ATTACHMENT 3

Radiological Emergency Plan Annex Revision

EP-AA-1014, Revision 0, *"Exelon Nuclear Radiological Emergency Plan Annex for James A. FitzPatrick Station"*

Exelon Generation®

EP-AA-1014
Revision 0

EXELON NUCLEAR

RADIOLOGICAL EMERGENCY PLAN ANNEX FOR JAMES A. FITZPATRICK STATION

REVISION HISTORY

Revision 0: 03/18		

RADIOLOGICAL EMERGENCY PLAN ANNEX
FOR JAMES A. FITZPATRICK STATION

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RADIOLOGICAL EMERGENCY PLAN ANNEX

FOR JAMES A. FITZPATRICK STATION

Section 1: Introduction

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating licenses for the Exelon Nuclear Stations, the management of Exelon recognizes its responsibility and authority to operate and maintain the nuclear power stations in such a manner as to provide for the safety of the general public.

The Exelon Emergency Preparedness Program consists of EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan (henceforth known as the Standard Plan), Station Annexes, emergency plan implementing procedures, and associated program administrative documents. The Exelon Nuclear Standardized Radiological Emergency Plan outlines the basis for response actions that would be implemented in an emergency. Planning efforts common to all Exelon Nuclear stations are encompassed within the Emergency Plan.

This document serves as the Radiological Emergency Plan Annex for FitzPatrick Station and contains information and guidance that is unique to the station. This includes facility geography and location for a full understanding and representation of the station's emergency response capabilities. The Station Annex is subject to the same review and audit requirements as the Exelon Nuclear Standardized Radiological Emergency Plan per EP-AA-120, "Emergency Plan Administration".

1.1 Site Description

The James A. FitzPatrick Nuclear Power Plant (JAFNPP) is a single-unit electric power generating plant equipped with a boiling water reactor rated at approximately 2536 megawatts thermal with a net electrical output of approximately 850 megawatts. The plant's principal components are a nuclear steam generating system, a turbine-generator unit, 345 kv and 115 kv switchyards, lake water pumping facilities complete with intake and discharge structures, and other auxiliary equipment.

The plant consists of five principal buildings interconnected to form one structure approximately 640 feet long and 250 feet wide. These buildings are the turbine building, the reactor building, the radwaste building, the pump house and screen well building, and the administrative building. There is a 385 foot high stack located approximately 400 feet south of the plant. The 345 kV and 115 kV switchyards are approximately 200 feet west of the plant. Figure 1.1 shows a map of the site. The plant buildings and switchyards use approximately one percent of the total site area. About 600 acres of the site has been left in its natural condition.

The plant site is on the shore of Lake Ontario in the town of Scriba, Oswego County, New York. The plant is located adjacent to and east of the Nine Mile Point Nuclear Station (NMPNS) which is operated by another Corporation. Figure 1.5 shows a map of the combined NMPNS/JAFNPP Site. Exclusion

distances for the NMPNS/JAFNPP site are 3,000 feet to the east, over a mile to the west and approximately one and one-half miles to the southern site boundary. Markers have been placed in Lake Ontario denoting an exclusion distance north of the plant site. These markers are removed prior to the onset of the winter season. For the purpose of off-site emergency planning, the NMPNS/JAFNPP sites are considered to be one exclusion area. This exclusion area may also be referred to as the site boundary or combined owner controlled areas.

1.2 Purpose

The Emergency Preparedness plan for the James A. FitzPatrick Nuclear Power Plant consists of the Exelon Nuclear Standardized Radiological Emergency Plan, Fitzpatrick Station Annex, off-site radiological emergency plans, and procedures for protection of plant personnel and the general public. The JAFNPP Emergency Plan provides guidance for response to both onsite and off-site emergency situations. This JAFNPP Emergency Plan provides guidance for response to both onsite and off-site emergency situations. The plan provides responses to all levels of emergencies that have an actual or potential degradation of the level of safety at FitzPatrick, including hostile action. To this end, this plan has been prepared in general accordance with 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*, November 1980.

This plan presents the organization and emergency response activities that will be performed to provide an organized response to an accident. Detailed actions are described in the Emergency Plan Implementing Procedures. Inter relationships of this plan with procedures, other plans and emergency arrangements include:

A. Detailed actions to be taken by plant personnel in response to emergency conditions are described in Emergency Plan Implementing Procedures. A listing of JAFNPP Emergency Plan Implementing Procedures is contained in Appendix A.

B. Plant Operating Procedures are coordinated with the Emergency Plan and Implementing Procedures to ensure appropriate actions are taken on a timely basis.

C. The FitzPatrick Radiation Protection Procedures define such areas as radiological controls and precautions, personnel decontamination and instructions for health physics activities. These instructions are implemented on a routine basis and may be used during emergency situations as necessary. Specific Implementing Procedures, such as those necessary for emergency radiological surveys, are included in the Emergency Plan Implementing Procedures.

D. The FitzPatrick Security and Safeguards Plans and Implementing Procedures

and the Emergency Plan and Implementing Procedures are coordinated to ensure compatibility. The Oswego County Radiological Emergency Preparedness Plan and the New York State Radiological Emergency Plan, in conjunction with this Plan and Implementing Procedures, provide for early and redundant notification schemes, continual assessment and update, and the initiation of protective actions.

E. The concept of JAF emergency operations and its relationship to the Federal, State, County and private organizations is described in Section 5.0 and 6.0. A block diagram which illustrates these interrelationships is included in Figure 5.1.

1.3 **Concept** from JAF Section 3.0, Summary of the Plan

The JAFNPP Emergency Plan describes the emergency response organization that will be in place during an emergency and describes the interfaces with and responsibilities of the corporate, state, county, federal, and private organizations.

1.3.1 Emergency Plan (Standard Plan, Station Annex, and Addendums)

The Emergency Plan ensures that emergency situations, including those involving radiation or radioactive material, are handled properly and efficiently. The Emergency Plan covers a spectrum of emergencies from minor localized emergencies to major emergencies involving off-site emergency response. The Emergency Plan provides for advance planning required to develop implementation methods. The Emergency Plan describes:

1. An emergency classification system used at the plant and emergency measures to be taken that are compatible with those used by Federal, State and county emergency response agencies and organizations.
2. Organizational control of emergencies by on-site, off-site, and augmentation organizations, including identification of normal and emergency operating organizations.
3. Identification of Federal, State, and County authorities and agencies and other outside organizations that are available for assistance, including plans and agreements pertaining to participating off-site organizations and agencies.
4. Requirements for ensuring a high degree of emergency preparedness and operational readiness such as through training, drills, reviews, and audits.
5. Information pertaining to on-site and off-site emergency facilities and equipment such as the Emergency Operations Facility, Technical Support Center, Operational Support Center, and Joint Information Center.
6. Figures and tables that display information and data such as organizations, maps, and population distributions.

1.3.2 Emergency Plan Implementation Procedures

Emergency Plan Implementation Procedures are used in conjunction with plant operating, chemistry, radiological control, security, and other technical procedures, as appropriate, to respond to emergency conditions and mitigate accident consequences.

These documents are made available to those individuals, facilities, and organizations where immediate use of such instructions would be required during an emergency.

These documents provide:

1. Specific instructions for emergency organizations including responsibilities, facilities, equipment, emergency classification, and seeking emergency assistance used to implement the Emergency Plan and support implementation of the State Radiological Emergency Response Plan.
2. Specific authorities and responsibilities for emergency response personnel responsible for assessing emergency conditions and providing steps to be taken to mitigate the consequences of an accident.
3. Specific instructions to ensure prompt actions, notifications, and communications.
4. A record of completed actions.
5. A mechanism for maintaining emergency preparedness.

Emergency Plan Implementation Procedures are developed to respond to a variety of accident scenarios. These include minor events up to core melt situations with unplanned radioactive material release to the environment. While the emergency level(s) listed in the procedures is sufficient to cause their implementation, it is not necessary to implement all Emergency Plan Implementation Procedures under these conditions. Specific procedures may not be used if the actual emergency does not call for their use. For example: a security threat may not result in plant damage and an unplanned release; therefore, radiological monitoring procedures may not be used.

