;
- Ensure that all required notifications to off-site governmental agencies (state/local and USNRC) are timely and accurately performed;
- Act as the Applicant's Nuclear liaison to any USNRC site team representatives;

- Ensure that the USNRC site team representatives are directed to their appropriate counterparts;
- Assist the Corporate Emergency Director in the acquisition of information for off-site agency updates;
- Record and relay inquiries to the Station Emergency Director, and record responses to such inquiries prior to transmission; and
- Assist the Station Emergency Director in maintaining proper records.

3.3.5.1.4 Communicators, Control Room/ Technical Support Center / Operations Support Center

The Communicators will be responsible for transmitting/receiving information to and from the TSC, OSC, and CR. General responsibilities assigned to all Communicators will include the following tasks:

- Establish communications with appropriate parties as directed;
- Transmit information that has been reviewed and/or approved by the responsible manager or coordinator;
- Document time, date, and information being transmitted or received on appropriate forms;
- Record and relay inquiries and the responses to those inquiries;
- Assist appropriate managers and coordinators in maintaining proper records and logs of emergency-related activities;
- Gather, record, and post appropriate information.

Specific responsibilities assigned to the State/Local Communicator will include the following tasks:

- Communicate and receive information via the nuclear accident reporting system (NARS) circuit or commercial telephone line with appropriate agencies prior to the EOF accepting command and control; and
- Monitor NARS communications until released by the TSC Director.

Specific responsibilities assigned to the Damage Control Communicator will include the following tasks:

- Relay requests from the CR and TSC for the dispatch of OSC teams; and
- Appraise the Facility ERFs of the status of OSC team activities.

Specific responsibilities assigned to the Operations Communicator will include the following tasks:

- Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status; and

- Inform the CR, TSC, and EOF of significant changes in event status (e.g., changes in classification, command and control, initiation of facility assembly, accountability, evacuation, etc.).

Specific responsibilities assigned to the TSC Technical Communicator will include the following tasks:

- Establish and maintain contact with the EOF Technical Advisor; and
- Provide EOF with updates on technical support activities and priorities.

Specific responsibilities assigned to the Emergency Notification System (ENS) Communicator will include the following tasks:

- Notify the USNRC of changes in event classification, prior to the EOF accepting command and control, and assist the EOF ENS Communicator in completing the USNRC event notification worksheet and responding to USNRC inquiries;
- Provide real time updates of significant changes to plant and system status and responses to USNRC inquiries; and
- Maintain continuous communications with the USNRC, if requested, via the USNRC ENS phone or commercial telephone line.

Specific responsibilities assigned to the Health Physics Network (HPN) Communicator will include the following tasks:

- Maintain continuous communications with the USNRC, if requested, via the USNRC HPN phone or commercial telephone line;
- Communicate current health physics information to USNRC representatives, as requested; and
- Coordinate the communications of radiological information to the USNRC with the EOF HPN Communicator (on-site vs. environmental data).

3.3.5.1.5 Operations Manager, Technical Support Center

The Operations Manager will report to the Station Emergency Director, and will be responsible for major functions to determine the extent of facility emergencies, initiate corrective actions, and implement protective actions for on-site personnel. In the event that the Station Emergency Director becomes incapacitated and can no longer fulfill the designated responsibilities, the Operations Manager will normally assume the responsibilities until relieved by another qualified Station Emergency Director. Responsibilities of the Operations Manager will include the following tasks:

- Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of CR actions;
- Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, and specifically when addressing SAMG;
- Recommend equipment operations checks and miscellaneous actions to the CR in support of restoration and accident mitigation;

- Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x);
- Assist the Maintenance Manager in determining the priority assigned to OSC activities;
- Organize and direct medical response efforts for injured personnel;
- Ensure adequate staffing of the CR and TSC subordinates;
- Ensure the Shift Manager is informed of OSC staffing utilization and activities;
- Identify steps or procedures that the Operations staff should be utilizing to properly respond to the emergency condition;
- Assist the Station Emergency Director in evaluating changes in event classification;
- Supervise the activities of the Operations Communicator and the ENS Communicator in the TSC; and
- Assume, at the direction of the Station Emergency Director, the duties and responsibilities of the evaluator, or decision-maker if qualified, when a transition to SAMG is initiated.

3.3.5.1.6 Technical Manager, Technical Support Center

The Technical Manager will report to the Station Emergency Director and direct a staff in performing technical assessments of facility emergencies and assists in recovery planning. Responsibilities assigned to the Technical Manager will include the following tasks:

- Accumulate, tabulate, and evaluate data on plant conditions;
- Evaluate plant parameters during an emergency to determine the overall plant condition;
- Coordinate core damage assessment activities;
- Identify data points and control parameters that the operations staff should monitor;
- Ensure that current and adequate technical information is depicted on status boards;
- Identify and direct the development of special procedures needed to effect long-term safe shutdown or to mitigate a release;
- Supervise the total on-site technical staff effort;
- Act as the TSC liaison with state and the appropriate USNRC site team representatives;
- Assist the radiation protection manager (RPM) for on-site radiological/technical matters;
- Assist the Station Emergency Director in evaluating plant-based PARs (prior to EOF accepting command and control) and changes in event classification;
- Supervise the activities of the TSC Technical Communicator;
- Assume the duties and responsibilities of an evaluator when a transition to SAMG is initiated; and
- Supervise the activities of the SAMG evaluator team.

3.3.5.1.7 Technical Support Staff

The TSC Technical Support Staff will consist of the following minimum staff engineering positions:

- Electrical engineer;
- Mechanical engineer; and
- Core/Thermal Hydraulic Engineer (serves as Core Damage Assessment Methodology [CDAM] Evaluator), as applicable.

In addition, station Engineering support will be augmented on an as-needed basis to support accident assessment and mitigation activities.

3.3.5.1.8 Logistics Coordinator, Technical Support Center

The Logistics Coordinator will report to the TSC Director and provide administrative services in support of emergency/recovery operations. Responsibilities of the Logistics Coordinator will include the following tasks:

- Coordinate shift relief and continual staffing of the facility;
- Arrange for clerical staff at the TSC, OSC, and CR;
- Assist the Security Coordinator in coordinating ERO and facility activities in support of on-going security contingency, accountability or site/area evacuation efforts;
- Support the processing of special procedures and interim reports during an emergency;
- Ensure that event status and priority logs are being maintained in the TSC;
- Coordinate record-keeping efforts at the facility;
- Arrange for food, sleeping facilities, and other necessary accommodations for on-site emergency workers; and
- Arrange for specialized training of emergency response personnel as needed.

3.3.5.1.9 Radiation Protection Manager, Technical Support Center

The RPM will report to the Station Emergency Director and supervise the activities of the radiation controls coordinator (RCC) and radiation controls engineer (RCE). The TSC RPM will direct a staff in determining the extent and nature of radiological or hazardous material problems on site. Responsibilities of the RPM will include the following tasks:

- Accumulate, tabulate, and evaluate data on plant conditions, such as meteorological and radiological monitoring readings, and other pertinent data;
- Act as the TSC liaison with the appropriate USNRC site team representative;
- Ensure use of protective clothing, respiratory protection, and access control within the plant, as deemed appropriate to control personnel exposures;
- Ensure that appropriate bioassay procedures have been implemented for on-site personnel when an incident involving radioactivity has occurred;

- Ensure that personnel are decontaminated, if necessary;
- Authorize personnel exposures below the USEPA-400 lower limit (5 rem TEDE);
- Assist the Station Emergency Director in determining whether exposures in excess of the USEPA-400 lower limit are necessary;
- Advise the Station Emergency Director of situations when the use of KI should be considered;
- Assist the Station Emergency Director in evaluating dose-based PARs (prior to EOF accepting command and control) and changes in radiological event classification;
- Advise the Station Emergency Director and EOF RPM of changes in radiological release status;
- Assist the Operations Manager in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel;
- Coordinate with the Security Coordinator to determine the routes to be used for evacuation of non-essential personnel; and
- Assure additional RP personnel and/or equipment is obtained, as necessary.

3.3.5.1.10 Radiation Controls Engineer, Technical Support Center

The RCE will report to the RPM, and coordinate the radiological and chemistry interface between the technical support engineering efforts. Responsibilities of the RCE will include the following tasks:

- Monitor area and process radiation monitors to identify trends and potential hazards within the facility;
- Evaluate plant environmental factors regarding radiological and other hazardous material conditions;
- Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate;
- Direct the performance of sampling activities through coordination with the OSC Chemistry Lead in support of operations and core damage estimates as necessary; and
- Coordinate radiological and chemistry information with the Core/Thermal Hydraulic Engineer in support of core damage assessment.

3.3.5.1.11 Radiation Controls Coordinator, Technical Support Center

The RCC will report to the RPM and coordinate site and in-plant RP response activities through the OSC RP Lead. Responsibilities of the RCC will include the following tasks:

- Support the OSC RP Lead in the dispatching of OSC Teams;
- Assist the Operations Manager in planning radiological controls for personnel dispatched from the CR;

- Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure;
- Monitor habitability concerns impacting access to plant and site areas;
- In coordination with the OSC RP Lead, assemble and dispatch the Field Monitoring Teams as required;
- Supervise the activities of the HPN Communicator in the TSC;
- Request additional RP personnel and/or equipment, as necessary in support of station activities and staff relief;
- Prior to EOF Protective Measures Group staffing, a) perform dose assessments and provide appropriate dose-based PARs, b) coordinate Field Monitoring Team activities, and c) monitor meteorological conditions and remain cognizant of forecast data; and
- Following EOF Protective Measures Group staffing, a) transfer control of Field Monitoring Teams to the EOF Environmental Coordinator when appropriate, b) transfer control of dose assessment activities to the EOF Dose Assessment Coordinator, and c) assist the EOF Environmental Coordinator in the acquisition of information for the off-site agencies.

3.3.5.1.12 Maintenance Manager, Technical Support Center

The Maintenance Manager will report to the Station Emergency Director and direct a staff in providing labor, tools, protective equipment, and parts needed for emergency repair, damage control, and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities of the Maintenance Manager will include the following tasks:

- Direct the total on-site maintenance and equipment restoration effort;
- Request additional equipment in order to expedite recovery and restoration;
- Supervise the activities of the OSC Director and the TSC Damage Control Communicator;
- Ensure the Operations Manager is informed of OSC staffing utilization and activities;
- Determine, in coordination with the Operations Manager, the priority assigned to OSC activities;
- Ensure adequate staffing of the OSC;
- Assist in rescue operations; and
- Identify required procedures that need to be written or implemented in support of the response efforts.

3.3.5.1.13 Security Coordinator, Technical Support Center

The Security Coordinator will report to the Station Emergency Director and maintain plant security and personnel accountability at the nuclear facility. Responsibilities of the Security Coordinator will include the following tasks:

- Maintain plant security and account for all personnel within the protected area;

- Assist the Station Emergency Director in evaluating changes in security-related threats and event classifications;
- Identify any non-routine security procedures and/or contingencies that are in effect or that require a response;
- Expedite ingress and egress of emergency response personnel;
- Coordinate with the RPM in controlling ingress and egress to and from the protected area if radiological concerns are present;
- Provide for access control to the CR, TSC, and OSC, as appropriate;
- Expedite entry into the Protected Area, as necessary, for the USNRC site team;
- Act as the TSC liaison with the appropriate USNRC site team representative;
- Assist the RPM in determining personnel evacuation routes as necessary; and
- Coordinate the evacuation of the facility's non-essential personnel with the appropriate local law enforcement agencies.

3.3.5.1.14 Operations Support Center Director

The OSC Director will report to the Maintenance Manager and supervise the activities of the OSC and OSC personnel. Responsibilities assigned to the OSC Director will include the following tasks:

- Assign tasks to designated leads, as available, to operations, mechanical maintenance, electrical/instrument and control (I&C) maintenance, RP, and chemistry;
- Coordinate with the OSC Operations Lead in the dispatch of operations personnel to support the CR and OSC team activities;
- Notify the CR and TSC prior to dispatch of any OSC teams into the plant;
- Maintain OSC resources including personnel, material, and equipment;
- Maintain accountability for all individuals dispatched from the OSC; and
- Conduct periodic briefings on the overall plant status, emergency response activities, and facility priorities.

3.3.5.1.15 Assistant Operations Support Center Director

The Assistant OSC Director will report to the OSC Director and support the OSC Director in supervising the activities of personnel reporting to the OSC. The Assistant OSC Director may be filled by an OSC Lead, normally the RP Lead. Responsibilities of the Assistant OSC Director will include the following tasks:

- Assist the OSC Director in supervising personnel assigned to the OSC;
- Assist in formation of field monitoring teams as directed by the TSC;
- Assist in formation of sampling teams;

- Ensure that records of in-plant survey information and radiochemistry results are maintained;
- Ensure that accumulated exposure records for all essential on-site personnel are maintained;
- Coordinate with the OSC Leads to organize in-plant teams to support facility priorities;
- Ensure that in-plant team dispatch briefings include expected activities and radiological hazards; and
- Ensure that periodic facility briefings are conducted on plant radiological conditions.

3.3.5.1.16 Operations Support Center Leads, Operations Support Center

OSC Leads will report to the OSC Director and will be assigned from the following facility departments: mechanical maintenance, electrical/I&C maintenance, RP, chemistry, and operations (on-shift Supervising Operator or designated Operations representative).

The OSC Leads will be responsible for managing and supervising the OSC team personnel. These duties will include adequate pre-dispatch briefings, ensuring adequate protective equipment and measures have been identified, tracking of OSC team activities while dispatched, and debriefing of team personnel upon return to the OSC. The OSC Lead assigned to an OSC team will be responsible at all times for the safety of team personnel and for keeping the OSC Director apprised of the team status.

3.3.5.2 Corporate Emergency Response Organization

The Corporate ERO will consist of the EOF Organization and the Emergency Public Information Organization. The Corporate ERO will be staffed by Applicant personnel, and operate out of the EOF and the Joint Public Information Center (JPIC). The Corporate ERO will be supported by news media spokespersons, environmental assessment staff, and monitoring teams that provide long-term support to the affected facility. Additionally, the Corporate ERO will have long-term liaison responsibilities with federal, state, and local authorities.

The emergency news center (ENC) function will be the responsibility for the collection and analysis of event information and status, and development of company news statements. This information will then be communicated to the JPIC spokespersons. The ENC function may be located at either the EOF or the JPIC.

The Corporate ERO will be activated at an alert. The EOF organization will be responsible for evaluating, coordinating, and directing the overall company activities involved in the emergency response. The EOF shall assume command and control from the facility when classification escalates to an alert or higher, unless EOF capabilities are limited such that the overall control and responsibility for PARs and off-site notifications cannot be assumed. The EOF may also function in a supporting role to the facility when the facility maintains command and control.

3.3.5.2.1 Nuclear Duty Officer, Emergency Operations Facility

The nuclear duty officer (NDO) will be the Applicant's individual who acts as the initial corporate contact for declared events. Responsibilities of the NDO will include the following tasks:

- Actions for all classified events include contacting the affected facility to verify and obtain updated information concerning emergency response actions and event status, activating those portions of the off-site ERO when procedurally required or deemed appropriate, and notifying the on-call Communications and Public Affairs Representative. Prior to the activation of the Emergency Public Information Organization, review any news releases for accuracy.
- Actions for alert classifications and above include completing all actions as listed above, and notifying American Nuclear Insurers (ANI) and Institute of Nuclear Power Operations (INPO) prior to being transferred to the EOF (see Section 3.4.1 and Section 3.4.2).

3.3.5.2.2 Corporate Emergency Director, Emergency Operations Facility

When the facility has command and control, there will be ongoing responsibilities assigned to the Corporate Emergency Director. Responsibilities of the Corporate Emergency Director will include the following tasks:

- Coordinate all Applicant activities involved with the emergency response;
- Ensure off-site agency updates are periodically communicated as required/requested;
- Coordinate the Applicant press releases with the NDO and Communications and Public Affairs; and
- Request assistance from the non-Applicant EROs, as required.