The following types of documents include the Emergency Plan Implementation Procedures:

- Fleet EP Procedures and T&RMs (Training and Reference Materials)
- Station/Region EP procedures and T&RMs
- Position Specific Checklists and Forms

1.3.3 County, State and Federal agencies having lead responsibilities specifically related to this Emergency Plan are:

a. New York State Department of Health (NYSDOH) - The lead State emergency response agency, responsible for requesting necessary monitoring and for activating assessment and evaluation of personnel,

equipment and other resources.

b. New York State Office of Emergency Management (NYSOEM) - Responsible for developing, implementing, and maintaining comprehensive emergency plans and procedures for prompt reactions to potential emergencies at nuclear power plants in New York or in bordering states and adjoining provinces.

c. Oswego County Emergency Management Office (OCEMO) - Designated by local laws and executive orders to coordinate Oswego County's emergency response.

d. U.S. Nuclear Regulatory Commission (NRC) - The cognizant Federal agency responsible for verifying appropriate emergency plans have been implemented and for conducting investigative activities associated with an emergency.

e. U.S. Federal Emergency Management Agency (FEMA) - The Federal agency designated to serve as the contact point for State officials and to coordinate and manage all non-technical aspects of the Federal response.

f. U.S. Department of Energy (DOE) - The Federal agency responsible for coordinating offsite monitoring, evaluation and assessment activities.

1.3.4 Emergency response is categorized by the following four functional areas:

a. Initiation
Initiation of the emergency response occurs with the classification of a situation into one of the four emergency classes: Unusual Event (UE}, Alert, Site Area Emergency, and General Emergency. Based on the level of emergency, the appropriate plant staffing, emergency facility activation, and notification of offsite authorities occurs. Appropriate initial action to alleviate the situation is taken in accordance with plant operating procedures.

b. Assessment
The emergency, and its potential or actual radiological consequences, is assessed by the plant operating and emergency staffs. Onsite plant instrumentation, both fixed and portable, and other parametric measurements provide data for projecting radiological exposures. Offsite, radiological survey teams sample air, effluent water, snow, rain, vegetation, and milk; measure ambient gamma and beta radiation levels; and otherwise evaluate actual environmental levels of radiation to provide radiological data. The most reliable assessment data available are utilized to make offsite and onsite protective action recommendations.

c. Protective and Mitigative action

Based on the assessment, onsite or offsite protective actions may be required. The Shift Emergency Director or Station Emergency Director may implement the plant protective actions of protected area or site evacuation. Only the Shift Emergency or the Corporate Emergency Director may recommend to offsite authorities that the implementation of protective actions is appropriate. These actions may include sheltering or evacuation. It is the responsibility of offsite authorities to evaluate these recommendations and implement any protective actions in accordance with Oswego County Radiological Emergency Preparedness Plans and the New York State Radiological Emergency Preparedness Plan and their respective implementing procedures.

Mitigative actions will be implemented by onsite personnel to alleviate the emergency situation. Onsite personnel may be supported by local offsite organizations in implementing onsite mitigative actions.

d. Recovery

Once the emergency situation has been controlled, recovery begins. Recovery is defined as: restoration of the plant to its pre-emergency conditions. The onsite emergency organization will be supported with assistance from corporate, federal, and private organizations, as needed.

1.4 Emergency Planning Zones

There are two Emergency Planning Zones (EPZ). The first is the Plume Exposure Pathway Emergency Planning Zone which is an area approximately 10 miles in radius around the JAFNPP (see Figure 1.2), for which detailed emergency planning consideration of the plume exposure pathway has been given to ensure prompt and effective protective actions for the public. The second is the Ingestion Exposure Pathway Emergency Planning Zone which is an area approximately 50 miles in radius around the JAFNPP (see Figure 1.3), for which emergency planning consideration of the ingestion exposure pathway has been given to ensure effective protective measures for the public.

The area within 10 miles of the James A. FitzPatrick Nuclear Power Plant is located on Lake Ontario and in Oswego County. Oswego County is predominantly rural in nature with the majority of its total land acres consisting of woodland, wetlands and inactive agricultural land. Although active agricultural lands account for only a small part of the total land acres, agriculture is the major land use in the county. In recent years, there has been a trend toward fewer farms and increased residences in low density areas.

Available statistics indicate that the area surrounding the site is primarily woodland with some active agricultural land. The major agricultural activity in Oswego County is dairy, accounting for the greatest percentage of the value of all farm products produced in the county. The major harvested crops are hay, alfalfa, and corn. The major livestock animals are cattle.

The industrial activities within 10 miles of the site are confined principally to the city of Oswego and the community of Scriba, with little industry in the outlying communities of Minetto, Volney, and Mexico. One facility in the immediate area is the NOVELIS manufacturing plant which is located approximately three miles southwest of the site on Route 1. An electrical generating facility has been constructed adjacent to the NOVELIS manufacturing plant.
The public institutions, aside from the schools and churches, within the 10-mile Plume Exposure EPZ of the site are a hospital and a college in the city of Oswego. There are no public institutions within five miles of the site.

A detailed listing of special facilities in Oswego County within the 10-mile Plume Exposure EPZ is presented in the "Oswego County Radiological Emergency Response Plan."

1.5 Population

The total 2016 population of the plume exposure pathway EPZ is 41,049. (This data is from 2010 census data as updated in 2016 and is discussed in EP-AA-1014, Addendum 2, Evacuation Time Estimates.) The population density of the immediate area surrounding the site is quite low, with the exception of the city of Oswego whose population in 2015 was 17,787 and the Village of Mexico, located approximately nine miles from the site, which contains about 1,574 residents. According to the 2011 Residence Census performed for the Radiological Environmental Monitoring Program, the nearest permanent resident is on Lake Road, about 0.7 miles east-southeast of the plant. The population distribution within 10 miles of the site is presented in Figure 2.4.

1.6 Figures, Forms and Attachments

Figure 1.1 JAFNPP Fenced Area Map
Figure 1.2 Plume Emergency Planning Zone (10 Mile Radius)
Figure 1.3 Ingestion Emergency Planning Zone (50 Mile Radius)
Figure 1.4 Population Distribution by Emergency Response Planning Area
Figure 1.5 Combined NMPNS/JAFNPP Site Map

Figure 1-1
JAFNPP Fenced Area Map

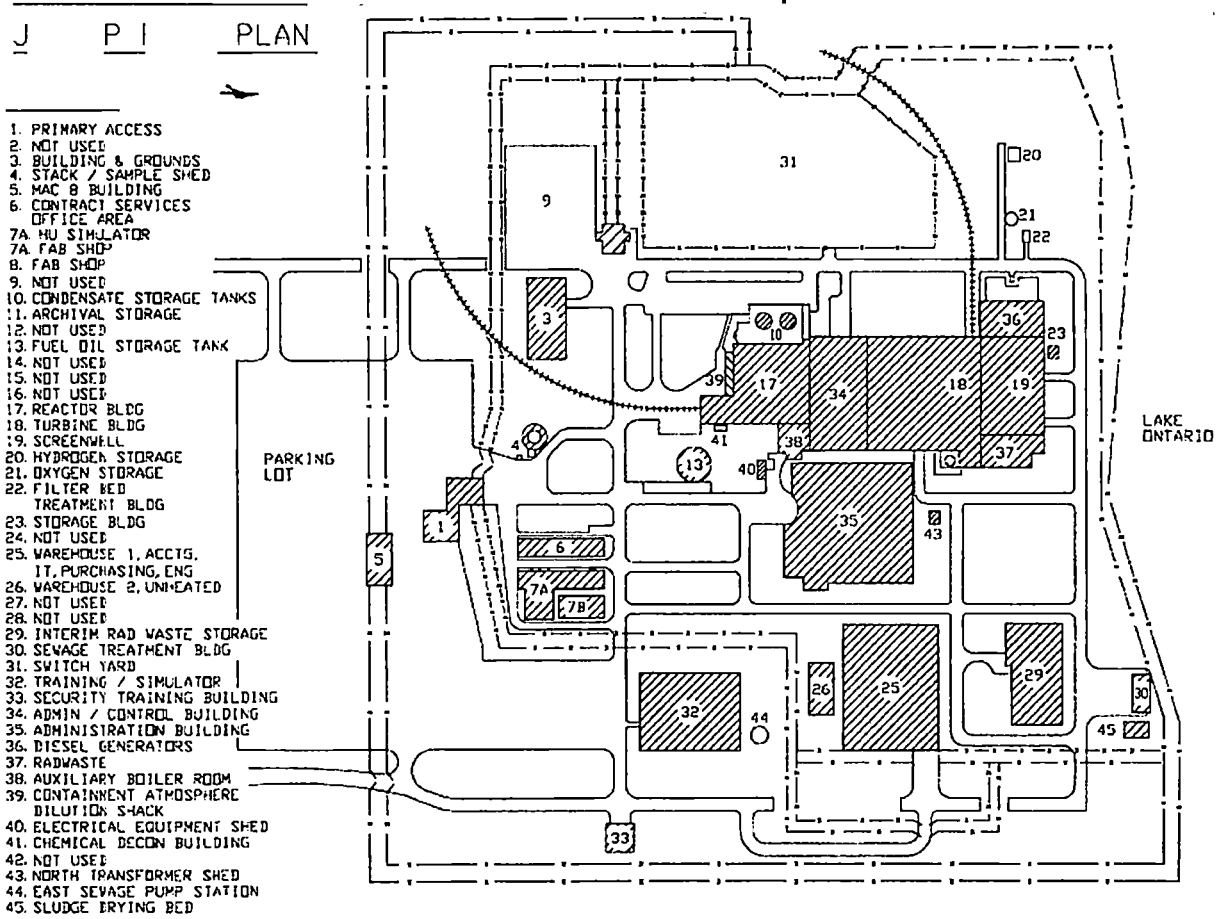


Figure 1-2

Plume Exposure Pathway Emergency Planning Zone

This page is a large map and can be viewed in the Electronic Data Management System (EDMS).

To search for the map, do the following in EDMS:

1.) Log onto EDMS
2.) Set the Object Type to: Exelon Record
3.) Set the facility to: Fitzpatrick
4.) Click the search button located at the bottom right
6.) Double click to view the record that displays in the search results screen
7.) The map will appear in Adobe Reader

NOTE: Reference to locate Map in Emergency Planning Dept. efiles. G:\EPlan Procedures\Emergency Plan Maps and Figures\MAP 1-Rev-1 - Plume
(Map Number 1) Ten-mile Emergency Planning Zone (Plume Exposure Pathway)

Figure 1-3
Ingestion Exposure Pathway Emergency Planning Zone

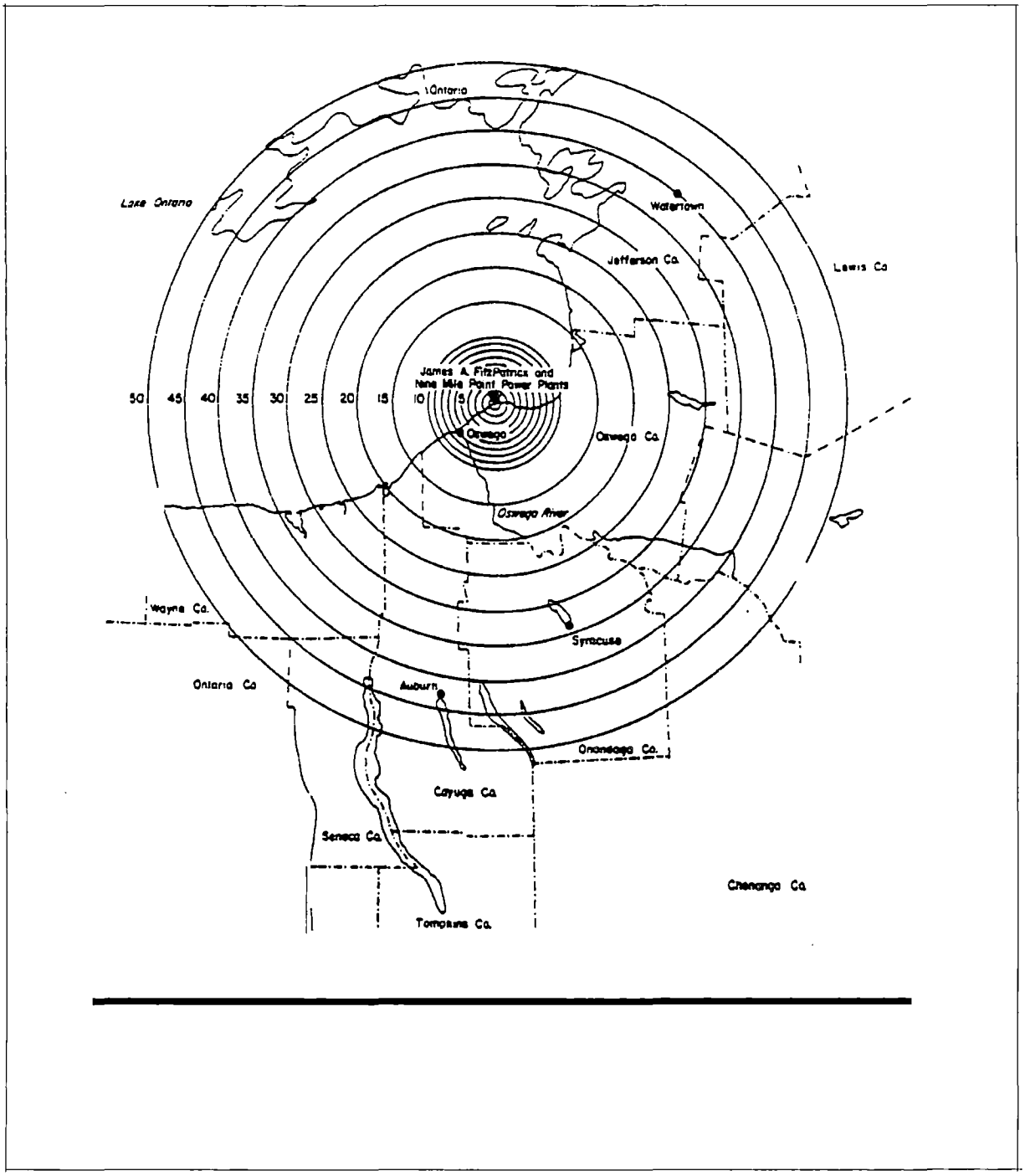
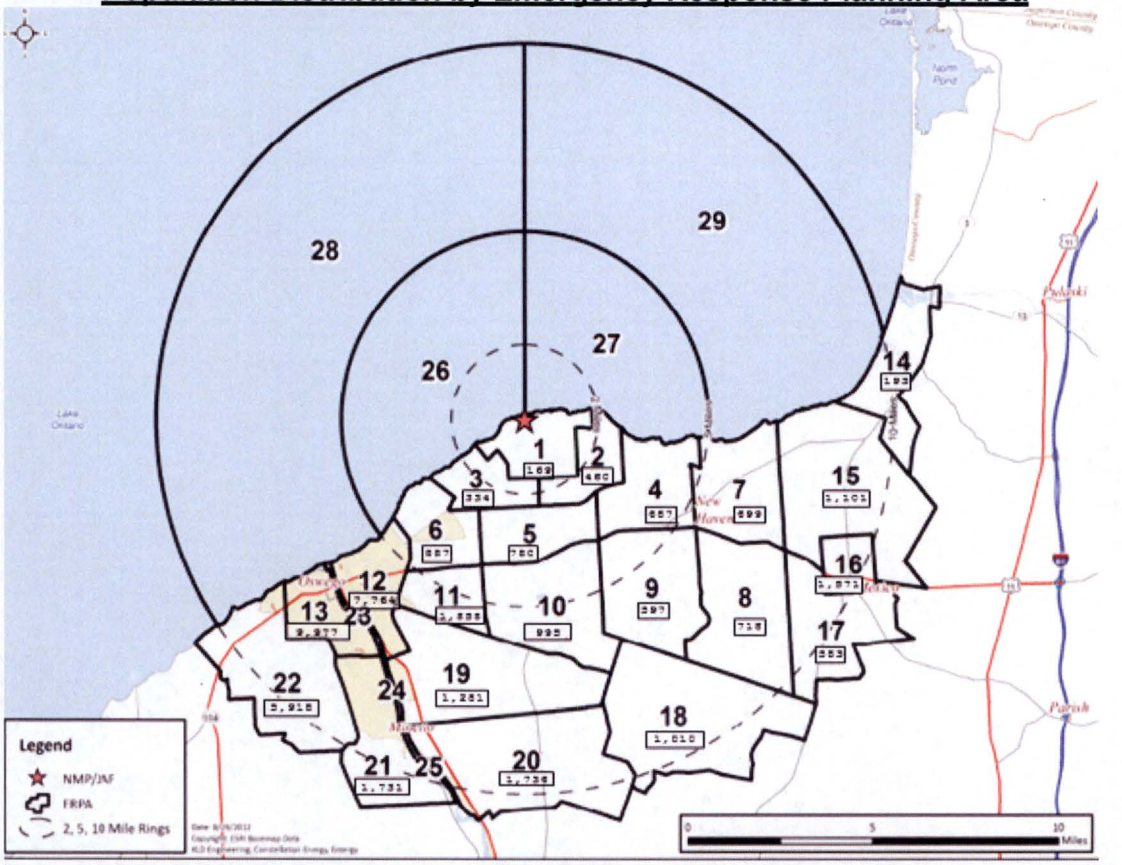


Figure 1-4
Population Distribution by Emergency Response Planning Area



LEGEND 1 ERPA NUMBER 169 ERPA POPULATION

2016 Population Estimates Emergency Response Planning Areas (ERPAs)

J.A. FitzPatrick/Nine Mile Point Radiological Emergency Response Plan and Procedures

Figure 1-4 (Continued)