When the EOF is activated and the Corporate Emergency Director assumes overall command and control, additional responsibilities assigned to the Corporate Emergency Director will include the following tasks:

- Assume all non-delegable responsibilitiesfor PAR determination and notification of off-site authorities;
- Ensure that federal, state, and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed individuals to state governmental EOCs; and
- Approve the technical content of the Applicant press releases prior to their being released to the media.

Figure 3.3-1 illustrates the overall command structure during those times that the Corporate Emergency Director has command and control.

3.3.5.2.3 Emergency Operations Facility Director, Emergency Operations Facility

The EOF Director will report to the Corporate Emergency Director and will have the authority, management ability, and technical knowledge to assist the Corporate Emergency Director in the management of the Applicant's off-site ERO. In the event that the Corporate

Emergency Director becomes incapacitated, the EOF Director shall assume the responsibilities of the Corporate Emergency Director until a transfer of command and control can be affected either back to the facility or to another qualified Corporate Emergency Director. Responsibilities of the EOF Director will include the following tasks:

- Direct and coordinate the activation and response efforts of the EOF staff in support of the Corporate Emergency Director;
- Evaluate the need to augment the EOF staff based on events in progress;
- Assess the effectiveness of ongoing EOF working relationships;
- Monitor information flow within the EOF to ensure that facility activities remain coordinated;
- Prepare state/local notification forms with the assistance of the EOF RPM and the technical support manager (TSM);
- Coordinate services as necessary to support EOF operations;
- Coordinate with the Administrative Coordinator for continual shift staffing requirements;
- Assist in the conduct of Corporate Emergency Director duties;
- Act as the designated alternate for approval of the technical content of the Applicant's press releases and information released to the news media; and
- Act as the purchasing agent in support of the TSC for contract negotiation/administration.

3.3.5.2.4 Technical Support Manager, Emergency Operations Facility

The TSM will report to the EOF Director and direct the activities of the technical support group. Responsibilities of the TSM will include the following tasks:

- Assist the Corporate Emergency Director in evaluating changes in event classification;
- Assist the Corporate Emergency Director in determining plant-based PARs when necessary;
- Provide the Corporate Emergency Director information concerning the status of plant operations and recommendations for mitigating the consequences of the accident;
- Coordinate the overall Applicant engineering support from corporate staff and unaffected stations;
- Interface with industry and contractor engineering support organizations;
- Ensure that the EOF RPM is informed of changes in plant status that impact or potentially impact the off-site environment or PARs;
- Assist the EOF RPM in assessing PARs based on plant status;
- Provide information to the EOF Director for completion of the state/local notification form;
- Assist in the development of post-accident recovery measures; and

- Provide technical information on facility and systems design.

3.3.5.2.5 Operations Advisor, Emergency Operations Facility

The Operations Advisor will report to the TSM, direct the ENS Communicator, and be responsible for obtaining and analyzing plant status information and ensuring that it is disseminated. Responsibilities of the Operations Advisor will include the following tasks:

- Monitor the Operations Status Line to keep appraised of:
  - Control Room activities including progress on Emergency Operating Procedures;
  - Significant changes in plant systems/equipment status and critical parameters;
  - Possible changes in event classification.
- Identify and track critical parameters indicating plant status information;
- Assist the station in identifying operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel;
- Assist the ENS Communicator in the completion of the USNRC event notification worksheet and in responding to USNRC inquiries; and
- Ensure the EOF RPM is informed of changes in plant status that impact or potentially impact the off-site environment or PARs.

3.3.5.2.6 Emergency Notification System Communicator, Emergency Operations Facility

The ENS Communicator will report to the Operations Advisor. Responsibilities of the ENS Communicator will include the following tasks:

- Notify the USNRC of changes in event classification. Coordinate USNRC communications with the ENS Communicator in the TSC. (Generally, the TSC ENS Communicator will focus on real time plant operations and the EOF ENS Communicator will focus on notifications following changes in event classification and overall changes in event response or status); and
- Establish and maintain continuous communications with the USNRC response center, if requested, via the USNRC ENS phone or commercial telephone line.

3.3.5.2.7 Technical Advisor, Emergency Operations Facility

The Technical Advisor will report to the TSM and be responsible for obtaining and analyzing technical support mitigating activities and priorities, and ensuring that it is disseminated. Responsibilities of the Technical Advisor will include the following tasks:

- Monitor the Technical Conference Line to remain aware of TSC technical support activities, strategies and priorities;
- Assist the Dose Assessment Coordinator in acquiring technical information pertaining to release pathway and core damage assessment; and
- Supervise the activities of the Events Recorder.

3.3.5.2.8 Events Recorder, Emergency Operations Facility

The Events Recorder will report to the Technical Advisor. Responsibilities of the Events Recorder will include the following tasks:

- Gather/record approved information on status boards as requested; and
- Maintain an event chronology/status log.

3.3.5.2.9 Radiation Protection Manager, Emergency Operations Facility

The RPM reports to the EOF Director and directs the activities of the EOF RP staff. Specific responsibilities include the following:

- Recommend changes in event classification and PARs based upon effluent releases or dose projections;
- Assist the EOF Director in the evaluation of the significance of an emergency with respect to the public;
- Notify the EOF Director of meteorological changes that may impact identification of downwind areas;
- Advise the Corporate Emergency Director of protective actions taken by the station for plant personnel;
- Assist the TSC in the planning and coordination of activities associated with the evacuation of non-essential personnel;
- Advise the Corporate Emergency Director on the need for emergency exposures or for issuance of KI to the Field Monitoring Teams or EGC personnel required to enter the plume;
- Determine the need for and contact Occupational Health/Industrial Safety Services personnel for assistance;
- Monitor plant radiological conditions and advise the TSC RPM of any adverse trends or potential release pathways that may impact existing event classification;
- Assist in the completion and review of the State/Local notification form;
- Maintain cognizance of environmental sampling activities;
- Ensure State authorities are provided information pertaining to EGC Field Monitoring Team activities and sample results;
- Assist the affected station in the following areas:
  - Planning and coordination of activities associated with the evacuation of non-essential personnel.
  - Acquisition of additional instrumentation, dosimetry, protective equipment and radiological support personnel.

- Assist and interface with the EOF Technical Support Group and the station in the development of plans for plant surveys, sampling, shielding, and special tools in support of waste systems processing and design modification activities; and
- Upon request, provide in-plant health physics data to Emergency Public Information personnel and the HPN Communicator.

3.3.5.2.10 Environmental Coordinator, Emergency Operations Facility

The Environmental Coordinator will report to the EOF RPM and direct the Field Team Communicator, field monitoring teams, and the State Environs Communicator (SEC). Responsibilities of the Environmental Coordinator will include the following tasks:

- Coordinate the transfer of control of the field monitoring teams, if initially under the direction of the TSC RCC;
- Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions, and estimates of radioactive material releases;
- Maintain cognizance of field monitoring team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to the Applicant's workers;
- Determine needs of the Dose Assessment Coordinator, the Dose Assessor, the HPN Communicator, and the SEC(s) for updates on field monitoring team data and ensure distribution of new data to them in accordance with those needs;
- Provide, upon request, environmental data to public information personnel; and
- Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station field monitoring teams.

3.3.5.2.11 State Environs Communicator, Emergency Operations Facility

The SEC will be staffed as requested by the applicable state agencies. The SEC will report to the Environmental Coordinator. Responsibilities of the SEC will include the following tasks:

- Obtain release and dose assessment data from the Dose Assessment Coordinator, and field monitoring team data from the Environmental Coordinator;
- Coordinate activities and information flow between the EOF protective measures group and the affected state environmental authorities, including periodic updates on meteorological conditions, field monitoring team activities, and survey/sample results; and
- Ensure that the Environmental Coordinator is aware of state environmental activities and sample results.

3.3.5.2.12 Field Team Communicator, Emergency Operations Facility

The Field Team Communicator will report to the Environmental Coordinator. Responsibilities of the Field Team Communicator will include the following tasks:

- Establish and maintain contact with dispatched field monitoring teams;
- Document the Environmental Coordinator's instructions to field monitoring teams, and then relay this information to the field monitoring teams;
- Document environmental data reported by the field monitoring teams;
- Periodically obtain and document information on field monitoring team radiological exposure;
- Promptly report new environmental or field monitoring team exposure data to the Environmental Coordinator; and
- Document questions and answers directed to and received from the field monitoring teams; ensure that the Environmental Coordinator is cognizant of these information requests and relay the replies to these requests.

3.3.5.2.13 Dose Assessment Coordinator, Emergency Operations Facility

The Dose Assessment Coordinator will report to the EOF RPM and direct the activities of the Dose Assessor and the HPN Communicator. Responsibilities of the Dose Assessment Coordinator will include the following tasks:

- Interpret radiological data and provide PARs based upon dose projections to the EOF RPM;
- Advise the EOF RPM of changes in event classification based on effluent releases or dose projections;
- Initiate evaluation of the need for administering KI to the emergency workers when requested by the Environmental Coordinator;
- Remain cognizant of forecast and meteorological data and ensure the status is updated periodically;
- Notify the EOF RPM of meteorological changes that may impact identification of downwind areas; and
- Provide, upon request, release and dose assessment data to emergency public information personnel, the HPN Communicator, and the SEC.

3.3.5.2.14 Dose Assessor, Emergency Operations Facility

The Dose Assessor will report to the Dose Assessment Coordinator. Responsibilities of the Dose Assessor will include the following tasks:

- Perform dose projections using the dose assessment computer models as directed by the Dose Assessment Coordinator;
- Monitor meteorological and plant effluent conditions;
- Notify the Dose Assessment Coordinator of meteorological changes that may impact identification of downwind areas; and

- Evaluate the need for administering KI to the Applicant workers when requested by the Dose Assessment Coordinator.

3.3.5.2.15 Health Physics Network Communicator, Emergency Operations Facility

The HPN Communicator will report to the Environmental Coordinator. Responsibilities of the HPN Communicator will include the following tasks:

- Provide updates and respond to inquiries from the USNRC on off-site environmental data, release status, dose projections and changes to PARs for the general public;
- Obtain release and dose assessment data from the Dose Assessment Coordinator and field monitoring team data from the Environmental Coordinator;
- Maintain continuous communications with the USNRC, if requested, via the USNRC HPN phone or commercial telephone line; and
- Communicate current health physics information to USNRC representatives, as requested.

3.3.5.2.16 Logistics Manager, Emergency Operations Facility

The Logistics Manager will report to the EOF Director and direct the activities of the administrative, security, and liaison personnel. Responsibilities of the Logistics Manager will include the following tasks:

- Ensure contact is made and communications are maintained with appropriate non-Applicant personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery;
- Advise the EOF Director concerning the status of activities relating to governmental interfaces;
- Ensure shift relief and continual staffing for the EOF;
- Obtain support from human resources, the Comptroller's office, the legal department, accounting department, and others as required;
- Coordinate with the NDO to maintain communications with ANI and INPO;
- Ensure that access to the EOF is limited to emergency responders and authorize admittance to non-Applicant personnel;
- Implement the Applicant Nuclear Fitness for Duty Program;
- Ensure that USNRC site team representatives are directed to the Regulatory Liaison upon arrival at the EOF;
- Ensure that updates and information are provided to EOC Liaisons and to off-site officials present in the EOF;
- Ensure shift relief and continual staffing for the EOF;
- Coordinate maintenance of EOF equipment as necessary; and

- Assist in obtaining and coordinating additional technical expertise to support station requests, including Applicant corporate staff, unaffected stations and vendors/contractors.

3.3.5.2.17 Administrative Coordinator, Emergency Operations Facility

The Administrative Coordinator will report to the Logistics Manager. Responsibilities of the Administrative Coordinator will include the following tasks:

- Direct the activities of the Computer Specialist;
- Direct the clerical staff and ensure the clerical requirements for the other EOF staff are met;
- Obtain clerical support for the EOF and JPIC;
- Coordinate shift relief and continual staffing for the EOF; and
- Obtain services as appropriate to support operation of the EOF.

3.3.5.2.18 Computer Specialist, Emergency Operations Facility

The Computer Specialist will report to the Administrative Coordinator. Responsibilities of the Computer Specialist will include the following tasks:

- Assist any personnel in logging in, initializing, or using a desired computer program; and
- Investigate and repair problems encountered with communications equipment and computer equipment/applications.

3.3.5.2.19 Security Coordinator, Emergency Operations Facility

The Security Coordinator will report to the Logistics Manager. Responsibilities of the Security Coordinator will include the following tasks:

- Provide and interpret information on security events;
- Perform the following in support of the TSC Security Coordinator:
  - Provide assistance in resolving security events;
  - Act as the liaison for local, state, and federal law enforcement agencies during security-related events;
  - Serve as the primary contact to the security force contractors for additional support, if necessary, during a security event.
- Assist with access control activities at the EOF and JPIC; and
- Obtain additional resources to support access control measures needed at the EOF and the JPIC.

3.3.5.2.20 State/Local Communicator, Emergency Operations Facility

The State/Local Communicator will report to the Logistics Manager. Responsibilities of the State/Local Communicator will include the following tasks:

- Communicate and receive information via NARS circuit or commercial telephone line with appropriate state and county agencies, and;
- Ensure that the Logistics Manger is made aware of issues and questions raised by off-site agencies and then relay the replies to these requests.

3.3.5.2.21 Emergency Operations Center Communicator, Emergency Operations Facility

The EOC Communicator will report to the Logistics Manager. Responsibilities of the EOC Communicator will include the following tasks:

- Coordinate and dispatch County EOC liaisons as needed or requested;
- Establish and maintain periodic contact with each location where Applicant EOC liaisons have been dispatched;
- Ensure EOC liaisons are provided event information and notifications; and
- Ensure that the Logistics Manger is made aware of issues and questions raised by off-site agencies and then relay the replies to these requests.

3.3.5.2.22 County Emergency Operations Center Liaison(s), County Emergency Operations Centers

The County EOC Liaisons will be dispatched to County EOCs based on established agreements with the counties. The County EOC liaison(s) will use the EOC Communicator as the contact at the EOF. Responsibilities of the County EOC liaison will include the following tasks:

- Monitor and report County EOC activities to the EOF;
- Conduct briefings and answer questions;
- Provide simplified explanations to EOC personnel of technical details distributed through approved channels;
- Assist with confirmation/verification of information distributed through approved channels;
- Provide media at the EOC with approved Applicant press releases; and
- Assist emergency public information personnel in rumor control and media monitoring.

3.3.5.2.23 State Emergency Operations Center Liaison(s), State Emergency Operations Centers

At the request of state officials and/or at the discretion of the Corporate Emergency Director, the Applicant will provide liaison personnel to state EOCs. They will use the EOC Communicator as their contact at the EOF. Responsibilities of the State EOC liaison will include the following tasks:

- Monitor and report State EOC activities to the EOF;
- Conduct briefings and answer questions as requested; and
- Assist emergency public information personnel in rumor control and media monitoring.

3.3.5.2.24 Regulatory Liaison, Emergency Operations Facility

The Regulatory liaison will report to the Logistics Manager. Responsibilities of the Regulatory liaison will include the following tasks:

- Coordinate interfaces between Applicant personnel and governmental agencies within the EOF;
- Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF; and
- Act as the Applicant Nuclear liaison to the USNRC site team representatives.