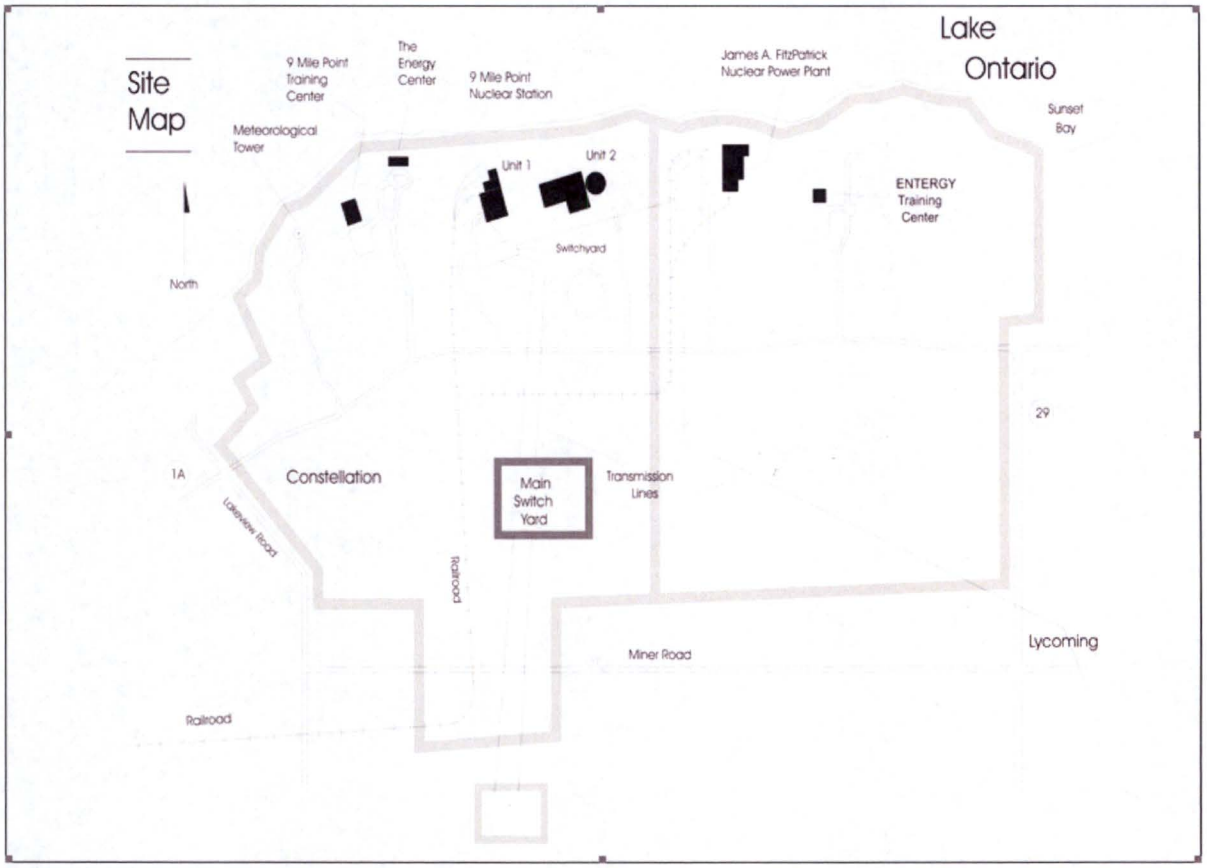
2016 PERMANENT RESIDENT POPULATION ESTIMATES

EMERGENCY RESPONSE PLANNING AREAS

Emergency Response Planning Area	2016 Permanent Resident Population Estimates
1	169
2	460
3	334
4	687
5	780
6	887
7	699
8	718
9	597
10	995
11	1,858
12	7,764
13	9,977
14	193
15	1,101
16	1,571
17	583
18	1,010
19	1,281
20	1,736
21	1,731
22	5,918
TOTAL	41,443

Source: 2010 census data.

Figure 1-5
Combined NMPNS / JAFNPP Site Map



Section 2: Organizational Control of Emergencies

JAFNPP has established an emergency response organization to respond to hostile actions and radiological emergencies. That organization includes on-shift personnel, additional plant personnel who may be offsite, other JAFNPP personnel, local services support, and private organizations support. The interfaces among the various emergency organizations are shown in Figure 2-1. The following sections describe in detail the JAFNPP plant and corporate organization and identify the interaction of the total emergency response organization.

2.1 Normal Operating Organization

The James A FitzPatrick Nuclear Power Plant (JAFNPP) organization for normal operation is described in OP-AA-20, Conduct of Operations Process Description, which is consistent with the JAFNPP - specific On Shift Staffing Analysis conducted October 2013. The typical minimum shift crew consists of:

1 Shift Manager (SRO)
1 Control Room Supervisor (SRO)
1 Field Support Supervisor (FSS)/Shift Technical Advisor (STA)*
3 Senior Nuclear Operator (RO)
6 Nuclear Plant Operators (NPO)-covers Fire Brigade member, AOP-43 and E-Plan Communicator requirements
1 Radiation Protection Technician (Health Physics)
1 Chemistry Technician
Security Personnel in accordance with Security Plan

* (STA responsibilities may lie with a different member of the Control Room staff. The STA function is not required in modes 4 and 5.)

2.2 Onsite Emergency Organization

If initiating conditions exist that result in the declaration of an emergency, the Shift Manager will assume the role of Emergency Director and will be responsible for emergency direction and coordination. The normal operating organization will also assume their pre-assigned emergency response roles. This onsite emergency organization is shown in Figure 2-2. This is a short-term response organization that will be augmented within approximately one hour after call-out by additional plant personnel. The augmented (minimum staffing) emergency response positions for the onsite plant personnel are depicted in Table 2-1.

A roster of personnel qualified and assigned to these positions is maintained by Emergency Planning.

2.3 Augmented (Minimum Staffing) Emergency Organization

If an Alert, Site Area Emergency, or General Emergency is declared or if the minimum shift crew requires assistance during a Notice of Unusual Event (NUE) the onsite emergency organization will be augmented by additional plant personnel. The augmented (minimum staffing) emergency organization is shown in Table 2-1 and the ERO positions listed below. The augmented (minimum staffing) emergency organization shall staff and operate the TSC, OSC, EOF, and JIC (Joint Information Center) as needed within approximately one hour of the request for activation. Augmentation for an Unusual Event may consist of the entire or part of the defined organization for each facility requested, at the discretion of the Emergency Director.

Table 2-1 is included as a cross reference to NUREG-0654 B-1 staffing chart. This table describes the on-shift and augmented (minimum staffing) emergency assignments for JAFNPP staff.

As the onsite organization is augmented, the shift crew may concentrate on their shift duties or continue to assist in the emergency response roles and activate emergency facilities in accordance with the emergency class. At least two individuals are designated for each emergency position.

The head each major functional area reports to the Corporate Emergency Director or Station Emergency Director.

In addition to those ERO positions listed in Table 2-1, the following ERO positions make up the augmented (minimum staff) positions.

- OSC Director
- Operations Manager
- CED
- EOC Communicator
- State Liaison
- County Liaison
- SED
- TSC Director
- Security Coordinator
- Maintenance Manager
- Technical Manager
- Company Spokesperson
- JIC Manager
- MM/Rumor Control Coordinator

2.4 Offsite Support Organizations

The onsite emergency organization will be augmented, if necessary, by corporate, local and private response personnel. The response of these groups is in accordance with their letters of agreement with JAFNPP (presented in Appendix C).

2.4.1 Headquarters Support

The Corporation will provide personnel from headquarters or other facilities to assist in the emergency response/recovery operations at JAFNPP. This support will be in accordance with Section 3.7 of this plan and Emergency Plan Implementing Procedures.

The Recovery Organization is specified by EP-CE-115, Termination and Recovery. The Recovery Organization is under the overall direction of the Site Recovery Director. The Site Recovery Director shall be responsible for interfacing with government authorities when the focus shifts from response to recovery.

The company's Corporate Office will be notified by the plant of an emergency situation.

2.4.2 Local Services Support

The nature of an emergency may require the augmentation of onsite response groups by local services, personnel and equipment. Support from the following local organizations may be obtained:

- Oswego Hospital
- Oswego County Sheriff
- University Hospital in Syracuse
- The City of Oswego (Fire Department)
- Oswego County E-911 Center (Fire Department)
- Specific methods for notification of these organizations are contained in Emergency Plan Implementing Procedures.

2.4.3 Private Organization Support

JAFNPP may obtain emergency response support from various private organizations. These organizations and the support they may provide are:

A. Nine Mile Point Nuclear Station - Will provide use of laboratories, equipment and personnel for radiological monitoring, decontamination, backup communications, and personnel to assist in recovery operations.
B. R.E. Ginna Nuclear Power Plant - Will provide use of laboratories, equipment and personnel for radiological monitoring, backup communications, and personnel to assist in recovery operations.
C. General Electric- Will provide technical support and personnel.

2.5 Coordination with Participating Government Agencies

2.5.1 State and Local Agencies

This section identifies the principal state and local government agencies having

action responsibilities for radiological emergencies in the vicinity of the JAFNPP. The radiological emergency response plans of these agencies describe their respective responsibilities, authorities, capabilities and emergency functions, and are included as part of this Plan. The following is a summary of the provisions for preparedness and response to radiological emergencies by each organization, as well as the primary and alternate methods of emergency notification.

A. State Office of Emergency Management (SOEM) The SOEM is the lead state agency for offsite coordination and response. SOEM coordinates the development of radiological emergency plans. The New York State Emergency Plan received Federal approval on February 1, 1985 and is titled "New York State Radiological Emergency Preparedness Plan." See Appendix D for the locations of plan copies.

The New York State plan includes provisions for:

- Planning and coordination with local, state, Canadian and federal authorities.
- Initial response to notification by JAFNPP.
- Alert and warning of local political subdivisions.
- Evacuation and other protective measures for local populations.
- Emergency services. Situation analysis.
- Declaration of a "State of Emergency" and provision of state resources to support protective response actions.

B. Oswego County Emergency Management Office (OCEMO)

The OCEMO is the lead local government agency for coordination and response. The OCEMO emergency plan titled, "Oswego County Radiological Emergency Preparedness Plan" received Federal approval on February 1, 1985 and the locations of plan copies are contained in Appendix E.

- The OCEMO plan contains provisions for: Notification and management to other emergency response personnel.
- Public notification and dissemination of information concerning the incident.
- Alert and warning of local officials. Implementation of protective response actions.
- (The OCEMO Plan also contains the implementing procedures for an emergency response.)

The primary method of notification to the OCEMO is through Oswego County E-911 Center. The dispatcher is available for twenty-four hours per day communications. Backup radio communications are also available.

2.5.2 Federal Agencies

This section identifies the principal federal government agencies receiving

notification of an emergency along with those that may be called on for assistance during an emergency. Typical resources available and additional information concerning Federal response is included in Appendix N "Typical Federal Support Resources."

A. U. S. Department of Energy (DOE)

The DOE, Brookhaven Area Office, will respond to requests from JAFNPP, Oswego County, and NYSDOH and provide assistance. This assistance consists of advice and emergency action essential for the control of the immediate hazards to public health and safety as specified in the letter of agreement. As part of this emergency action, DOE will supply personnel and equipment in accordance with the Federal Radiological Monitoring and Assistance Program (FRMAP).

The primary method of notification to DOE is by telephone. Notification may also be made through the NRC. Upon notification, estimated arrival time of personnel is within four (4) hours.

B. U.S. Department Of Energy (REACTS)

DOE Radiation Emergency Assistance Center/Training Site (REAC/TS) is a deployable DOE National Nuclear Security Agency (NNSA) asset, on call 24/7 to offer its expertise on managing the medical component of a radiation incident.

REAC/TS has developed an interdisciplinary radiation emergency medical response approach that integrates medicine with health physics. This enables rapid dose assessment, radiological and medical triage, diagnosis, and medical management during a radiation emergency.

REAC/TS maintains specialized response teams to ensure readiness to respond. Each team consists of a physician, nurse/paramedic, and a health physicist, all cross-trained in the details of managing a radiation emergency.

Response teams are equipped with state-of-the• art medical equipment that can be transported to the site or used in their facility in Oak Ridge, Tenn. Capabilities include:

- medical and radiological triage
- decontamination
- diethylenetriaminepentaacetic acid (DTPA) and Prussian Blue therapy for specific radiological materials
- diagnostic and prognostic assessments of radiation-induced injuries
- biological and radiological dose estimates by methods that include cytogenetic analysis, bioassay, and in vivo counting

C. Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency has the lead responsibility for

all offsite nuclear emergency planning and response. This agency is charged with establishing policy for and coordinating all civil emergency planning and assistance functions for executive agencies.

D. Nuclear Regulatory Commission (NRC)

The U.S. Nuclear Regulatory Commission is responsible for verifying that appropriate emergency plans have been implemented and for conducting investigative activities associated with a radiological emergency. An NRC Response Team will offer assistance during an emergency. Estimated time of arrival is within 3 hours. The Agency Procedures for the NRC Incident Response Plan (NUREG-0845) describes the functions of the NRC during an incident and the kinds of actions that comprise the NRC response.

2.6 Administrative and Logistics Support

During the response to a radiological emergency, it may be necessary to supplement the Company's resources and/or provide response personnel with necessary support. Arrangements for this support which includes: the means and sources for obtaining food, lodging, sanitation, office supplies, temporary offices, communications equipment, and vehicles in support of an extended or augmented emergency response. This will be made by the Company Corporate Staff.

2.7 Figures, Forms, and Attachments

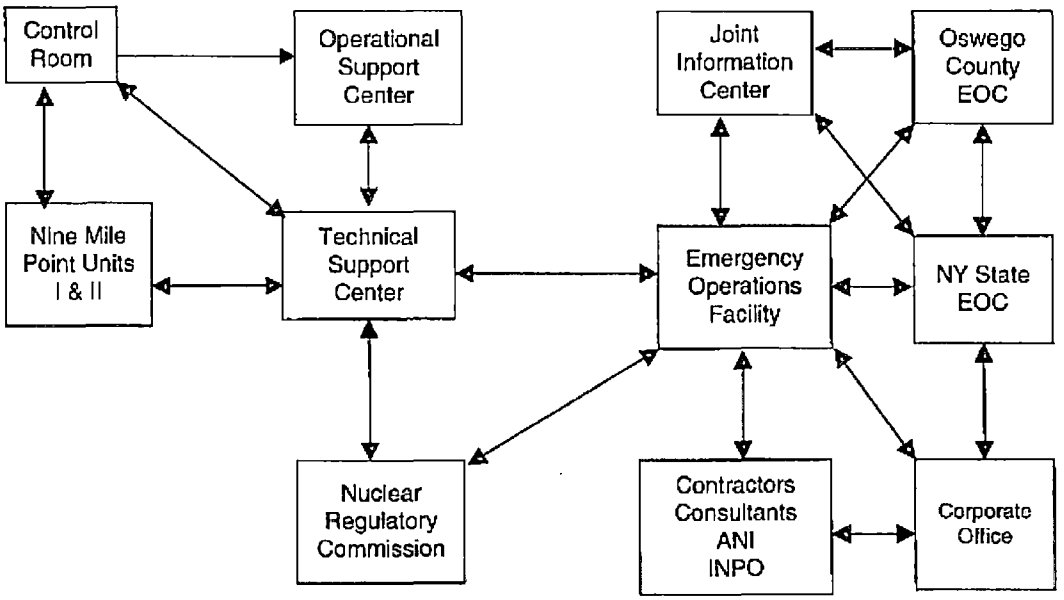
FIGURE 2-1 Emergency Organization interface

FIGURE 2-2 Emergency Staffing – On Shift Response Organization

TABLE 2-1 Plant Personnel – Emergency Activity Assignments

NOTES FOR TABLE 2-1

Figure 2-1 EMERGENCY ORGANIZATION INTERFACE



J. A. FitzPatrick Nuclear Power Plant
Emergency Plan

Figure 5-1
Emergency Organization Interface

Figure 2-2 JAFNPP EMERGENCY STAFFING ON SHIFT RESPONSE ORGANIZATION

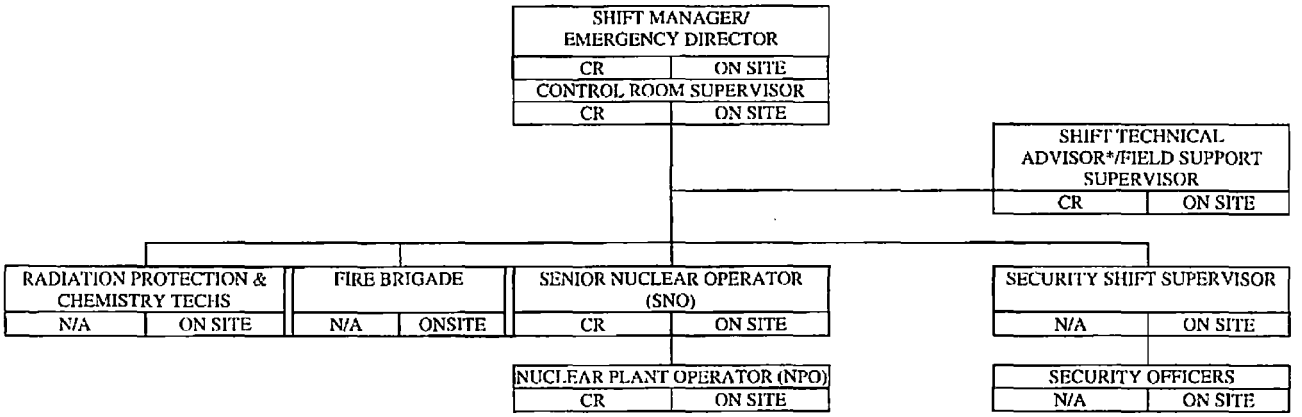


TABLE 2-1
PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS
(IN ACCORDANCE WITH JAMES A. FITZPATRICK NUCLEAR POWER PLANT ON-SHIFT ANALYSIS-OCTOBER 2013)