3.3.5.3 Public Information Emergency Response Organization

3.3.5.3.1 Corporate Spokesperson, Joint Public Information Center

The Corporate Spokesperson will report to the Corporate Emergency Director and be responsible for directing the Applicant Emergency Public Information Organization and providing news information to the media. Responsibilities of the Corporate Spokesperson will include the following tasks:

- Maintain command and control of the JPIC;
- Coordinate with federal, state, and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public;
- Conduct periodic briefings with the news media;
- Interface with the Public Information Director;
- Coordinate and direct responses to media inquiries;
- Ensure that the composition and timeliness of Applicant news releases are adequate; and
- Provide for timely exchange of information between other spokespersons.

3.3.5.3.2 Technical Spokesperson, Joint Public Information Center

The Technical Spokesperson will report to the Corporate Spokesperson. Responsibilities of the Technical Spokesperson will include the following tasks:

- Prepare briefing papers, in coordination with the Technical Advisor, that contain additional detail and background not found in the news releases;
- Provide answers as soon as possible to media questions; and
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

3.3.5.3.3 Radiation Protection Spokesperson, Joint Public Information Center

The RP Spokesperson will report to the Corporate Spokesperson. Responsibilities of the RP Spokesperson will include the following tasks:

- Prepare briefing papers, in coordination with the Radiological Advisor, that contain additional detail and background not found in the news releases;

- Provide answers as soon as possible to media questions; and
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

3.3.5.3.4 Joint Public Information Center Director, Joint Public Information Center

The JPIC Director will report to the Corporate Spokesperson to ensure the operability of and to supervise the activities in the JPIC. Responsibilities of the JPIC Director will include the following tasks:

- Maintain cognizance of conditions of the plant and environment, and the actions of Applicant and governmental support personnel;
- Coordinate with federal, state, and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public;
- Participate, as needed, in rumor control activities;
- Ensure that adequate information flow between the EOF and the JPIC is coordinated through the Public Information Director; and
- Authorize admittance of non-Applicant officials to the JPIC.

3.3.5.3.5 Joint Public Information Center Coordinator, Joint Public Information Center

The JPIC Coordinator shall report to the JPIC Director and supervise the facilities support staff. Responsibilities of the JPIC Coordinator will include the following tasks:

- Ensure the JPIC is activated and operational. This includes the availability of communications and visual aids;
- Ensure that access to areas occupied by Applicant personnel is controlled;
- Establish a minimum frequency for addressing news media/public representatives and ensure that some form of communication occurs within that time frame (e.g., an update at least hourly);
- Document unanswered questions and serious public misinformation issues. Follow up on these questions and issues to ensure that they are being adequately addressed; and
- Coordinate the interface between the Applicant and the news media/public including, as necessary, briefings, news conferences, interviews, and responses to information requests.

3.3.5.3.6 Public Information Liaison, Joint Public Information Center

The Public Information liaison will report to the JPIC Director. Responsibilities of the Public Information liaison will include the following tasks:

- Coordinate information flow between the EOF and JPIC; and
- Ensure that approved news releases and chronological event description logs are made available in the JPIC.

3.3.5.3.7 Administrative Coordinator, Joint Public Information Center

The Administrative Coordinator will report to the JPIC Director. Responsibilities of the Administrative Coordinator will include the following tasks:

- Direct the clerical staff and ensure the clerical requirements for the other JPIC staff are met;
- Coordinate shift relief and continual staffing for the JPIC;
- Obtain additional radio and telephone equipment as necessary to meet the needs of the emergency; and
- Obtain services as appropriate to support operation of the JPIC.

3.3.5.3.8 Access Controller, Joint Public Information Center

The Access Controller will report to the JPIC Director. Responsibilities of the Access Controller will include the following tasks:

- Control access to the JPIC; and
- Obtain authorization prior to admitting non-Applicant officials to the JPIC;

3.3.5.3.9 Public Information Director, Emergency Public Information Organization

When the Emergency Public Information Organization (EPIO) is activated, the Public Information Director will report to the Corporate Spokesperson and be responsible for all emergency event related information intended to be conveyed from the Applicant to the news media/public. Responsibilities of the Public Information Director will include the following tasks:

- Supervise the activities of the EPIO advisory staff, News Writer, Events Recorder and media monitoring and rumor control personnel;
- Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Applicant and governmental activities;
- Participate with the Corporate Emergency Director regarding information to be released to the public;
- Interface with the Corporate Spokesperson at the JPIC;
- Act as a liaison between the ERO and Applicant's corporate executives;
- Authorize issuance of news releases;
- Maintain cognizance of conditions of the plant and environment, and the actions of Applicant and governmental support personnel;
- Interface with the Public Information Liaison located at the JPIC and coordinate information flow between the EOF and the JPIC; and
- Coordinate with the media monitoring staff to review and access media coverage of the emergency event.

3.3.5.3.10 Technical Advisor

The Technical Advisor will report to the Public Information Director. Responsibilities of the Technical Advisor will include the following tasks:

- Assist in obtaining technical and plant status information for use in news releases and media briefings;
- Assist the News Writer in the preparation of news releases; and
- Assist the Events Recorder in the preparation of a chronological event description log.

3.3.5.3.11 Radiological Advisor

The Radiological Advisor will report to the Public Information Director. Responsibilities of the Radiological Advisor will include the following tasks:

- Assist in obtaining environmental and health physics information for use in news releases and media briefings;
- Assist the News Writer in the preparation of news releases; and
- Assist the Events Recorder in the preparation of a chronological event description log.

3.3.5.3.12 News Writer, Joint Public Information Center

The News Writer will report to the Public Information Director. Responsibilities of the News Writer will include the following tasks:

- Obtain the assistance of the technical and radiological advisors, as needed, to develop press releases;
- Compose draft news releases; and
- Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.

3.3.5.3.13 Events Recorder

The Events Recorder will report to the Public Information Director. Responsibilities of the Events Recorder will include the following tasks:

- Develop a chronological event description log; and
- Obtain the assistance of the Technical and Radiological Advisors, as needed, to develop the event log.

3.3.5.3.14 Media Monitoring Staff

The Media Monitoring Staff will report to the Public Information Director. Responsibilities of the Media Monitoring Staff will include the following tasks:

- Ensure that the media is being monitored and that Applicant personnel review the information detailed or contained in media releases;
- Inform the Public Information Director of all media reports and of actions taken to correct any misinformation or rumors; and

- Direct the activities of the Rumor Control Staff with respect to the function of monitoring rumors from sources other than the media.

3.3.5.3.15 Rumor Control Staff

The Rumor Control Staff will report to the Public Information Director and act in support for the Media Monitors. Responsibilities of the Rumor Control Staff will include the following tasks:

- Ensure that rumors are reviewed, documented, and responded to by Applicant personnel, as deemed appropriate;
- Until the JPIC is fully activated, document and respond to rumors as quickly as possible through the Applicant Communications and Public Affairs Department; and
- Inform the Media Monitor when rumors representing serious misinformation are encountered.

3.3.6 EGC Emergency Response Organization Block Diagrams

Figure 3.1-1 illustrates the ERO interfaces. Figure 3.1-3 illustrates the on-site emergency response organization. Figure 3.1-4 illustrates the off-site emergency response organization. Figure 3.3-1 illustrates the key positions of the ERO and the overall command structure. In addition, Section 3.3.5 provides a discussion of specific responsibilities and the interrelationships for key positions.

3.4 Emergency Response Support and Resources

The Applicant will retain contractors to provide supporting services to the EGC ESP Facility. A contract/purchase order with a private contractor will be acceptable in lieu of an agreement letter for the specified duration of the contract. This section describes support services under agreements or contract listed in Appendix A. For the below listed support services, the specific contractors may change but the functions will be maintained. The Applicant will only ensure that the agreements and contacts, etc. with the various third-parties will be in place at such time that the attributes of this plan need to be in effect.

3.4.1 Institute of Nuclear Power Operations

Experience has shown that a utility may need resources beyond in-house capabilities for the recovery from a nuclear plant emergency. One of the roles of the INPO is to assist affected members by quickly applying the resources of the nuclear industry to meet the needs of an emergency. The INPO has an emergency response plan that enables it to provide the following emergency support functions:

- Assistance to the affected utility in locating sources of emergency personnel, equipment, and operational analysis;
- The INPO and the Nuclear Energy Institute (NEI) (combination of the US Council for Energy Awareness, Nuclear Utility Management and Resources Council [NUMARC], Edison Electric Institute [EEI], and Electric Power Research Institute [EPRI]) maintain a coordination agreement on emergency information with their member utilities (INPO, 1988); and
- INPO provides the "Nuclear Network" electronic communications system to its members and NEI to coordinate the flow of media and technical information about the emergency. The Applicant may obtain utility industry information and assistance from any party to this agreement through the coordination of INPO.

To support these functions, INPO maintains the following emergency support capabilities:

- A dedicated emergency call number;
- Designated INPO representative(s) who can be quickly dispatched to the utility ERO to coordinate INPO support activities and information flow; and
- The 24-hr per day operation of an emergency response center at INPO headquarters.

The Applicant will notify INPO (via the designated emergency call number) for all situations involving an alert, site area emergency, or general emergency declaration per the Applicant's Nuclear Reportability Manual.

INPO has coordinated the preparation of a voluntary assistance agreement for transportation accidents. The Applicant has signed this agreement that establishes the rights and responsibilities of members in requesting or providing assistance for response to a nuclear materials transportation accident (INPO, 1988).

3.4.2 American Nuclear Insurers

In early 1982, ANI issued Bulletin #5B, "Accident Notification Procedures for Liability Insureds," which provides revised criteria for the notification of the Pools in the event of a nuclear emergency at one of the liability-insured nuclear power reactor sites. This revision brings the ANI/Mutual Atomic Energy Liability Underwriters (MAELU) notification criteria into alignment with the standard emergency classification system adopted by the nuclear industry. This document also identifies a suitable channel for follow-up communication by ANI after initial notification (ANI, 1981; ANI/MAELU, no date).

3.4.2.1 American Nuclear Insurers/Mutual Atomic Energy Liability Underwriters Emergency Assistance

In the event of an extraordinary nuclear occurrence (as defined in the Price-Anderson Amendments to the Atomic Energy Act of 1954), ANI and MAELU (the Pools) have plans prepared to provide prompt emergency funding to affected members of the public.

3.4.2.2 American Nuclear Insurers/Mutual Atomic Energy Liability Underwriters Emergency Assistance (Claims Handling Procedures)

The Pools' emergency assistance arrangements contemplate the mobilization and dispatch of emergency claims teams to directly dispense emergency assistance funds to affected members of the public.

The Pools should be notified in the event of a nuclear emergency requiring notification of state or federal governmental agencies, or if the insured believes that off-site persons may be affected and financial assistance of a nature discussed may be required. In these instances, the ANI expects notification as soon as possible after the initiation of the emergency. To be consistent with industry classification systems, EGC notification to the Pools in the event of an alert, site area emergency, or general emergency will be in accordance with the Applicant's Nuclear Reportability Manual.

Even if it appears to be a remote possibility that off-site persons will be affected, the Pools should be notified so that response plans can be initiated to the point of alerting teams of adjusters to stand by. Response activity can be discontinued if the situation proves less severe and does not require Pool response.

All nuclear occurrences of an emergency or non-emergency nature that fall under the nuclear liability policy should be reported formally in writing to ANI by the Applicant's Insurance Administrator.

3.4.2.3 Emergency Notification and Follow-Up Procedures

Pre-established lines of communication exist between each utility and ANI in order to exchange all required information during the development of an emergency situation.

The ANI maintains 24-hr coverage of an emergency notification number. During normal office hours, 8:00 a.m. to 4:00 p.m., their number will be answered by the receptionist who will transfer an incoming emergency call to an appropriate individual in the office. Outside of normal office hours, this telephone line is manned by an answering service. The answering service will intercept the call and obtain the name, affiliation, and telephone number of the

caller. They will then notify a designated ANI staff member, who will in turn call back the utility to obtain appropriate information regarding the nuclear accident (ANI, 1981).

In order that follow-up information is available to the Insurance Pool, the Applicant has established the Corporate Emergency Director or their designee as a point of contact that ANI personnel may use to update themselves regarding the status of the emergency (see Section 3.3.5.2).

3.4.3 Environmental Inc.

Environmental Inc. will provide radiological environmental monitoring services for the Applicant. In an emergency situation, Environmental Inc. field personnel, at a minimum, would continue to maintain the Applicant's air samplers and exchange thermoluminescent dosimeters (TLDs) under the supervision of the Environmental Coordinator. The Environmental Inc. Midwest Laboratory in Northbrook, IL would analyze the environmental samples for their radioactivity content and report results to the Applicant.

3.4.4 Teledyne Brown Engineering

Teledyne Brown Engineering will provide bioassay analysis and radiochemical analysis services.

3.4.5 United States Department Of Energy Radiation Emergency Assistance Center/Training Site

The USDOE Radiation Emergency Assistance Center/Training Site (REAC/TS) will provide services of medical and health physics support. The REAC/TS will advise on the health physics aspects of situations requiring medical assistance (USDOE, no date).

3.4.6 Murray and Trettel, Inc.

Murray and Trettel, Inc. will provide meteorological monitoring services, including weather forecasts. Murray and Trettel, Inc. will maintain all Applicant meteorological facilities. In addition, Murray and Trettel, Inc. currently offers computer capability to poll remotely the meteorological facilities to ascertain local conditions and to detect instrument failure.

3.4.7 ICN Worldwide Dosimetry Service

ICN Worldwide Dosimetry Service will provide extremity dosimetry services. In an emergency, ICN Worldwide Dosimetry Service would provide additional dosimetry to the affected nuclear facility and EOF, if needed.

3.4.8 Framatome Technologies (Post-Accident Sample Analysis Program)

Under NUREG-0737 (paragraph II.B.3), utilities must provide backup capability for analysis of post-accident samples (USNRC, 1982). To meet this requirement, EGC has joined the Framatome Technologies Company Post-Accident Sample Analysis Program. Through this program, Framatome Technologies will maintain their hot-cell in a state of readiness such that a sample analysis can be completed within 24 hrs of receipt of the sample. They will also provide available engineering expertise, specialized equipment, and other services identified as needed and deemed appropriate to assist in an emergency situation.

3.4.9 Manufacturer Design and Engineering Support

This Emergency Plan supports the Application for the EGC ESP and will be updated to a Final Emergency Plan to support operation under the COL. At that time, the appropriate manufacturer design and engineering support provider(s) will be contracted to provide available engineering expertise, specialized equipment, and other services identified as needed and deemed appropriate to assist in an emergency situation.

3.4.10 Supplemental Emergency Assistance to the Emergency Response Organization

Agreements will be maintained (see Appendix A) with support agencies who do not take part in the organizational control of the emergency that provide assistance when called on during an emergency or during the recovery phase. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. These support agencies will provide services of law enforcement, fire protection, ambulance services, and medical and hospital support.

Support groups, as described in Chapter 12, will provide transportation and treatment of injured facility personnel.

CHAPTER 3

Tables

TABLE 3.2-1
Minimum Staffing Requirements for the On-Shift Station ERO

Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size
Plant Operations and Assessment of Operational Aspects	Control Room Staff	Shift Manager	1
		Shift Supervisor	1
		Nuclear Station Operator	2
		Non-Licensed Operator	2
Emergency Direction and Control	Command and Control	Shift Emergency Director (CR)	1[a]
Notification and Communication	Emergency Communications	Plant Shift Personnel	1
Radiological Assessment	Off-Site Dose Assessment	Station Personnel	1[a]
	In-Plant Surveys	RP Personnel	2
	Chemistry	Chemistry Personnel	1
Plant System Engineering, Repair, and Corrective Actions	Technical Support Repair and Corrective Actions	STA or Incident Assessor (CR)	1
		Mechanical Maintenance (OSC)	1
		Electrical/I&C Maintenance(OSC)	1
In-Plant Protective Actions	Radiation Protection	RP Personnel	2
Fire Fighting	--	Fire Brigade	5[b]
First Aid and Rescue Operations	--	Plant Personnel	2[a]
Site Access Control and Personnel Accountability	Security and Accountability	Security Team Personnel	--[c]

Source: EGC, 2003

[a] May be provided by personnel assigned other functions.
[b] Fire Brigade per future fire protection evaluation for the COL.
[c] Refers to the future security plan developed for the COL.