Major Functional Area	Major Tasks	JAFNPP Position, Title, or Expertise	Number On Shift	Notes (in Below table)	Number on shift required by B-1 chart	Number available within 60 minutes after call
Operations (Assessment of Operational Aspects)	Direct and perform actions for mitigate plant emergency conditions	Shift Manager (SRO) Control Room Supervisor (SRO) Senior Nuclear Operator (SNO) Nuclear Plant Operator (NPO)	1 1 3 4	(A) (A)	1 1 2 2	- - - -
Emergency Director	Direct onsite emergency response	Shift Manager Operations, General Manager Plant Operations, Director Nuclear Safety Assurance, Director Engineering, Emergency Planning Manager or Designated Alternate	1*	(B)	-	-
Notification/ Communication	Notify JAFNPP, State, local, and Federal personnel and maintain communication. Staff Notifications and Security Contacts.	Nuclear Plant Operator	1	(C)	1	2
Radiological Accident Assessment	Direct dose projection, radiological surveys, interface with State.	Radiological Protection (RP) Manager or other RP Supervisor	0	(D)	0	2
Radiation Protections Functions / Radiological Surveys (Support of Operational Accident Assessment (In-Plant) Protective Actions)	Onsite (out-of-plant) survey. In-plant surveys. Out-of-plant and offsite surveys. Chemistry/radiochemistry offsite surveys. Radiation Protection Access Control HP coverage for repair, mitigative actions, search and rescue, first aid and firefighting. Personnel monitoring. Dosimetry	Offsite Monitoring Team (RP) Technician RP Technician (RP / Chem)	1 1	(E)	1 1	8 1

TABLE 2-1 (CONT)

PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS
(IN ACCORDANCE WITH JAMES A. FITZPATRICK NUCLEAR POWER PLANT ON-SHIFT ANALYSIS-OCTOBER 2013)

Major Functional Area	Major Tasks	JAFNPP Position, Title, or Expertise	Number On Shift	Notes (in Below table)	Number on shift required by B-1 chart	Number available within 60 minutes after call
Plant Systems Engineering	Technical Support	Shift Technical Advisor Core Thermal/Hydraulic Electrical Engineer Mechanical Engineer	1 0 0 0	(A)	1 0 0 0	- 1 1 1
Repair and Mitigative actions	Access and correct in-plant Conditions	Mechanical Maintenance Electrical Maintenance Instrument and Control Tech. Rad Waste Operator	0 1* 0 1*	(F) (F) (F) (G)	0 1* 0 1*	2 2 1 -
Fire Fighting / Rescue Operations And First Aid	- Combat fires - Search & Recue - First Aid	Plant Fire Brigade Search and Rescue Brigade First Aid Team	1	(H) (I) (J)	N/A	Local Support via Oswego County Fire Coordinator & Oswego Hospital
Site Access Control, Security and Personnel Accountability	Maintain site access, security, and perform accountability.	Security Force		Per Security Plan		

Table 2-1 Staffing Chart Notes

* Indicates that position may be provided by shift personnel assigned other functions.

The B-1 Staffing Chart appears in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", pages 37 and 38.

NOTES FOR TABLE 2 -1

A. May include a SM, CRS, or FSS as the STA. The STA is not required in modes 4 and 5.

B. The Shift Manager performs the duty of the Emergency Director until relieved by a qualified individual.

C. On-shift communicator is normally a qualified NPO but may be other qualified individuals who have equivalent or higher plant operational knowledge. This position is normally augmented by TSC and EOF designated communications positions when those facilities assume communications responsibilities.

D. On-shift Radiation Protection and Chemistry technicians are directed by Shift Manager/Emergency Director until the arrival of RP and/or Chemistry Department supervision.

E. RP technicians are trained for offsite, onsite and in-plant surveys. RP technicians are brought to the plant to supplement on-shift personnel using a call-out procedure.

F. Emergency Mechanical, Electrical and Instrument & Control Maintenance require call-in of applicable departmental personnel to conduct tasks. Normal operations shift personnel can conduct limited emergency mechanical, electrical and Instrument & Control work.

G. The radwaste operator is an on-shift auxiliary operator (Nuclear Plant Operator).

H. The JAFNPP Fire Brigade complement is a Senior Nuclear Operator and 4 Nuclear Plant Operators.

I. The JAFNPP Search and Rescue team is composed of the JAFNPP Fire Brigade.

J. The JAFNPP First Aid Team is composed of a Senior Nuclear Operator, two Nuclear Operators, and one RP Technician.

Section 3: Classification of Emergencies

3.1 Classification System

This plan and its associated implementing procedures provide the means for responding to a wide range of emergency conditions.

NOTE: As used in the following paragraph, "plant operator" means any member of the plant staff, who by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs in the emergency classification scheme.

JAFNPP maintains the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level.

These emergency conditions have been categorized into four emergency classes, which cover the spectrum of postulated accidents. The classification system used in this plan has been developed based on the guidance contained in NEI 99-01 Rev. 5, "Methodology for Development of Emergency Action Levels" and NRC Bulletin 2005-02 "Emergency Preparedness and Security Related Events" and is compatible with the systems used by county and state agencies.

Emergency conditions will be evaluated using the classification guidance in EP-AA-1014 Addendum 3, *JAF Emergency Action Levels,* and EP-CE-111, *Emergency Classification and Protective Action Recommendations.* That procedure contains event categories, initiating conditions, and emergency action levels for each of the four emergency classes. The emergency action levels are specific plant conditions, instrument readings, alarms, or other conditions that indicate that an abnormal condition exists which warrants the declaration of an emergency and implementation of the emergency plan.

The purpose of the emergency classification system is to initiate a planned response to a given severity of accident. JAFNPP, county, and state plans and implementing procedures provide for specific emergency organization, notification, emergency facility activation, and preliminary actions to be taken based on the
level of emergency that is declared.

As the emergency situation changes, the emergency class will be reviewed and revised in accordance with the classification guidance documents. This allows for the augmentation of emergency personnel and resources to respond to a more severe emergency and provides for an orderly close out of the emergency and entry into recovery operations once the situation has been controlled.

Facility activation may be modified by the Emergency Director if the safety of incoming personnel may be jeopardized by a security event or other event hazardous to incoming personnel.

3.2 Unusual Event

3.2.1 Description

This class applies to an unusual plant condition, which either has occurred or is impending. This plant condition could eventually lead to a potential degradation in overall safety or indicate a security
threat to facility protection. Inherently, however, this is a situation in which sufficient time is available to take precautionary and constructive steps to prevent a more serious event or to mitigate any consequences that may occur.

The primary purpose for this class is to ensure that the plant operating staff recognizes initiating conditions, takes appropriate action such as assessment and verification, and comes to a state of readiness to respond if the condition becomes more severe. The Unusual Event class requires that off-site authorities be notified of the event.

No protective actions will be recommended to state and county authorities for an Unusual Event and no offsite agency response is required. The TSC, OSC, or other facilitiesmay be activated as a precautionary measure, or to assist as needed.

.3.2.2 Emergency Action Levels

Initiating conditions established as Emergency Action Levels for determining an Unusual Event classification are listed in EP-AA-1014, Addendum 3. An Unusual Event is declared any time that respective Emergency Action Levels are met or exceeded. All minor events are analyzed in light of their potential for degrading the level of plant safety.

3.3 Alert

3.3.1 Description

An Alert emergency class is declared when events are in process or have occurred which involve an actual or potential substantial degradation of the level of plant safety or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of HOSTILE ACTIONS. Although the potential for limited releases of radioactivity in excess of technical specification limits may exist, the initial assessment leading to this class indicates that it is unlikely that a public hazard will be created. An Alert requires response by the plant emergency organization, augmentation of onsite emergency resources and constitutes the lowest level where emergency off site response may be required.

The declaration of an Alert results in the activation of the Technical Support Center (TSC), Emergency Operations Facility (EOF), Operational Support Center (OSC) and the Joint Information Center (JIC). The JIC may be declared operational prior to a Site Area Emergency at the discretion of the JIC Director, or designee. Also prompt initial and follow-up notification is provided to federal, state, and local authorities.