TABLE 3.3-1
Minimum Staff Requirements for the Applicant ERO

Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	60 Minute Augmentation[a]	Full Augmentation
Plant Operations and Assessment of Operational Aspects	Control Room Staff	Shift Manager	1		
		Shift Supervisor	1		
		Nuclear Station Operator	2		
		Non-Licensed Operator	2		
Emergency Direction and Control	Command and Control	Shift Emergency Director (CR)	1[b]		
		Station Emergency Director (TSC)		1	
		Corporate Emergency Director (EOF)		1	
Notification and Communication	Emergency Communications	Plant Shift Personnel	1		
		TSC Director (TSC)		1	
		EOF Director (EOF)		1	
		ENS Communicator		1 (TSC)	1 (EOF)
		HPN Communicator		1 (EOF)	1 (TSC)
	Plant Status	Operations Communicator (CR/TSC)			2
	In-Plant Team Control	Damage Control Communicator (CR/TSC/OSC)			3
	Technical Activities	Technical Communicator (TSC)			1
	Governmental	State/Local Communicator (TSC/EOF)		1 (EOF)	1 (TSC)
		State Environs Communicator (EOF)			--[c]
		EOC Communicator (EOF)			1
		State EOC Liaison (State EOC)			--[c]
		County EOC Liaison (County EOC)			--[c]
		Regulatory Liaison (EOF)			1
Radiological Assessment	Off-Site Dose Assessment	Station Personnel	1[b]		
		Dose Assessment Coordinator (EOF)		1	

TABLE 3.3-1
Minimum Staff Requirements for the Applicant ERO

Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	60 Minute Augmentation[a]	Full Augmentation
		Dose Assessor (EOF)			1
		Rad Controls Coordinator (TSC)			1
	Off-Site Surveys	Environmental Coordinator (EOF)		1	
		Field Team Communicator (EOF)			1
		Off-Site Field Team Personnel		4	--[c]
	On-Site Surveys	On-Site Field Team Personnel		2	--[c]
	In-Plant Surveys	RP Personnel	1	2	--[c]
	Chemistry	Chemistry Personnel	1	1	--[c]
	RP Supervisory	Rad Protection Manager (TSC)		1	
		Rad Protection Manager (EOF)		1	
Plant System Engineering, Repair, and Corrective Actions	Technical Support	Shift Technical Advisor (CR)	1		
		Technical Manager (TSC)		1	
		Core Thermal/Hydraulic Engineer (TSC)		1	
		Mechanical Engineer (TSC)		1	
		Electrical Engineer (TSC)		1	
		SAMG Decision Maker (TSC)		1[b]	
		SAMG Evaluator (TSC)		2[b]	
		Operations Manager (TSC)		1	
		Rad Controls Engineer (TSC)			1
	Repair and Corrective Actions	Mechanical Maintenance (OSC)	1[b]	2	--[c]
		Electrical/I&C Maintenance (OSC)	1[b]	3	--[c]

TABLE 3.3-1
Minimum Staff Requirements for the Applicant ERO

Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	60 Minute Augmentation[a]	Full Augmentation
		Maintenance Manager (TSC)		1	
		OSC Director (OSC)		1	
		Assistant OSC Director (OSC)			1
		Operations Lead and Support Personnel (OSC)			--[c]
	Accident Analysis	Technical Support Manager (EOF)			1
		Operations Advisor (EOF)			1
		Technical Advisor (EOF)			1
In-Plant Protective Actions	Radiation Protection	RP Personnel	2[b]	4	--[c]
Fire Fighting	--	Fire Brigade	5[d]		
First Aid and Rescue Operations	--	Plant Personnel	2[b]		--[c]
Site Access Control and Personnel Accountability	Security and Accountability	Security Team Personnel	--[e]	--[e]	
		Security Coordinator (TSC)			1
	EOF Security	Security Coordinator (EOF)			1
Resource Allocation and Administration	Logistics	Logistics Manager (EOF)		1	
		Logistics Coordinator (TSC)			1
	Administration	Administrative Coordinator(EOF)			1
		Clerical Staff (TSC/EOF)			--[c]
	Inter-Facility Logs	Events Recorder (EOF/JPIC)			2
	Facility Support	Computer Specialist (EOF)			1
Public Information	Media Interface	Corporate Spokesperson (JPIC)		1[f]	
		Rad Protection Spokesperson (JPIC)			1

TABLE 3.3-1
Minimum Staff Requirements for the Applicant ERO

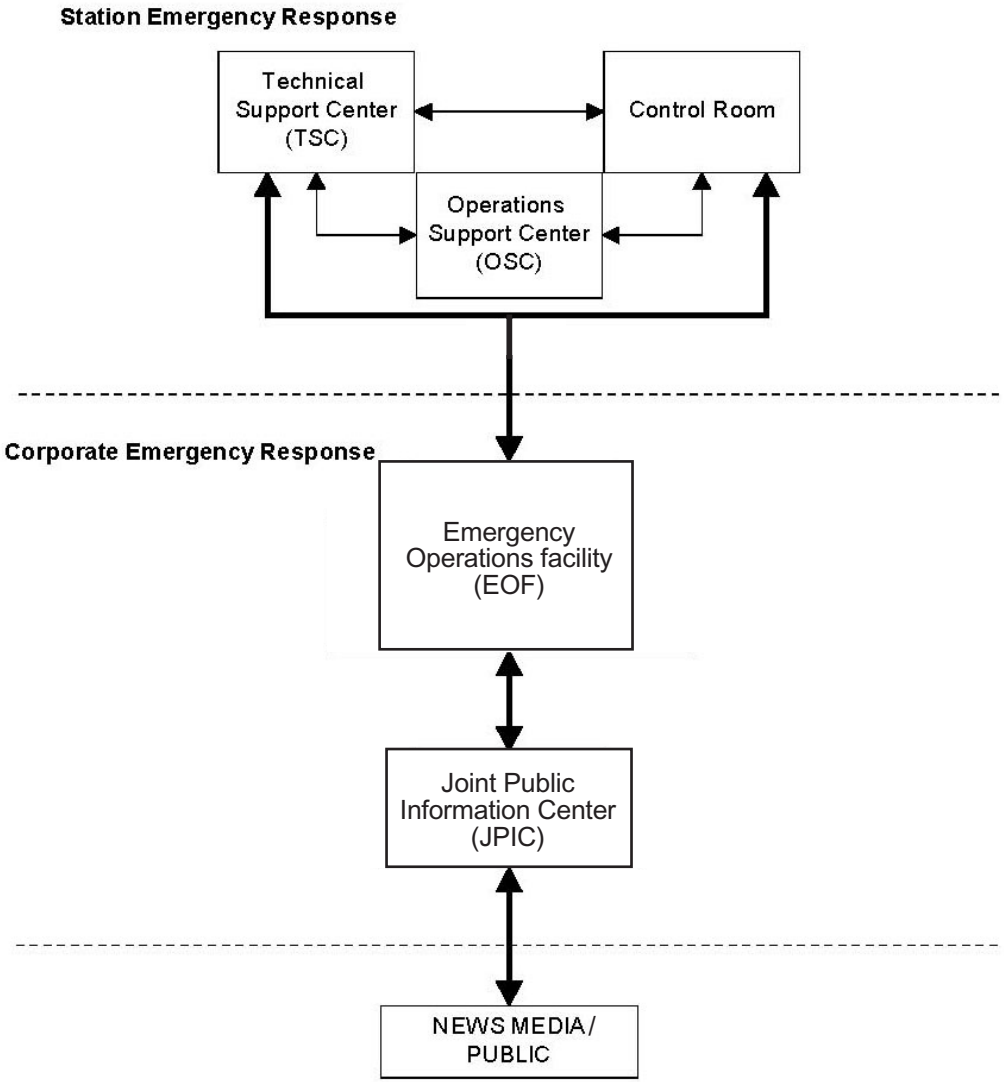
Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	60 Minute Augmentation[a]	Full Augmentation
		Technical Spokesperson (JPIC)			1
	Information Development	Public Information Director		1[f]	
		Radiological Advisor			1
		Technical Advisor			1
		News Writer (JPIC)			1
		Public Information Liaison (JPIC)			1
	Media Monitoring and Rumor Control	Communications Department			--[c]
	Facility Operation and Control	JPIC Director (JPIC)		1[f]	
		JPIC Coordinator (JPIC)			1
		Administrative Coordinator (JPIC)			1
		Access Controller (JPIC)			1
		Facility Support Staff (JPIC)			--[c]
		Clerical Staff (JPIC)			--[c]

Source: EGC, 2003

Notes: OSC Group Leads can be used to fill technical/craft positions in Maintenance, RP, and Chemistry. Empty spaces are intentionally left blank.

[a] Response time is based on optimum travel conditions.
[b] May be provided by personnel assigned other functions.
[c] Personnel numbers depend on the type and extent of the emergency.
[d] Fire Brigade per future fire protection evaluation for the COL.
[e] Refers to the future security plan developed for the COL.
[f] Public Information personnel are not subject to the 60 minute response time requirement.

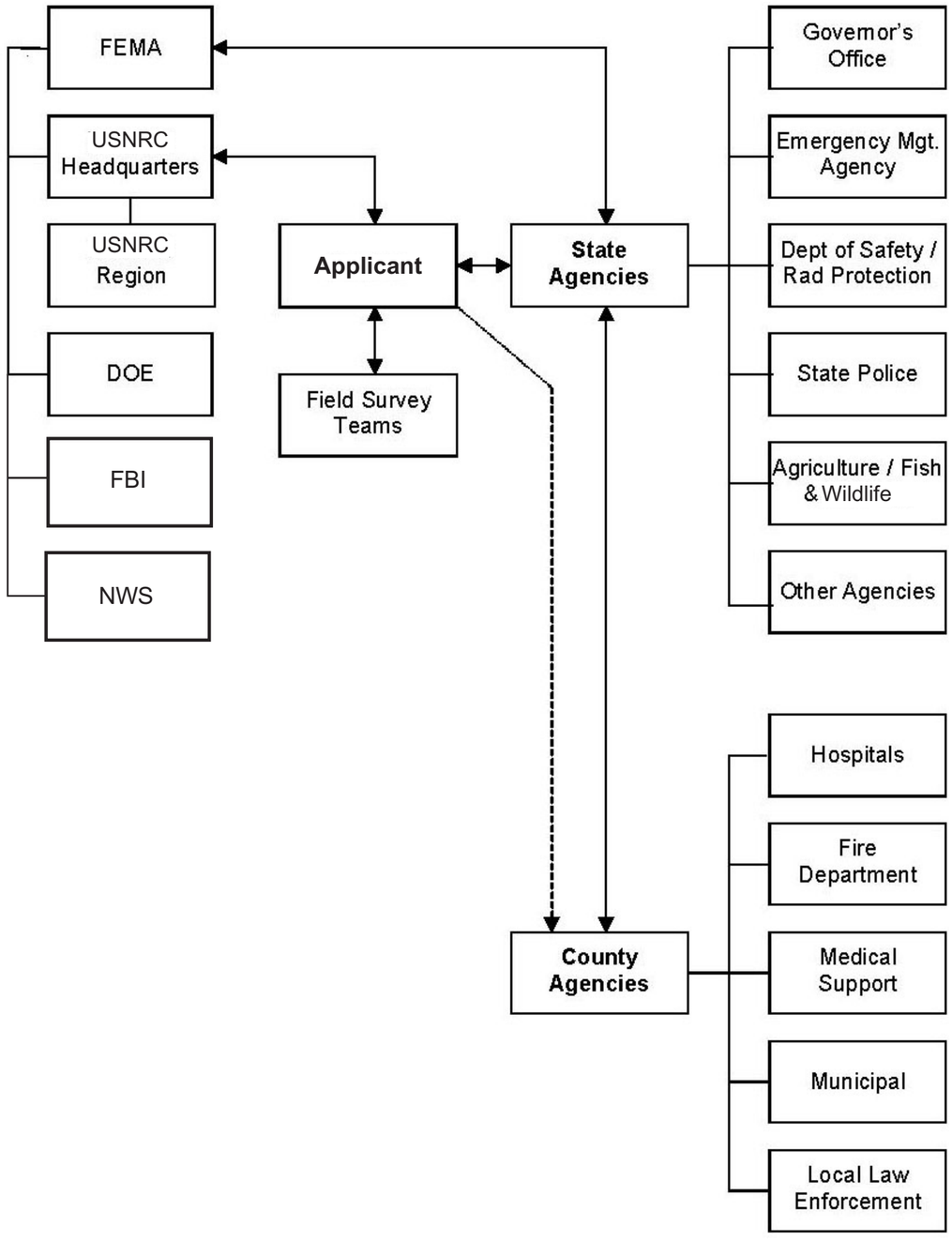
Figure 3.1-1
Applicant Emergency Response Organization Interrelationships



Data Source:
EGC, 2003

Not to Scale

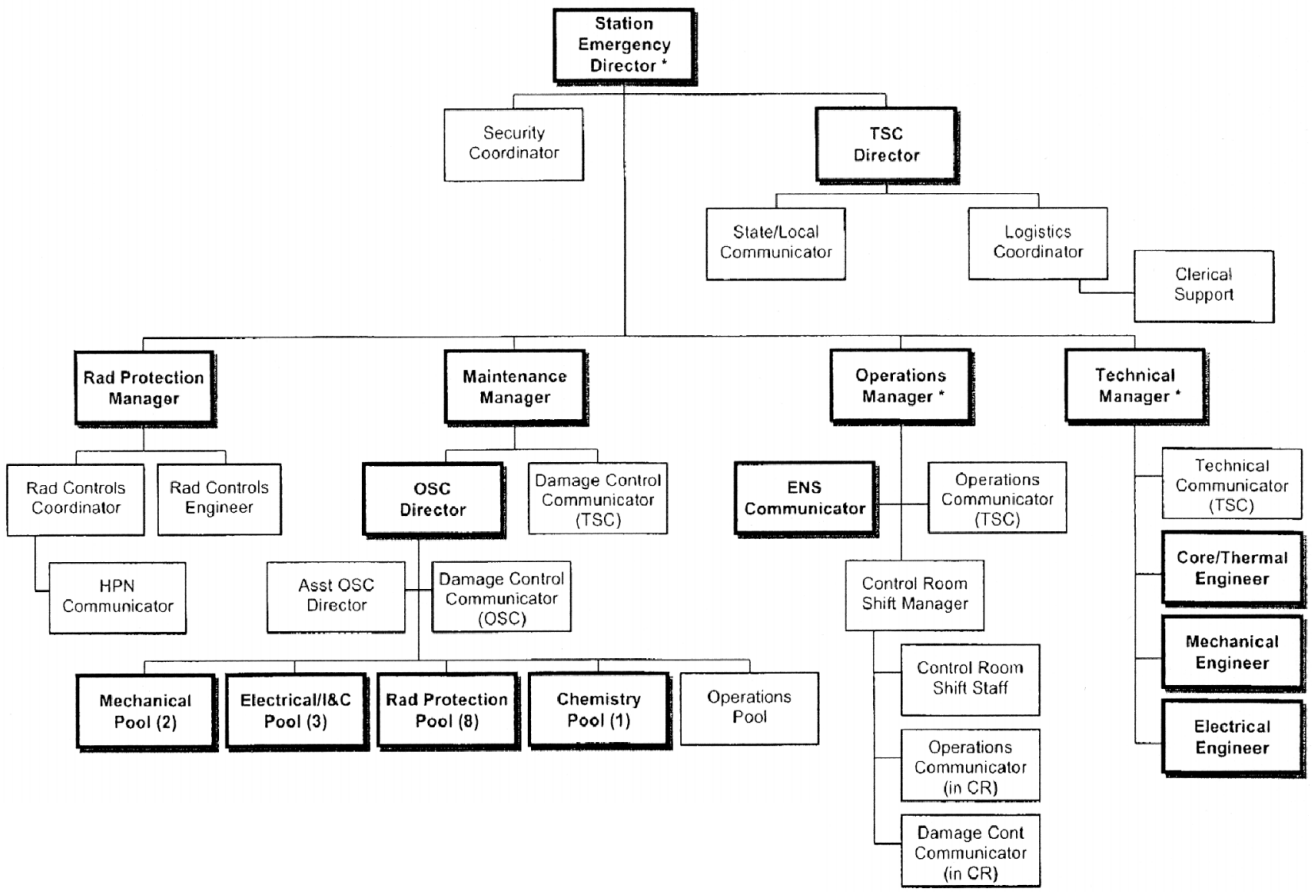
Figure 3.1-2
Agency Response Organization Interrelationships



Data Source:
EGC, 2003

Not to Scale

Figure 3.1-3
Emergency On-Site Organization



NOTES:

Shaded/Bold Boxes indicate minimum staffing positions.