At the Alert classification, the JIC may be deactivated at the discretion of the Emergency Director if operation is not necessary based upon conditions or events. (This decision should be discussed with State and County authorities prior to deactivation of the JIC.)

Although initial and follow-up notification to state and county authorities will include projected off site exposures, if applicable, no protective actions will be recommended to those authorities since the exposures possible during an Alert are below the Protective Action Guides (PAG).

3.3.2 Emergency Action Levels

Initiating conditions established as Emergency Action Levels for determining an Alert emergency classification are listed in EP-AA-1014, Addendum 3. An Alert is declared any time that respective Emergency Action Levels are met or exceeded.

3.4 Site Area Emergency

3.4.1 Description

The Site Area Emergency class is declared when events are in process or have occurred which involve actual or probable major failures of plant functions needed for protection of the public or security events that result
in intentional damage because of intentional malicious dedicated efforts of HOSTILE ACTIONS; (1) towards site personnel or equipment that could lead to the likely failure of or; (2) prevents effective access to equipment needed for the protection of the public. Many events within this class constitute an actual or clear potential for significant releases of radioactive material to the environment. These releases, however, are not normally in excess of the PAGs.

The Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF) and Joint Information Center will be activated for a Site Area Emergency.

The declaration of a Site Area Emergency requires the notification of federal, state, and county authorities so that they may activate their emergency operation centers and dispatch key emergency personnel.

3.4.2 Emergency Action Levels

Initiating conditions established as Emergency Action Levels for determining Site Area Emergency classification are listed in EP-AA-1014, Addendum 3. A Site Area Emergency is declared any time that respective Emergency Action Levels are met or exceeded.

3.5 General Emergency

3.5.1 Description

The General Emergency class is declared when events are in process or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity and significant releases of radioactivity to the environment or security events that result in an actual loss of physical control of the facility.

The Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF), and Joint Information Center will be activated for a General Emergency.

The declaration of a General Emergency requires the notification of federal, state, and county authorities so that they may activate their emergency operating centers and dispatch key emergency personnel.

A General Emergency involves the potential or actual release of airborne radioactivity which may result in off-site projected exposures that would exceed the limits specified in the USEPA Protective Action Guides. The Emergency Director will recommend protective actions to state and county authorities based on actual measurements, projections, or calculations.

It is the responsibility of state and county authorities to implement off site protective actions and to provide an independent determination of the type and extent of such actions.

3.5.2 Emergency Action Levels

Initiating conditions established as Emergency Action Levels for determining General Emergency are listed in EP-AA-1014, Addendum 3. A General Emergency is declared any time that a respective Emergency Action Level is met or exceeded.

3.6 Spectrum of Postulated Accidents

The Emergency Action Levels contained in EP-AA-1014 Addendum 3, JAF Emergency Action Levels, provide the ability for classifying approximately eighty discrete types and levels of events. However, to develop the maximum projected exposure information contained in Figure 3.2, it was necessary to evaluate several discrete accidents. The discrete accidents addressed in this section are those which are defined in the JAFNPP FSAR Update as "design basis accidents."

3.6.1 Control Rod Drop Accident

An accident that results in radioactive material release from the fuel with the Reactor Coolant Pressure Boundary, Primary Containment and Secondary Containment intact.

As an example, this accident is postulated to occur with the reactor in hot standby, critical condition, and is expected to result in the failure of about 330 fuel rods. With the elimination of the automatic closure of the Main Steam Isolation Valves (MSIVs) on high radiation fission products will be transported to the offgas system and subsequently out the stack. The whole body dose at the site boundary is detailed in the JAFNPP FSAR.

3.6.2 Refueling Accident

An accident that results in radioactive material release directly to the Secondary Containment with the Primary Containment not intact.

As an example, this accident is postulated to occur with the reactor in shutdown condition with the vessel head removed. A fuel assembly is assumed to drop onto the top of the core, resulting in the failure of about 440 fuel rods. The refueling floor ventilation radiation monitoring system alarms, isolates the ventilation system, and starts operation of the Standby Gas Treatment System (SGTS), within about one minute.

Noble gases and radioiodines are released to the reactor coolant, migrate to the secondary containment, and are released to the environment through the SGTS.

3.6.3 Main Steam Line Break

An accident that results in radioactive material releases outside the Secondary Containment.

As an example, this accident is postulated to occur with the reactor operating at rated conditions. The steam line break occurs outside the secondary containment and releases reactor coolant for a period no longer than 10.5 seconds, until complete closure of the MSIVs. Noble gases and radioiodines in the coolant are assumed to be released directly to the environment.

An estimate of the resultant exposures as shown in Figure 3.2 is for worst case conditions. Actual exposures are proportional to the fission product activity in the steam, as monitored by the off-gas release rate prior to the accident. The exposures in Figure 3.2 are based on the assumption that the off-gas release rate is at the upper limiting condition for operation.

3.6.4 Loss of Coolant Accident (LOCA)

An accident that results in radioactive material release directly to the Primary Containment.

As an example, this accident is postulated to involve a complete circumferential break of a recirculating loop pipe inside the primary containment with the reactor operating at full power. The accident results in the release of a significant quantity of fission products into the primary containment, leakage into the secondary containment, and release to the environment through the SGTS.

3.6.5 Other Accident Types

Additional accident types have been included for the purposes of dose assessment. The types allow for the variability of isotopic mixtures and, by pre-establishing isotopic mixtures and developing a ratio of containment to atmosphere leakage, allow for simplified use. These include accidents "Containment Design Basis Accident" and "Severe Accident."

3.7 Recovery

After the initial emergency response actions are concluded (i.e., the plant is in cold shutdown and under control), a decision to begin the recovery phase will be initiated. A number of considerations will enter into the decision to begin the recovery phase and dismantle the Emergency Response Organization. The decision to enter the recovery phase from an alert or higher will be made by the Corporate Emergency Director in consultation with Senior Station Managers, Corporate Management, and, after a formal discussion with regulatory, State and local authorities has been conducted to ensure coordination and agreement is met for termination. EP-CE-115, Termination and Recovery will be used by the organization to transition from a response organization to a recovery organization.

Federal, State and local authorities shall be advised of any decisions and resulting changes pertaining to the Emergency Organization status.

3.7.1 Recovery Actions:

Re-entry of the plant, decontamination, repair, and return to operation will be controlled by a general implementing procedure which provides for development of a flexible plan of actions and specifies particular evaluation and planning activities. A recovery organization to provide long term augmentation of the emergency organization has been established. A procedure to alert these people and put the EOF into operation is part of the station implementing procedures.

EP-CE-115 details the establishment of a Recovery organization.

The Corporate Emergency Director will notify all response organizations that recovery operations are underway.

In the recovery phase, all actions will be carefully planned by station supervisory personnel in conjunction with the Recovery Team, the Technical Support Center personnel and the Ginna senior management. Planning for recovery will include evaluation of survey data, review of exposures incurred, projection of manpower

and equipment needs, and re-entry offsite monitoring team activities. Actions prescribed upon re-entry include a comprehensive survey of the plant to define radiological problem areas. Based on survey results, high radiation areas and areas of contamination will be isolated and posted and, if possible, portable shielding will be used, as appropriate.

Upon evaluation of plant conditions, further activities for making necessary repairs, decontamination and restoration to normal operations will be outlined by Ginna senior management in accordance with standard Radiation Protection practices. Personnel radiation exposure during the recovery stage of the incident shall be closely controlled and documented. Individual exposures shall be in accordance with 10CFR20 limits.

Corporate management and Emergency Response Organization personnel will augment the plant staff in long-term recovery operations.

a) Corporate groups such as Business Continuity may provide logistical support using corporate emergency plans, protocols and procedures.

b) Technical support may be provided by the Engineering Services Department and consultants under the direction of the Manager, Nuclear Services.

c) The Vice President, Ginna, will provide management level interface with government authorities. He or she will be assisted by the Corporate Communications group.

d) Communicating with the President of the United States and the Governor of New
York State is the responsibility of Company senior management.

3.8 Figures, Forms, and Attachments

Figure 3.1 Recommended Protective Actions for the General Population and Emergency Workers

Figure 3.2 Maximum Estimated Doses Resulting from Design Basis Accidents

FIGURE 3-1
RECOMMENDED PROTECTIVE ACTIONS FOR THE GENERAL POPULATION AND EMERGENCY WORKERS

PAGs for the Early Phase of a Nuclear Incident

Protective Action	PAG (projected dose)	Comments
Evacuation (or sheltering[a])	1 – 5 rem[b]	Evacuation (or, for some situations, sheltering[a]) should normally be initiated at 1 rem.
Administration of stable iodine	5 rem[c]	Per local and state upon declaration of a GE

[a] Sheltering may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site• specific conditions.