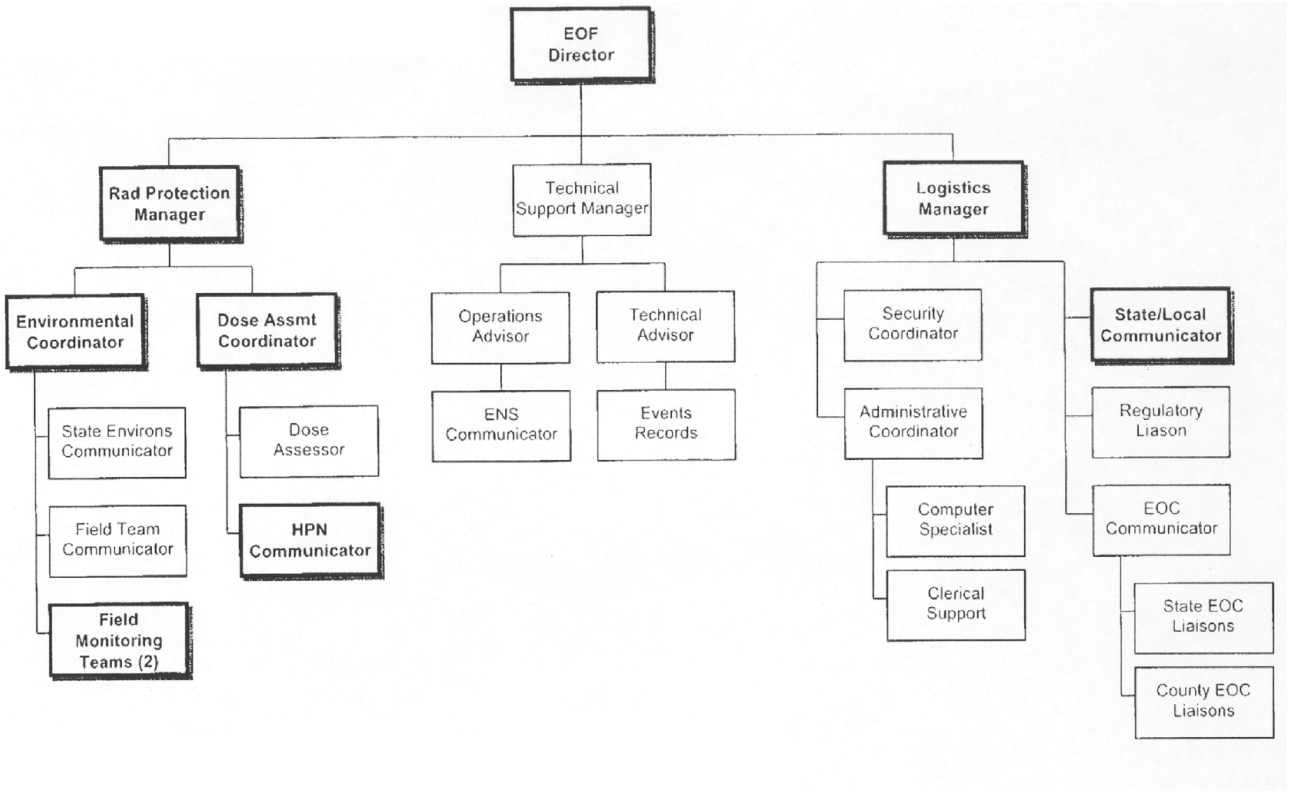
ERO response pool personnel do not include the on-shift complement.

** SAMG functions may be assigned to other qualified personnel. Minimum staffing requires 1 Decision-Maker and 2 Evaluators.*

Data Source:
EGC, 2003

Not to Scale

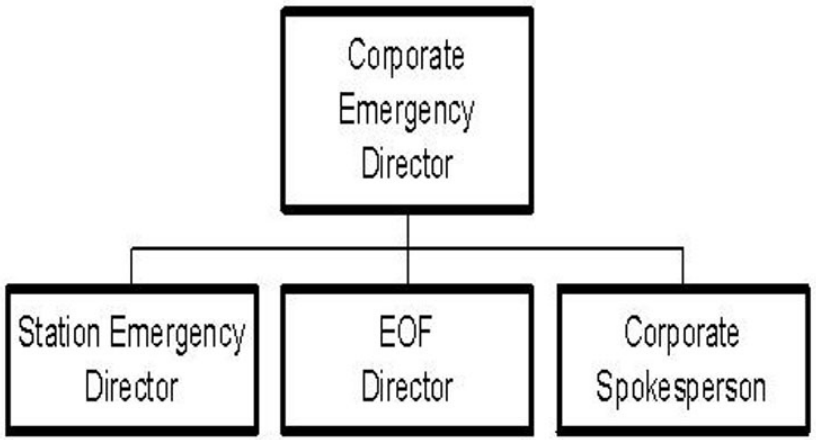
Figure 3.1-4
Emergency Off-Site Organization



NOTE:
Shaded/Bold Boxes indicate minimum staffing positions.

Data Source:
EGC, 2003

Not to Scale



Emergency Plan for the EGC Early Site Permit

Figure 3.3-1
Applicant Overall ERO Command Structure

Data Source:
EGC, 2003

Not to Scale

CHAPTER 4

Emergency Classification System

This chapter describes the classification and EAL scheme that will be used to determine the minimum response to an abnormal event at the EGC ESP Facility. This information is presented in the following sections:

- Unusual Event (Section 4.1)
- Alert (Section 4.2)
- Site Area Emergency (Section 4.3)
- General Emergency (Section 4.4)
- Recovery (Section 4.5)
- Classification Downgrading (Section 4.6)
- Guidance for Termination of an Emergency (Section 4.7)
- EGC ESP Facility Security Plan (Section 4.8)
- Emergency Action Levels (Section 4.9)
- Relationship to Off-Site Classification Systems and Procedures (Section 4.10).

The EAL scheme is based on anticipated plant systems, effluent parameters, and operating procedures. The initial response of federal, state, and county agencies will be dependent upon information provided by the ERO. The Applicant will work closely with the state and county agencies to ensure consistency in classification schemes and procedural interfaces (see Chapter 16). This information is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

The Emergency Plan provides for classification of emergencies into five categories or conditions, covering the postulated spectrum of emergency situations. The first four categories—notification of unusual event, alert, site area emergency, and general emergency—will be characterized by EALs or event initiating conditions and address emergencies of increasing severity, as discussed in Section 4.9 (NUMARC, 1994). The fifth category, the recovery classification, is unique in that it may be viewed as a phase of the emergency that requires specific criteria to be met and/or considered prior to its declaration. Recovery is that period when the emergency phase is over and activities are in progress to return the situation to a normal state (acceptable condition).

4.1 Unusual Event

An unusual event is described as follows by the USNRC:

> "Event(s) are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs" (USNRC, 1980).

The unusual event is the least severe of the four level schemes. One purpose of this classification is to bring response personnel and off-site agencies to a state of readiness in the event the situation degrades. An additional purpose is to provide systematic handling of information and decision-making. An unusual event will be classified by the Shift Manager (Shift Emergency Director), as discussed in Section 3.3.5.1.1. Required actions at this classification will include the following:

- Notifications to facility management and the NDO;
- Notification, within 15 minutes, to the state and local communities;
- Initiation of full or selective staffing of the TSC, OSC, and EOF, at the discretion of the Emergency Director, facility management, or the NDO;
- Notification to the USNRC as soon as possible, but within 60 minutes of classification;
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant; and
- The performance of closeout, when the event is terminated, over communication links to off-site authorities participating in the response (e.g., USNRC, state, county), followed by formal transmission of a state/local notification form within 24 hrs.

4.2 Alert

An alert is described as follows by the USNRC:

> "Event(s) are in progress or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of USEPA Protective Action Guide exposure levels" (USNRC, 1980).

The purpose of this classification is to ensure that emergency response personnel are readily available and will provide off-site authorities with current status information. An alert will be classified as the initiating event or as escalation from an unusual event. In either case, the classification will likely be made by the Shift Manager (Shift Emergency Director) prior to the transfer of command and control. Required actions at this classification will include the following:

- Notifications to facility management and the NDO;
- Notification, within 15 minutes, to the state and local communities. The EOF will assume state update responsibilities;
- Activation of the TSC, OSC, EOF, and JPIC organizations;
- Transfer of command and control;
- Notification to the USNRC as soon as possible, but within 60 minutes of classification;
- Notification to the INPO and ANI;
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant;
- Dispatch of on-site and off-site field monitoring teams; these teams will be sent to staging areas or will be dispatched to monitor for releases of radiation to the environment;
- The provision of periodic updates, including meteorological and radiological data, to keep off-site authorities informed of plant status; and
- When the event is terminated, notification will be performed over communication links followed by an initial incident report to off-site authorities participating in the response (e.g., USNRC, state, county) within 8 hrs.

4.3 Site Area Emergency

A site area emergency is described follows by the USNRC:

> "Event(s) are in progress that involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed USEPA Protective Action Guide exposure levels except near the site boundary" (USNRC, 1980).

The purpose of this classification, in addition to those of the alert level, is to ensure that the emergency response centers will be manned and provisions will be made for information updates to the public through off-site authorities and the news media. A site area emergency will likely be classified by the Station Emergency Director following activation of the TSC (see Section 3.3.5.1). Required actions at this classification will include the following:

- Notification to facility management and the NDO;
- Notification, within 15 minutes, of the state and local communities. The EOF will assume state update responsibilities;
- Activation of the TSC, OSC, EOF, and JPIC organizations;
- Transfer of command and control;
- Notification to the USNRC as soon as possible, but within 60 minutes of classification;
- Notification to the INPO and ANI;
- The performance of assembly/accountability, if not previously performed, at the affected facility, and the initiation of evacuation of non-essential personnel;
- Dispatch of on-site and off-site field monitoring teams; these teams will be sent to staging areas or will be dispatched to monitor for releases of radiation to the environment;
- Assessment of the situation and response as necessary; this includes escalating to a higher classification if conditions warrant;
- The provision of periodic updates, including meteorological and radiological data, and projected or actual doses for any releases which have occurred, to keep off-site authorities informed of plant status; and
- When the event is terminated, notification will be performed over communication links followed by an initial incident report to off-site authorities participating in the response (e.g., USNRC, state, county) within 8 hrs.

4.4 General Emergency

A general emergency is described follows by the USNRC:

> "Event(s) are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed USEPA Protective Action Guide exposure levels off site for more than the immediate site area" (USNRC, 1980).

The purpose of this classification, in addition to those of the site area emergency level, is to initiate predetermined protective actions for the public and provide continuous assessment of information from monitoring groups. A general emergency will likely be classified by the Station Emergency Director following activation of the TSC. Required actions at this classification will include the following:

- Notifications to facility management and the NDO;
- Notification, within 15 minutes, to the state and local communities. The EOF will assume state update responsibilities;
- Activation of the TSC, OSC, EOF, and JPIC organizations;
- Transfer of command and control;
- Notification to the USNRC as soon as possible, but within 60 minutes of classification;
- Notification to the INPO and ANI;
- Determination of a PAR;
- The performance of assembly/accountability, if not previously performed, at the affected facility and the initiation of evacuation of non-essential personnel;
- The dispatch of on-site and off-site monitoring teams; these teams will be sent to staging areas or dispatched to monitor for releases of radiation to the environment;
- Assessment of the situation and response as necessary;
- The provision of periodic updates, including meteorological and radiological data, and projected or actual doses for any releases that have occurred, to keep off-site authorities informed of plant status; and
- When the event is terminated, notification will be performed over communication links followed by an initial incident report to off-site authorities participating in the response (e.g., USNRC, state, county) within 8 hrs.

4.5 Recovery

Recovery refers to that period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). In addition, it refers to when the plant is under control and no potential for further degradation to the plant or the environment is believed to exist. A recovery will be classified by the Station Emergency Director after obtaining authorization from the Corporate Emergency Director. Required actions at this classification will include the following:

- The State of Illinois and the USNRC should be consulted prior to entering into recovery;
- Notifications will be made to facility management, the NDO, state(s), and USNRC;
- A recovery organization will be established to manage repairs to return the unit to an acceptable condition and to support environmental monitoring activities as requested in coordination with federal and state efforts; and
- The INPO and the ANI will be notified of recovery classification.

More detailed recovery and re-entry plans are documented in Chapter 13.

4.6 Classification Downgrading

The Applicant's policy on classification downgrading is described below.

- An alert classification may be downgraded to an unusual event if conditions warrant.
- Site area emergencies shall not be downgraded to a lower classification. Once declared, a site area emergency shall remain in effect until a general emergency classification is warranted, or until such time as conditions warrant classification to recovery.
- General emergencies shall not be downgraded to a lower classification. Once declared, it shall remain in effect until such time as conditions warrant classification to recovery.

4.7 Guidance for Termination of an Emergency

The purpose of terminating an emergency is to provide an orderly turnover of plant control from the EROs to the normal EGC ESP Facility organization. Termination of the emergency will be authorized by the Emergency Director in command and control. The considerations that will be provided in the recovery/termination checklist in the future emergency implementing procedures will be performed prior to exiting the emergency event. Consultation with governmental agencies and other parties should be conducted prior to the termination of an event classified as site area emergency or general emergency. Notifications will be transmitted to appropriate agencies in order to terminate an event.

4.8 EGC ESP Facility Security Plan

There will be a security plan that complies with the requirements of 10 CFR 73. The interface between the EGC ESP Emergency Plan and the EGC ESP Facility Security Plan will be one of parallel operation, and the plans will be compatible. The Emergency Plan response measures, once initiated, will be executed in parallel with measures taken in accordance with the EGC ESP Facility Security Plan.

Threats made to the facility will be evaluated in accordance with established Applicant threat assessment procedures and the EGC ESP Facility Security Plan. The EGC ESP Facility Security Plan will identify situations that could be initiating conditions for EAL classifications (USNRC, 1980). Contingency events include bomb threats, attack threats, civil disturbances, protected area intrusions, loss of guard/post-contact, vital area intrusions, bomb devices discovered, loss of guard force, hostages, extortion, fire/explosions, internal disturbances, security communications failure, and obvious attempts of tampering. The EGC ESP Facility Security Plan will contain guidance for decisions and actions to be taken for each security contingency event. As guidance, the security plan will allow for differing responses depending upon the assessment of the actual situation within each contingency event classification.

All identified security contingency events will have the potential of being assessed as initiating conditions for a radiological emergency declaration. The assessment of any security contingency event, and the decision to initiate or to not initiate the Emergency Plan, will be the responsibility of the Shift or Station Emergency Director.

Determination of a credible security threat may require the staffing of emergency response facilities based on the classification of an Unusual Event per the Emergency Action Levels (EALs).

4.9 Emergency Action Levels

Emergency classifications will be characterized by EALs. The threshold values will be referenced whenever an initiating condition is reached. An initiating condition is one of a predetermined subset of unit conditions where either the potential exists for a radiological emergency, or such an emergency has occurred. Defined in this manner, an initiating condition is an emergency condition, which sets it apart from the broad class of conditions that may or may not have the potential to escalate into a radiological emergency. Initiating conditions are arranged in one of the recognition categories.

The Final Emergency Plan, to be submitted in association with the COL application, will contain risk-based, site-specific EALs as applicable to the facility design selected. These EALs will be consistent with the general class descriptions as provided in industry guidance documentation (NUMARC, 1994), and in accordance with Regulatory Guide 1.101, *Emergency Planning and Preparedness for Nuclear Power Reactors* (USNRC, 1992). Where possible, these EALs will be related to plant instrumentation readings.

EALs are for unplanned events. A planned evolution involves preplanning to address the limitations imposed by the condition, the performance of required surveillance testing, and the implementation of specific controls prior to knowingly entering the condition. Planned evolutions to test, manipulate, repair, perform maintenance or modifications to systems and equipment that result in an EAL Threshold Value being met or exceeded are not subject to classification and activation requirements as long as the evolution proceeds as planned. However, these conditions may be subject to the reporting requirements of 10 CFR 50.72.

4.10 Relationship to Off-Site Classification Systems and Procedures

4.10.1 Off-Site Classification Systems

The Applicant will work with the State of Illinois to maintain consistency between classification schemes. At the appropriate time that the attributes of this plan need to be in effect, the content of the EALs will be reviewed with the state and county authorities on an annual basis. Concurrence will be obtained from state and county authorities for EAL changes that significantly impact the initiating conditions or technical bases.

4.10.2 Off-Site Emergency Procedures

At the appropriate time that the attributes of this plan need to be in effect, the Applicant will assist the State of Illinois and county authorities in their efforts to prepare the needed procedures that provide for emergency actions to be taken that are consistent with the protective actions recommended by the Applicant.

CHAPTER 5

Notification Methods and Procedures

This chapter describes the notification of state and county response organizations and EGC emergency response personnel, and outlines the content of initial and follow-up messages to response organizations within the plume exposure pathway EPZ, in the following sections:

- Bases for Emergency Response Organization Notification (Section 5.1)
- Notification and Mobilization of Emergency Response Personnel (Section 5.2)
- Initial Notification (Section 5.3)
- Follow-Up Messages (Section 5.4)
- State and County Information Dissemination (Section 5.5).

The information in this chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

5.1 Bases for Emergency Response Organization Notification

The Applicant, in cooperation with the State of Illinois and county authorities, has established mutually agreeable methods and procedures for the notification to off-site response organizations consistent with the emergency classification and action level scheme. These methods and procedures apply to the CPS and other Applicant facilities within the State of Illinois. Notifications to off-site agencies include a means of verification or authentication such as the use of dedicated communication networks, verification code words, or providing call back verification phone numbers. The EGC ESP Facility will establish similar procedures with the State and county authorities at the appropriate time.

5.1.1 Notification/Classification for Dual Unit Emergencies

When the classification involves more than one unit of a multi-facility property or site (i.e., tornado or earthquake), the classification shall be reported as affecting both units. In situations when all units of a multi-facility property or site are affected by emergency events, but the events are not related or the classification for each unit is different, notification will be made for the highest classification. Clarification of the relationship between the classification levels determined for the units should be provided in the periodic state updates and the USNRC event notification worksheet. In situations when one unit is affected by unrelated events, notification will be made for the highest classification via the state/local notification, and the second event information provided in the periodic state updates.

5.1.2 Notification for Transportation Accidents

If a transportation accident involving radioactive or other hazardous materials as defined by 49 CFR 171.15 or 49 CFR 171.16 occurs, the Applicant will notify the appropriate off-site agencies, including, for example, the National Response Center, appropriate state agency, USNRC, ANI, INPO, and USDOT (49 CFR 171). The Applicant will maintain a list of the appropriate off-site agencies.

5.2 Notification and Mobilization of Emergency Response Personnel

Emergency implementing procedures will be established for notification and mobilization of the following emergency response personnel. Communication systems are described in Chapter 6.

5.2.1 On-Site

When an emergency is declared, reclassified, or terminated, an announcement will be made over the plant public address (PA) system or by other means. If the EGC ESP Facility is a dual unit, the unaffected unit control room will be notified of the emergency declaration or change. The CPS control room will be notified of the emergency declaration or change. These notifications will include the declaration of the emergency classification and response actions that are to be taken by site personnel.

At the unusual event classification, select ERO augmentation personnel will be notified and requested to remain available to respond. At an alert classification or higher, ERO augmentation personnel will be notified for activation of the TSC, OSC, EOF, and JPIC using the ERO notification system, or by using a system of pagers and/or call trees via commercial telephone as backup.

5.2.2 Off-Site

When an emergency is declared, reclassified, or terminated, notifications will be promptly made to first-line off-site EROs. These first-line notification contacts are described below:

- The notification of cognizant off-site government agencies shall be made within 15 minutes of an initial emergency classification, classification escalation, issuance of or change to a PAR for the general public or changes in radiological release status which occur outside of an event classification or PAR notification, based on previous agreement with the State of Illinois. The emergency warning points will be simultaneously notified using the NARS, as discussed in Section 6.1.1, or a commercial telephone line as backup. A notification will also be initiated to cognizant State/Local government agencies as soon as possible but within one hour of the de-escalation or termination of an event classification, or entry into recovery.
- The event will be reported to the USNRC operations center immediately after notification to the appropriate state or local agencies, but not later than 1 hr after the time of initial classification, escalation, termination, or entry into recovery phase. The USNRC will be notified by a dedicated telephone system called the ENS, as discussed in Section 6.3. If the ENS is inoperative, the required notifications will be made via commercial telephone service, other dedicated telephone service, or any other method that will ensure that a report is made as soon as practical. An USNRC event notification worksheet should be utilized to transmit initial information to the USNRC. If a continuous communication is requested and established, a log will be used in lieu of the ENS worksheet.

Specific requirements for the notifications to the USNRC for classified emergency events are detailed in 10 CFR 50.72. The computerized data link to USNRC, ERDS, will be initiated within one hour of the declaration of an alert classification or higher.

Mobilization of federal, state, and county response organizations will be performed in accordance with their applicable Emergency Plan and procedures. At a minimum, mobilization of federal response organizations and activation of state and county EOCs will be expected to occur at the declaration of a site area emergency (State of Illinois, 2001, 2001a).

The state and county authorities will be responsible for the process of notification to the general public (State of Illinois, 2001, 2001a).

5.2.3 Support Organizations

When an emergency is initially classified, escalated, or terminated, notifications will be promptly made to support organizations as follows:

- Medical, rescue, and fire fighting support services will be notified for assistance as the situation dictates.
- The INPO will be notified at an alert or higher classification with requests for assistance as necessary.
- The ANI will be notified at an alert or higher classification with requests for assistance as necessary.
- Vendor and contractor support services are notified for assistance as the situation dictates.

5.3 Initial Notification

The Applicant, in conjunction with state and county authorities, has established the contents of the initial notification message transmitted during a classified emergency. These methods and procedures apply to the CPS, other Applicant facilities within the State of Illinois, and will apply to the EGC ESP Facility.

At a minimum, the contents of the form will include the following:

- Designation ("This is a Drill" or "Actual Event");
- Identity of the site;
- Event classification;
- EAL number, (as previously agreed upon with Illinois authorities);
- Non-technical event description, (as previously agreed upon with Illinois authorities);
- Date and time of declaration (or entry into recovery or termination);
- Whether a release is taking place ("release" means a radiological release attributable to the emergency event);
- Wind direction and speed;
- Whether off-site protective measures may be necessary; and
- Potentially affected subareas (or sectors as applicable) when a general emergency is declared.

The date and time when the notification was transmitted, as well as the off-site agencies contacted, will be recorded either on the notification form or in an event logbook.

5.4 Follow-Up Messages

For all emergency classifications, update messages to state authorities will be provided at the time of the notification on a prearranged frequency. The facility in command and control will be responsible for ensuring that the updates are completed. State updates will contain the prearranged information plus any additional information requested at the time of the notification.

Additional follow-up notifications will be also provided to the USNRC operations center as soon as possible but not later than 1 hr after significant new information is available involving:

- The results of evaluations or assessments of plant conditions;
- The effectiveness of response or protective measures taken; and/or
- Information related to plant behavior that is not understood.

If requested by the USNRC, an open, continuous, communications channel will be maintained with the USNRC operations center over the HPN or ENS circuits.

5.5 State and County Information Dissemination

The State of Illinois and county emergency response plans describe procedures for how state and county officials should make a public notification decision promptly (within about 15 minutes) once they have been informed by the plant of an emergency. Currently (2003), the system for disseminating information to the public includes a notification by prescripted messages through appropriate broadcast media such as the emergency alert system (EAS). The sections below describe dissemination systems that are already in service and will be used in future for the EGC ESP Facility.

5.5.1 Notification to the Public

The capability exists for the prompt notification of the general public within the CPS plume exposure pathway EPZ. The EGC ESP Facility will use the same system.

This notification capability consists of two principal elements: (1) the alert and notification systems (ANS) and (2) the EAS radio station.

- The ANS consists of fixed sirens and vehicles with PA systems. Activation of the ANS sirens by the civil authorities will alert the public to turn on their radios to a local EAS radio station for detailed information on the emergency situation.
- The EAS is a network of local radio station prepared to transmit or relay emergency information and instructions from the civil authorities to the general public.

The ANS is operated by local governmental agencies and is maintained by the Applicant. To assure the ANS is maintained in an operational readiness posture, the local agencies have agreed to test the system (by sounding the sirens) on a periodic basis that meets or exceeds FEMA guidance. In addition, local agencies have agreed to report inoperable equipment to emergency plan designated maintenance personnel. The goal of the testing and maintenance program is to identify inoperable equipment in a timely manner and to restore equipment to a functional status commensurate with FEMA operability requirements as referenced in the "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" (FEMA-REP-10, 1985). In addition to this routine test and repair program, preventive maintenance of the ANS will be performed on an annual basis.

The activation of the ANS sirens, deployment of emergency service vehicles and operation of the EAS is discussed in detail in the State of Illinois Plan (State of Illinois, 2001).

5.5.2 Messages to the Public

The State of Illinois has developed EAS messages for the public consistent with the classification scheme. These draft messages are included as part of the State of Illinois Plan and contain instructions with regard to specific protective actions to be taken by occupants and visitors of affected areas (State of Illinois, 2001). Messages may include instructions such as: take shelter and go indoors, close windows and doors, turn off ventilation systems; directions given for evacuation; directions to stay tuned to specific stations for further information, and ad hoc respiratory protection (e.g., handkerchief over mouth). The EGC

ESP Facility will provide support for the content of these messages when requested. The State of Illinois controls the distribution of radioprotective drugs to the general public.

CHAPTER 6

Emergency Communications

This chapter describes the provisions utilized for prompt communications among principal EROs, communications within the EROs, and communications with the general public. This information is presented in the following sections:

- Communications/Notifications (Section 6.1)
- Emergency Response Organization Notification (Section 6.2)
- USNRC Communications (Emergency Notification System and Health Physics Network) (Section 6.3)
- Medical Communications (Section 6.4).

The information in the chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

6.1 Communications/Notifications

The Applicant currently (2003) has extensive and reliable communication systems installed at its generating stations and corporate headquarters. These systems or their equivalent will be duplicated at the EGC ESP Facility in preparation for receipt of an operating license. The Applicant expects that the equipment specified in this section will likely be improved and upgraded over time. Nonetheless, the functional capability of the equipment discussed in this section will remain consistent. Examples of the communications network include systems such as normal and dedicated telephone lines on landlines, microwave and fiber-optic voice channels, cell phones, satellite phones, mobile radio units, handi-talkies, and computer peripherals. For the EGC ESP Facility, this network will provide the following:

- Voice communication through a normal telephone, dedicated line and automatic ring-down between selected facilities, conference call capability, speaker phones, and operator assistance where required;
- Communications between selected EGC vehicles and appropriate fixed locations, as well as with state mobile units and fixed locations; and
- Facsimile, network, and modem transmission.

Figure 6.1-1 depicts the initial notification paths and the organizational titles from the Applicant's ERFs to federal, state, and local EROs, and industry support agencies. The Applicant's primary and alternate methods of communication, and the USNRC communications network are illustrated in Figure 6.1-2 and Figure 6.1-3.

For the EGC ESP Facility, the Applicant will maintain the capability to make initial notifications to the designated off-site agencies on a 24-hr per day basis. The off-site notification system, referred to as the NARS, will provide communications to state and county warning points and EOC from the CR, TSC, and EOF. Backup methods will include facsimile and commercial telephone lines. State and county warning points will be continuously staffed (State of Illinois, 2001 and 2001a).

The Applicant has established several dedicated communication systems that will ensure reliable and timely exchange of information necessary to provide effective command and control over any emergency response. This includes information (1) between EGC and state and local agencies within the EPZs; (2) with federal EROs; (3) between the plant, the EOF, and the state and county EOCs; and (4) between ERFs and field monitoring teams.

In addition, facility communication links will exist to ensure appropriate information transfer capabilities during an emergency. The facility may also utilize PA systems, facility radios, and pagers to augment its emergency communications.

6.1.1 Nuclear Accident Reporting System

The NARS is a dedicated communications system that will be installed at the EGC ESP Facility prior to receipt of an operating license for the purpose of notifying state and local authorities of declared nuclear emergencies. This system will link together the facility CR, EOF, TSCs, state, and local authorities as appropriate.

6.1.2 Damage Control Line

A dedicated telephone link called the damage control line will enable communication between the CR, the TSC, and the OSC in order to coordinate the dispatching of emergency damage control teams from the OSC (See A in Figure 6.1-2).

6.1.3 Operations Status Line

A dedicated telephone link called the operations status line will enable communication between the CR, TSC, and EOF in order to monitor the activities of the CR staff (see C in Figure 6.1-2).

6.1.4 Technical Conference Line

A dedicated telephone line called the technical conference line between the TSC and the EOF will enable communication to help manage activities and priorities for the EGC ESP Facility (see D in Figure 6.1-2).

6.1.5 Director's Hotline

A dedicated telephone link called the Director's Hotline will enable direct communication between the Emergency Director and the CR, TSC, and EOF (see B in Figure 6.1-2).

6.1.6 Private Branch Exchange Telephone System

The private branch exchange (PBX) telephone system will provide communication capability between telephones located within the plant by dialing a facility code. The PBX will be used to connect the CR, TSC, EOF, and OSC. The PBX telephone system will also provide for outside communications through interconnections with the corporate telephone communications system and commercial telephone lines (see E in Figure 6.1-2).

6.1.7 Local Commercial Telephone System

This system will provide standard commercial telephone service through the public infrastructure, consisting of central offices, the wire line, and the microwave carrier. The commercial telephone system will include connections to PBX, the emergency telephone system, dedicated lines to emergency facilities, and lines to the JPICs. The commercial vendor will provide primary and secondary power for their lines at their central office.

6.1.8 Emergency Response Data System

The ERDS will supply the USNRC with selected plant data points on a near real time basis. The ERDS is activated by the ERO as soon as possible, but not later than 1 hr after declaration of an alert, a site area emergency, or a general emergency. The selected data points will be transmitted via modem to the USNRC at approximately 1-minute intervals.

6.1.9 Field Monitoring Team Communications

A separate communications system will be installed to allow coordinated environmental monitoring and assessment during an emergency. This system will consist of the necessary hardware to allow communication between the CR, TSC, EOF, and mobile units in the

Applicant's vehicles. Commercial cell phones, or other means, will be available as backup to the primary field team communications system.

6.2 Emergency Response Organization Notification

The Shift Manager will be responsible for initiating a callout to activate the ERO (see Section 3.3.5.1.1). The call-out process, to be documented in the Emergency Plan implementing procedures that will be completed prior to initial fuel loading, will identify individuals who are capable of fulfilling the specific response functions that are listed in Table 3.2-1 and Table 3.3-1. These tables were developed based on the functions listed in NUREG-0654, Table B-1 (USNRC, 1980).

The Applicant will utilize an automated ERO notification system to rapidly notify members of the ERO. The system, in use at the CPS and planned for use at the EGC ESP facility, consists of a computer with modem equipment capable of initiating and receiving telephone calls. When contact is made, the system automatically will request security identification and then respond. One of the calls made by the system will be to the paging system vendor. The pager vendor's system will accept group and individual numbers from the ERO notification system, activating several radio transmitters that, in turn, activate personal pagers belonging to members of the ERO. The system will incorporate redundant power, phone and computer components with geographic separation. Implementing procedures will specify the course of action to be taken if the ERO notification system fails. This will require facility personnel to manually activate the ERO group page feature and/or directly call-out key emergency response personnel.

6.3 USNRC Communications (Emergency Notification System and Health Physics Network)

Dedicated telephone equipment will be installed between the EGC ESP Facility's CR and the USNRC, with an extension of that line in the TSC. In the EOF, a separate line with the capability of being patched into the facility through the USNRC will be available. This line will be used for USNRC event notifications and status updates.

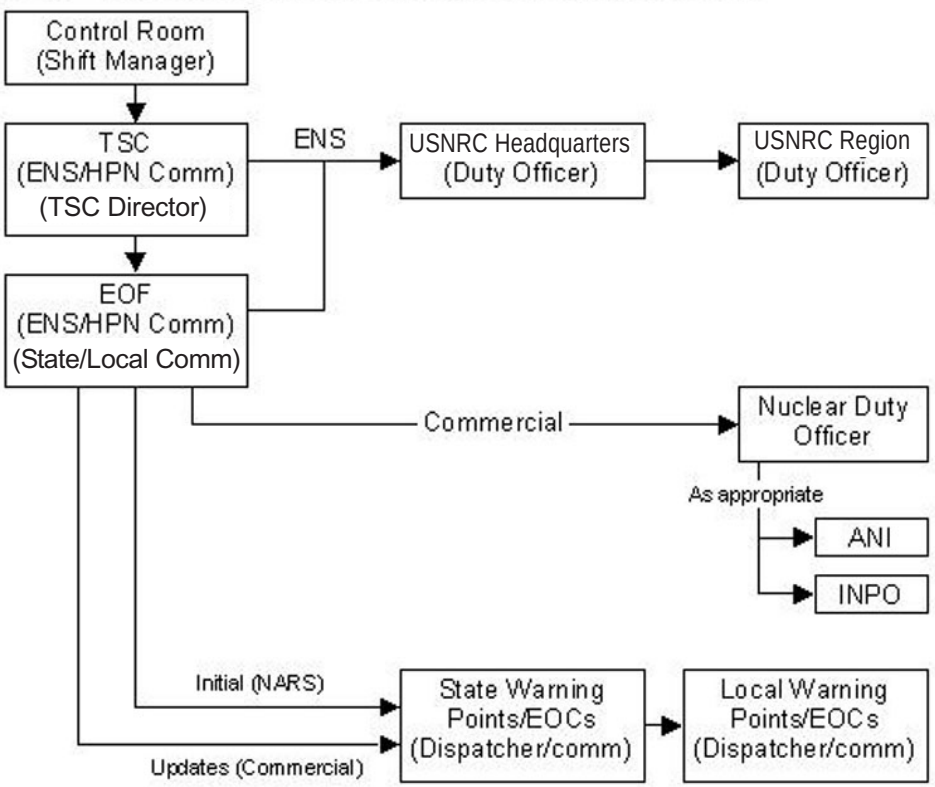
There will also be a separate dedicated telephone, HPN, for use between the USNRC, TSC, and EOF for conveying health physics information to the USNRC as requested or as an open line. Installation and the use of USNRC telephones will be under the direction of the USNRC, as indicated in Figure 6.1-3 (USNRC, 1980 and 1978).

6.4 Medical Communications

Communications will be established with the primary and backup medical hospitals (see Section 12.1), and transportation services via commercial telephone that will be accessed by facility personnel.

Emergency Plan for the Exelon EGC Site Permit

Figure 6.1-1
Applicant Notification Scheme
(For Full Augmentation)

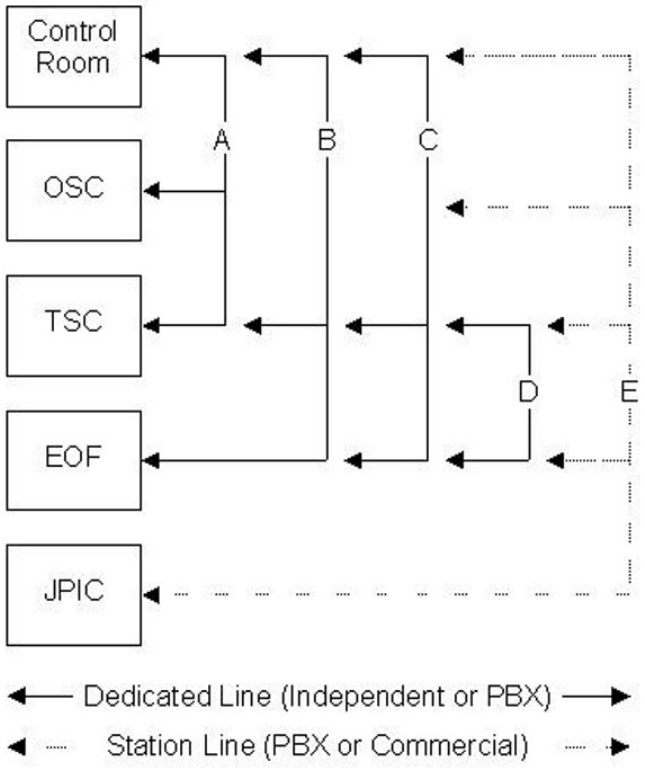


Data Source:
EGC, 2003

Not to Scale

Emergency Plan for the EGC Early Site Permit

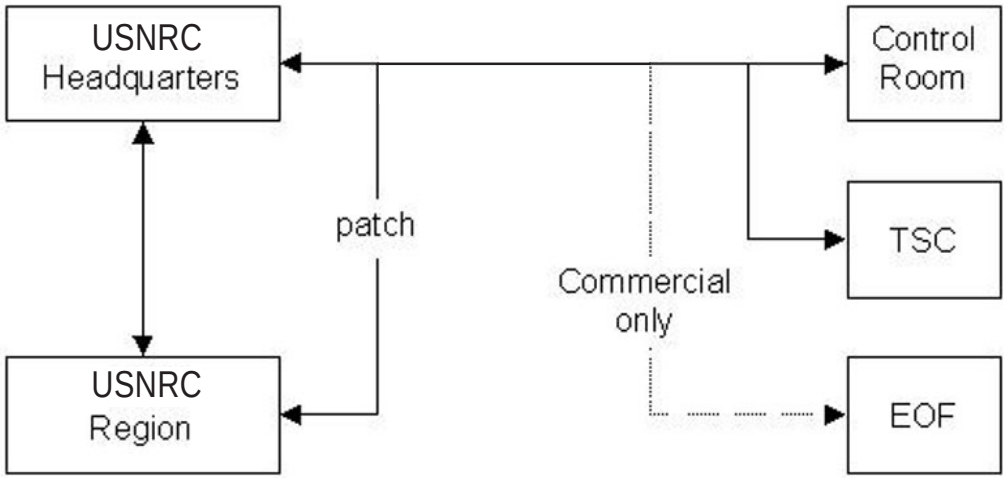
Figure 6.1-2
ERF Communications Matrix



Data Source:
EGC, 2003

Not to Scale

Figure 6.1-3
USNRC Communications for Nuclear Response



NOTES:

ENS and HPN circuits may use the Federally maintained system, company tie lines or PBX as dedicated primary communications systems and have commercial backups.

Data Source:
EGC, 2003

Not to Scale

CHAPTER 7

Public Education and Information

The Applicant's Public Education and Information program is in place for other Applicant facilities and will be implemented in a similar or consistent manner for the EGC ESP Facility in association with initial fuel loading. This chapter describes the Applicant's Public Education and Information Program, outlines the methods for distributing public information materials on an annual basis, and describes how the public will be informed in the event of an emergency, in the following sections:

- Public Information Publication (Section 7.1)
- Public Education Materials (Section 7.2)
- Media Accommodations (Section 7.3)
- Coordination of Public Information (Section 7.4)
- Media Orientation (Section 7.5).

The information in the chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

7.1 Public Information Publication

The state has an overall responsibility for maintaining a continuing disaster preparedness public education program (State of Illinois, 2001). The emergency public information publication for the Applicant's generating facilities is and will be updated annually, in coordination with state and county agencies, to address how the general public is notified and what their actions should be in an emergency. The Applicant will distribute the EGC ESP Site-Specific publication on an annual basis by mail to residents within the 10-mi plume exposure pathway EPZs and to appropriate locations where the transient population may obtain a copy. The public information publication will include the following information:

- Educational information on radiation;
- A description of the events which require public notification and what to do if a take-shelter or evacuate recommendation is given;
- A map of major evacuation routes;
- A list of communities likely to serve as host shelter areas, and instructions on how to obtain additional information, especially for the disabled or their caretakers and those without transportation; and
- An address, telephone number, and email address to contact for additional information.

7.2 Public Education Materials

Public information publications will instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications will also identify the local radio stations that the public should listen to for information related to the emergency.

7.3 Media Accommodations

The Applicant's Communications and Public Affairs Department will be notified when an unusual event or higher emergency condition exists. They will handle public and media inquiries in the early stages of the event (until the JPIC is activated) by distributing background information, news releases, and providing information to corporate management.

7.3.1 The Emergency Public Information Organization

The emergency public information organization will be part of the Corporate ERO (see Section 3.3.5.3). It may be activated at any time at the discretion of the NDO. However, when there is a procedural requirement to activate the EOF, the emergency public information organization will also be activated.

The primary purpose of the emergency public information organization will be to disseminate information from the Applicant's ERO about the emergency events to the public via the news media. However, the authority for issuance of news releases for the classification of an unusual event or prior to ERO activation will always reside with the Applicant's Communications and Public Affairs Department. Upon activation, the emergency public information organization will have the responsibility and authority for issuance of news releases to the public.

The emergency public information organization will be comprised of senior managers from the Applicant's organization who will function as spokespersons, and other individuals, including personnel from the governmental affairs and human relations areas. The Applicant's spokespersons will disseminate information to the news media/public concerning the emergency events out of the JPIC.

7.3.2 The Joint Public Information Center

The JPIC will be the facility in which media personnel gather to receive information related to the emergency event. The JPIC will be the location where approved news releases will be provided to the media for dissemination to the public. News releases will be coordinated between the EOF and JPIC personnel and state and/or federal representatives in the JPIC. The Applicant's public information personnel will operate from the EOF and the JPIC, which will be under the direction of the Corporate Spokesperson and function as the single point contact to interface with federal, state, and local authorities who are responsible for disseminating information to the public. The EGC ESP Facility and the CPS will share a common JPIC. However, for the purposes of this Emergency Plan, the JPIC is described in terms of its future use at the EGC ESP Facility.

The JPIC will be equipped with appropriate seating, lighting, and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, the JPIC will be equipped with commercial telephone lines for making outgoing calls. The emergency public information organization will function from the JPIC and EOF in preparing and releasing utility information about the emergency event. The JPIC will be activated at the declaration of an alert or higher classification. The JPIC functions will be as follows:

- Serve as the primary location for accumulating accurate and current information regarding the emergency conditions and writing news releases;
- Provide work space and phones for public information personnel from the state, counties, USNRC, FEMA, and industry-related organizations;
- Provide telephones for use by the news media personnel; and
- Provide responses to media inquiries through the Media Monitoring Staff, who staffs telephones so that the media can call for information about an emergency.

7.4 Coordination of Public Information

The JPIC will be staffed by Applicant and government public information representatives who will be the source of public information during an emergency at the facility. The Corporate Spokesperson will be the primary spokesperson for the Applicant. The Corporate Spokesperson will have direct access to the necessary information (see Section 3.3.5.3.1).

The JPIC will be staffed by federal, state, county, and utility personnel to assure timely, periodic exchange, and coordination of information. In addition, representatives will coordinate information prior to conducting news briefings.

Rumors or misinformation will be identified during an emergency by the media/rumor control monitors. They will respond to public and news media calls and will monitor media reports.

7.5 Media Orientation

The Applicant's Mid-West Regional Operating Group (MWROG) Emergency Preparedness Department, in conjunction with the Communications and Public Affairs Department, will annually provide the applicable news media with information concerning the emergency plan, radiation, and points of contact for release of public information in an emergency.

CHAPTER 8

Emergency Facilities and Equipment

This chapter describes the emergency facilities and equipment that will be used by the ERO, and outlines the requirements that aid in timely and accurate response actions, in the following sections:

- Control Room, Technical Support Center, and Operations Support Center (Section 8.1)
- Emergency Operations Facility (Section 8.2)
- Emergency Operations Centers(Section 8.3)
- Activation (Section 8.4).

The facilities and equipment will be installed and evaluated in association with activities prior to initial fuel loading. The information in this chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

8.1 Control Room, Technical Support Center, and Operations Support Center

On-site and off-site facilities will be available for emergency assessment, communications, first aid and medical care, and damage control. Of particular importance will be the CR, TSC, OSC, EOF, and JPIC (USNRC, 1980 and 1980a).

The Applicant will establish a TSC and an on-site OSC. The TSC and OSC will be activated upon declaration of an alert or higher classification. Until they become operational, required functions of these facilities will be performed in the EGC ESP Facility CR.

8.1.1 EGC ESP Facility Control Room

The CR will be the centralized on-site location from which the nuclear facility's reactor and major plant systems are operated. The CR will be equipped with instrumentation to supply detailed information on the reactor and major plant systems. The CR will be continuously staffed with qualified licensed operators, and will be the first on-site facility to become involved with the response to emergency events. CR personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include the following:

- Reactor and plant control;
- Initial direction of all plant-related operations;
- Accident recognition, classification, mitigation, and initial corrective actions;
- On-site personnel alerts;
- Notification of appropriate individuals and activation of ERDS;
- Activation of ERFs and ERO notification;
- Notification of off-site agencies;
- Continuous evaluations of the magnitude and potential consequences of an incident;
- Initial dose projections; and
- Recommendations for immediate protective actions for the public.

As other ERFs become activated, they will supply support to the CR, although overall command and control of the emergency will transfer to the TSC or EOF. Throughout emergencies, the CR will maintain its emergency activation status until its normal operational status may be resumed.

8.1.2 Technical Support Center

A TSC will be established for use during emergency situations by facility management, technical, and engineering support personnel. The TSC will be activated for emergencies

classified as an alert or higher. Activation for other events will be optional. When activated, the TSC functions will include the following:

- Support the CR's emergency response;
- Perform the non-delegable functions when in command and control;
- Continual evaluation of event classification;
- Assess the plant status and potential off-site impact;
- Coordinate emergency response actions;
- Notify appropriate corporate and station management; and
- Provide notification and update information to the USNRC via the ENS, including activation of ERDS.

The TSC will be the on-site location utilized to support the CR for assessment of plant status and potential off-site impact, and for implementation of emergency actions. The TSC will provide technical data and information to the EOF.

The TSC will provide reliable voice communications to the CR, OSC, EOF, USNRC, and state and local EOCs. In addition, they will provide facsimile transmissions capability (see Chapter 6).

The TSC will be sized for a minimum of 25 spaces and supporting equipment. Of the 25 spaces, five will be reserved for the USNRC, and adequate space will be available for the appropriate state representative(s).

Under accident conditions, personnel in the TSC will be protected from radiological hazards, including direct radiation and airborne contaminants, with similar radiological habitability as the CR personnel. To ensure adequate radiological protection, permanent radiation monitoring systems will be installed in the TSC, and/or periodic radiation surveys will be conducted. These systems will be used to indicate radiation dose rates and airborne radioactivity inside the TSC. In addition, protective breathing apparatus (full-face air purifying respirators) and KI will be available for use as required.

The TSC will have access to a complete set of as-built drawings and other records including general arrangement diagrams, piping and instrumentation drawings, and the electrical schematics. The TSC will have the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of reactor operations, and for implementation of emergency procedures.

8.1.3 Operations Support Center

The facility support personnel will report to the OSC, an on-site location used during an emergency. Assignments or duties will be dispatched in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but the OSC need not remain activated at the alert level if the Station Emergency Director judges its use unnecessary. At the site area and general emergency levels, the OSC or an alternate OSC will be activated at

all times. Activation for other events will be optional. Station disciplines reporting to the OSC will include, but not be limited to, the following:

- Operating personnel not assigned to the CR;
- Radiation protection personnel;
- Chemistry personnel; and
- Maintenance personnel (mechanical, electrical, and I&C).

Table 3.3-1 and Figure 3.1-3 illustrate the staffing and organization for the OSC.

The OSC will be equipped with communication links to the CR, TSC, and EOF (see Chapter 6). A limited inventory of supplies will be kept in the OSC. This inventory will include respirators, protective clothing, flashlights, and portable survey instruments.

8.2 Emergency Operations Facility

The EOF will be the location where the Corporate Emergency Director will direct a staff in evaluating and coordinating the overall company activities involved with an emergency. Activation of the EOF is mandatory upon declaration of an alert or higher classification. The EOF will provide for the management of overall emergency response, the coordination of radiological and environmental assessments, the determination of recommended public protective actions, the management of recovery operations, and the coordination of emergency response activities with federal, state, and local agencies.

The common MWROG EOF is currently (2003) located in the Applicant's Cantera Facility, west of Chicago, in Warrenville, IL. The EOF was designed with the considerations described below.

- The location provides optimum functional and availability characteristics for carrying out overall strategic direction of the Applicant's on-site and support operations, determination of public protective actions to be recommended to off-site officials, and coordination with federal, state, and local organizations.
- It is well engineered and of sufficient size to accommodate about 50 people.
- It is equipped with reliable voice communications capabilities to the TSC, OSC, CR, USNRC, and state and local EOCs. In addition, the EOF has facsimile transmission capability.
- Equipment is provided to gather, store, and display data needed in the EOF to analyze and exchange information on plant conditions with the facility. The EOF technical data system receives, stores, processes, and displays information sufficient to perform assessments of the actual and potential on-site and off-site environmental consequences of an emergency condition.
- The EOF has (and will have for the EGC ESP Facility) ready access to plant records, procedures, and emergency plans needed for effective overall management of the Applicant’s emergency response resources.

8.3 Emergency Operations Centers

The EOCs operated by the state and local communities have been established to perform direction and control of emergency response functions.

The respective state EOCs are capable of continuous (24-hr) operations for a protracted period. These centers contain sufficient communication equipment (radio, telephone, and teletype), maps, emergency plans, and status boards to provide the necessary interfaces with other federal, state, county, and EGC emergency facilities.

The county EOCs serve as command and control headquarters for local emergency response activities as well as a center for the coordination of communications to field units and to the state EOC. These EOCs have the equipment necessary (such as facsimile machines, telecommunications equipment, radio gear, photocopiers, wall maps, etc.) to carry out their emergency responsibilities (State of Illinois, 2001 and 2001a).

8.4 Activation

NOTE: NUREG-0654 Criterion II.B.5 states that the "licensee must be able to augment onshift capabilities within a short period after declaration of an emergency." It further defines that short period as 30 and 60 minutes. The time frames for rapid augmentation of a nuclear power plant staff in the event of an emergency are not rigid inviolate requirements but rather goals. It is the Applicant's intent to expend its best efforts to meet the augmentation criteria goals regarding staffing ERFs with sufficiently skilled individuals capable of handling an emergency. Both the NRC and the Applicant realize that due to diversity of normal residential patterns for the stations' staff, possible adverse weather conditions and road congestion, these time frames might be exceeded.

The Applicant has put into place plans and procedures to ensure the timely activation of its ERFs and will use similar plans and procedures for the EGC ESP Facility. Although the response time will vary due to factors such as weather and traffic conditions, a goal of 60 minutes for minimum staffing, following the declaration of an alert or higher emergency classification, has been established for the emergency facilities and the EOF. Additionally, plans will be developed to detail the timely functional activation and staffing of the JPIC when the classification of an alert is declared.

It is the goal of the organization to be capable of activating the applicable Emergency Response Facility within 15 minutes of achieving minimum staffing. The facility can be declared activated when the following conditions are met:

a. Minimum staffing has been achieved.

b. Personnel have been briefed on the situation.

c. The facility is functionally capable of performing the appropriate activity.

Although the minimum staffing criteria applies to the JPIC, the 60 minute response time and 75 minute activation time are not applicable. Public Information personnel must first coordinate the decision to activate the JPIC with the appropriate offsite authorities.

The facility directors may elect to activate their facility without meeting minimum staffing, if it has been determined that adequate personnel are available to support the emergency response.

CHAPTER 9

Accident Assessment

The accident assessment information in this chapter is presented in the following sections:

- On-Site Accident Assessment Capabilities (Section 9.1)
- Field Monitoring Teams (Section 9.2).

To effectively coordinate and direct the facets of the response to an emergency situation, diligent accident assessment efforts are required throughout the emergency. All four emergency classifications have similar assessment methods; however, each classification requires a greater magnitude of assessment effort, and will be dependent upon the plant symptoms and/or initiating event(s). The information in this chapter is based on and consistent with the *Exelon Nuclear Standardized Radiological Emergency Plan* (EGC, 2003).

9.1 On-Site Accident Assessment Capabilities

The resources available to provide initial values and continuing information for accident assessment throughout the course of an event will include the plant parameter display system (PPDS) or its equivalent, liquid and gaseous sampling systems, area and process radiation monitoring systems, and accident radiation monitoring systems (which include the high-range containment radiation monitors).

9.1.1 Accident Severity Determination

Accident severity determination will serve several roles within the EGC ESP Emergency Preparedness Program. For planning purposes, fission product barrier damage considerations will be used as the basis for several of the EAL initiating conditions and as the threshold for the declaration of a general emergency. The following descriptions of core damage estimating methods are examples based on light water reactor (LWR) concepts. Should a non-LWR design be selected for licensing, other fission product barrier degradation concepts will add to or replace these core damage estimating concepts.

From an implementation perspective, core damage estimations will provide a means of realistically differentiating between the four core states (no damage, clad failure, fuel melt, and vessel melt-through) to:

- Evaluate the status of the fuel barriers, and how their status relates to the risks and possible consequences of the accident;
- Provide input on core configuration (coolable or uncoolable) for prioritization of mitigating activities;
- Determine the potential quality (type) and/or quantity (percent) of source term available for release in support of projected off-site doses and PARs;
- Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized; and
- Support the determination of radiological protective actions that should be considered for long-term recovery activities.

The assessment methodologies utilized by the Applicant are intended to provide a rapid best estimate of core damage that, when evaluated together, will help to develop an overall picture of the extent of core damage. For the EGC ESP Facility, a number of methods, described in the sections below, will be used to estimate the amount or type of core damage occurring under accident conditions. Application of these methods will depend on plant configuration. For non-LWR designs, analogous indications will be used.

9.1.1.1 Core Uncovery Time

An indirect method used to indicate the type of core damage (clad failure or fuel melt) is applicable for all types of accidents, provides a relatively accurate estimate of the state of the core early in the event, and is valid any time following an accident. This method is LWR specific and there will be no analog for non-LWR designs.

9.1.1.2 Core Exit Temperatures

An indirect method used to indicate the type of core damage is applicable for all types of accidents. These temperatures do not provide numerical estimations, but they are useful as a yes/no indicator or as confirmation of other methods. In addition, the method is valid any time following an accident. This method is LWR specific and there will be no analog for non-LWR designs. Instead, peak fuel temperatures will be estimated using reactor vessel or concrete structural temperature indications.

9.1.1.3 Containment and Main Steam Line Radiation Levels

This indirect method is used to determine the amount of core damage during loss-of-coolant accident (LOCA) scenarios. The method is based upon an end-of-life source term and static nuclide ratio assumptions and has a limited accuracy. The method is valid any time following an accident. The Containment Radiation Detector method will be applicable to both LWR and non-LWR designs; the Main Steam Line Radiation Detector method only to the LWR designs.

9.1.1.4 Containment Hydrogen Concentration

An indirect method that is used to establish the type of core damage during LOCA type accidents, where the hydrogen generated by the metal-water reaction is released into containment. This method is specific to LWR designs and is valid any time following an accident.

9.1.1.5 Sample Analysis

Coolant sample analyses methods are specific to LWR designs.

9.1.1.5.1 Isotopic Ratio Comparison

A direct method that is used to establish the type of core damage by comparing expected isotopic ratios with a sample to determine a general core state. This technique is applicable under all types of accidents, and is valid any time following an accident.

9.1.1.5.2 Presence of Abnormal Isotopes

A direct method that is used to provide a go/no-go indication of fuel melt by the presence of unusually high concentrations of the less volatile fission products. This method is applicable under all types of accidents, and valid any time following an accident.

9.1.1.5.3 Concentration Evaluation

A direct method that yields the most accurate numerical estimations of the amount of core damage. This method is applicable for all types of accidents, but it requires that the sampled system(s) be in a steady state. This usually prevents its use until the plant is in a stable condition.

9.1.2 Effluent Monitor Data and Dose Projection

Dose assessment or projection represents the calculation of an accumulated dose at some time in the future if current or projected conditions continue. During an accident, the PPDS (or equivalent) and personal computers will provide the ERO with the timely information required to make decisions. Radiological and meteorological instrumentation readings will be used to project dose rates at predetermined distances from the facility, and also to

determine the integrated dose received. The dose assessment methods, described in the following sections, are based on LWR design concepts and will be used by EGC ESP Site personnel to project off-site doses. If a non-LWR design is selected for the ESP Facility, appropriate monitoring and dose projection methods will be selected by the Applicant.

9.1.2.1 Monitored Release Points

This method will utilize the EGC ESP Facility's effluent radiation monitors and system flow rates. Effluent release points will be used to directly calculate a release rate. The point of the release determines the way the source term is affected and is adjusted by the dose assessment process.

9.1.2.2 Containment Leakage/Failure

This method will use a variety of containment failures or leak rates in conjunction with available source term estimations to develop a release rate to the environment. A direct vent of containment can be modeled as a failure to isolate.

9.1.2.3 Release Point Samples

This method will use a sample at the release point and an estimated flow rate to develop a release rate at the point of release.

9.1.2.4 Field Monitoring Team Data

This method will use a field survey or sample and the atmospheric model to back-calculate release rate and ratio concentrations of radioactive material at various points up and downwind of plume centerline.

9.1.2.5 Dose Projection to Determine Protective Action Recommendations

The computer applications used to provide dose calculations will be evaluated against the USEPA-400 plume exposure protective action guides (PAGs) applicable for the early phase of an accident. These evaluations place an emphasis on determining the necessity for off-site PARs. Dose assessment actions are performed in a two-step sequence.

9.1.2.5.1 Onset of a Release to One Hour Post-Accident

Shift personnel will rely on a simplified computerized dose model to assist them in developing off-site dose projections using real time data from effluent monitors and site meteorology.

9.1.2.5.2 One Hour Post-Accident to Event Termination

Estimates of off-site doses based on more sophisticated techniques will be provided. Dedicated ERO personnel will analyze the off-site consequences of a release using more complex computerized dose modeling. These additional methods are able to analyze more off-site conditions than the simplified quick method, as well as account for more specific source term considerations.

9.1.3 Meteorological Information

Local meteorological data will be available from an on-site meteorological tower. The data available will include wind speed, wind direction, temperature, and delta temperature.

This data will be used by the utility, state, and USNRC to provide near real-time predictions of the atmospheric effluent transport and diffusion. Meteorological data from the tower will be available in the CR, TSC, and EOF. Additionally, meteorological information can be acquired and utilized through the USNWS (see Section 3.1.1.1.7, Section 3.4.6, and Appendix A).

9.2 Field Monitoring Teams

The Applicant currently (2003) maintains the ability to take off-site air, soil, water, and vegetation samples, as well as to directly measure gamma dose rates, in the event of an airborne or liquid release. Environmental monitoring equipment contains portable survey, counting, air sampling instrumentation, and other radiological monitoring equipment and supplies to be used by the field monitoring teams. Samples are taken at predetermined locations as well as those specified both during and after a release. Environmental measurements are used as an aid in the determination and assessment of protective and recovery actions for the general public. These capabilities will be available at the EGC ESP Site prior to initial fuel loading.

In the event of airborne or liquid releases at the EGC ESP Site, field monitoring teams will be dispatched by the Applicant to perform a variety of functions during conditions that may involve significant releases of radioactive materials. Radiological survey and sample data will be used to define affected area boundaries, verify or modify dose projections and PARs, and assess the actual magnitude, extent, and significance of a liquid or gaseous release.

In addition to contamination and dose rate measurements, the change out of TLDs and air sampler cartridges can be performed. Other actions may include soil, water, and vegetation sampling.

The initial environmental surveys will involve simple-to-perform measurements to validate the dose projections based on plant parameters (see Section 9.1.2.4). Subsequent environmental monitoring efforts will be aimed at further defining the off-site consequences, including instituting an expanded program to enable prompt assessments of any subsequent releases from the plant. The expertise necessary to conduct limited off-site environmental surveying and sampling will be present on site 24 hrs a day.

A minimum of two off-site field monitoring teams will be notified and activated at an alert or higher classification (see Table 3.3-1). Teams composed of two individuals will be assembled at the EGC ESP Facility to test and inventory dedicated survey and sampling equipment. Teams will be dispatched in company vehicles into the surrounding area when a release occurs or is expected to occur. Radiological survey and sample data will be transmitted to the emergency facilities via portable communications equipment. Vendor/contractor support will be available to be used to perform collection, shipment and analysis of environmental sample media.

9.2.1 Iodine Monitoring

Field monitoring equipment will have the capability to detect and measure airborne radioiodine concentrations as low as 1E - 07 microcurie (μCi)/centimeter cubed (cc) in the presence of noble gases. Interference from the presence of noble gas and background radiation will be minimized by ensuring that monitoring teams move to areas of low background prior to analyzing the sample cartridge. The collected air sample will be measured by a hand-held survey meter as an initial check of the projection derived from plant data. This will determine whether significant quantities of elemental iodine have actually been released (the chemical form that would pose a health hazard).

9.2.2 Dose Estimates

Specific procedures exist for the correlation of air activity levels to the dose rate for key isotopes. Provisions have been established for estimating an integrated dose from the projected and actual dose rates, and for the comparison of these estimates with the PAGs (see Section 9.1.2.5).

9.2.3 State Monitoring Capabilities

The State of Illinois currently (2003) has the ability to dispatch their own field monitoring teams to track the airborne radioactive plume. The state also has the ability and resources to coordinate with federal and utility monitoring teams to compare sample results (State of Illinois, 2001).