[b] The sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent incurred from all significant inhalation pathways during the early phase. Committed dose equivalents to the thyroid and to the skin may be 5 and 50 times larger, respectively. Reference: Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-400-R-02-001, May 1992.

[c] committed dose equivalent to the child thyroid from radioiodine, per "Implementation of the Use of Potassium Iodide (KI) as a Protective Agent for the Public", Rev. 1 January 2005.

Guidance on Dose Limits for Workers Performing Emergency Services

Dose Limit[a] (rem)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a volunteer basis to persons fully aware of the risks involved

[a] Sum of external effective dose equivalent and committed effective dose equivalent to non-pregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the
listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.

FIGURE 3-2
MAXIMUM ESTIMATED DOSES RESULTING FROM
DESIGN BASIS ACCIDENTS

	Maximum Estimated Dose (rem)			
	Whole		Thyroid	
Postulated Accident	0-2 Hours 3000 Feet	0-30 Days 3.4 Miles	0-2 Hours 3000 Feet	0-30 Days 3.4 Miles
Control Rod Drop	0.0142	0.0049	0.201	0.137
Refueling	2.40 TEDE	0.270 TEDE	-----	----
Main Steam Line Break	0.0906	0.0111	7.14	0.799
Loss of Coolant	2.34	1.89	62.2	68.7

Estimated doses taken from Chapter 14 of the JAFNPP FSAR

Section 4: Emergency Measures

Emergency measures are actions taken to ensure that an emergency situation is assessed and that proper corrective and/or protective actions are taken. These actions include activation of the appropriate components of the emergency organizations, both onsite and offsite; assessment of plant systems status and radiological conditions; mitigative actions to ameliorate or terminate an emergency situation; protective actions to minimize the consequences of the emergency to plant personnel and to the general public in the plant environs; decontamination and medical treatment for plant personnel; and other supporting actions such as timely and accurate emergency news dissemination to the public media.

Emergency actions are initiated primarily in response to alarmed instrumentation, but may be initiated through notification to the Control Room by the first individual at the JAFNPP to become aware of an apparent emergency situation.

The occurrence of an off-normal event will initiate the classification of that event via an established procedure into one of the four emergency classes. Once an emergency is classified and declared, the implementation of the JAFNPP Emergency Plan Implementing Procedures will begin. This plan and procedures provide for the implementation of measures to respond to the emerge cy. The following sections provide a description of the emergency measures.

4.1 Activation of the Emergency Organization

Prior to an emergency being declared, the normal plant operating organization is in place. The initial classification of an off-normal event occurs in the Control Room and is performed by the Shift Manager (see Section 4). Upon the classification and declaration of an emergency the Shift Manager assumes the role of Emergency Director and retains that role until the CED and SED can assume control. It is the primary responsibility of the Shift Manager, however, to act in accordance with any Emergency Operating Procedures (EOPs), and Abnormal Operating Procedures (AOPs) to verify the proper operation of engineered safety features prior to implementation of the emergency plan procedures.

The Emergency Director will, upon classification of the emergency, immediately initiate the appropriate series EP-AA-112 procedure. This procedure directs the initiation of notification and activation of the emergency organization and for the initiation of mitigative and protective actions appropriate for the emergency class.

4.1.1 Notification and Activation of the Onsite Emergency Organization

The onsite emergency organization is activated by personnel notification or when the station alarm is sounded and the emergency is announced over the public address system.

Initially, the emergency response organization will consist of the normal operating shift personnel who will function as the emergency team members. The normal operating staff will be augmented, as needed, by plant personnel and corporate headquarters personnel. Those personnel onsite will respond when the station

alarm is sounded and the announcement is made or when individuals are notified by another means. Personnel not onsite during off-hours operations or located at the corporate headquarters will be notified. A designated on-staff plant employee shall perform notifications. The details of notifying all emergency operations personnel during normal and off-hours are contained in EP-AA-112-100-F-57, ERONS NOTIFICATION DETAILS.

4.1.2 Notification and Activation of the Offsite Emergency Organization

The offsite organization will be notified as soon as possible after the declaration of an emergency. Offsite notifications will be made in accordance with EP-CE-114-100, Emergency Notifications. Notifications will be made to:

A. NRC

B. State of New York, Nine Mile Point Nuclear Station and Oswego County

C. Company headquarters

The contents of the initial notification message are in a pre-arranged notification form that will be used by both the transmitting and receiving parties. The initial messages will transmit key information. Date, time, location of emergency, person reporting information and telephone number, the emergency class, whether a release is occurring, the potentially affected area (s), the protective actions recommended,
and meteorological conditions are included on the form. No verification of message authenticity is required when the notification will be transmitted via a dedicated telephone line. The content of the notification message will be verified with the State of New York. It is the responsibility of the State to verify message content with other State and Local government agencies. The notification will be repeated for each change in emergency classification or on a periodic basis in accordance with the Notifications Procedure.

Once the initial notification is made, additional information will be transmitted from JAFNPP to offsite agencies. These follow-up messages will consist of the following information in addition to that transmitted during the initial notification (if known and appropriate):
A. General Release Information

B. Atmospheric Release Information

C. Waterborne Release or Surface Spill Information

D. Dose/Dose Rate Calculations

E. Field Measurements of Dose Rates or Surface Contamination

The information will be transmitted and received in accordance with the Notifications Procedure.

Additional follow-up information regarding plant parameters will be transmitted, if known and appropriate, in accordance with the Notifications Procedure. The following plant system information may be transmitted:

A. Primary coolant system information

B. Safety coolant system information.

C. Radiation monitoring system information

In addition to those organizations notified, other offsite agencies may be contacted as indicated in the Notifications Procedure. The Emergency Director will ensure that offsite emergency support groups are contacted to request the type and level of assistance, which may be necessary to deal with the emergency condition. The following organizations may be contacted for assistance, either through direct telephone contact or by message relay through the Oswego County Sheriff's Department or Oswego E-911 Center:

A. Local fire departments through agreement with the Oswego County Fire Coordinator

B. Oswego Hospital

C. University Hospital

D. Oswego County Sheriff's Department

E. Nine Mile Point Nuclear Station

F. United States Department of Energy

G. R.E. Ginna Nuclear Power Plant

Letters of agreement are maintained with each of the offsite agencies, which specify the commitment of that organization to provide assistance to JAFNPP. A listing of Letters of Agreement is contained in Appendix C. The offsite agencies contacted will activate their organizations to the level required in accordance with their plans and procedures. See Appendix J of this Plan for a list of supporting documents.

In addition to the services provided by the above• mentioned organizations, support may be provided by other private organizations.

4.2 Assessment Actions

Provisions throughout are made for assessment and continuing reassessment the course of an emergency to ensure the effective coordination, direction and upgrading of emergency activities in a timely manner. The assessment actions are described in detail in the Emergency Plan Implementing Procedures. The assessment functions and the general methodology and techniques utilized are identified in this section.

Initially, the Shift Manager will assume the responsibility for the emergency response direction and coordination and will take charge of all assessment activities until these functions are turned over to the CED and SED. The Radiation Protection Organization (TSC) will direct on-site survey teams. The Radiation Protection Organization (EOF) will direct off-site survey teams and the dose assessment activities of JAFNPP, once responsibility is turned over and accepted.

4.2.1 Assessment Actions and General Discussion

Unusual Event

Continuous assessment of the status of plant systems radiological conditions is provided by plant instrumentation and is supplemented by routine surveillance function. The occurrence of an Unusual Event will be recognized by instrument indications and / or alarms, surveillance results or other observations of an off-normal condition by an individual at the plant.

Many events within this classification involve exceeding the Limiting Conditions of Operation cases. Assessment and mitigative actions are described in detail in operating procedures. Supplementary assessment actions are described, where appropriate, in the Emergency Plan Implementing Procedures.

For events which require dispatching of emergency teams, such as a fire or damage control, the initial and continuing assessment will be performed by the team leader. Through training and experience the team leader will be able to evaluate the condition, implement proper mitigative action and escalate the response as necessary.

Offsite dose projections will be performed if the event involves radiological effluents exceeding the Technical Specification limits or if such releases are projected. These dose projections are based on the rate and estimated duration of the releases and current meteorological parameters. The projections will be repeated throughout the duration of the emergency to reflect any significant changes. Methods for performing rapid dose projections including the use of computerized meteorological/dose assessment models are described in the Emergency Plan Implementing Procedures.

Alert

Assessment actions for an Alert include an upgrading of the functions performed for an Unusual Event as appropriate for the condition. Examples are:

- Increased surveillance of in-plant instrumentation Additional assistance from off-duty personnel and/or offsite support groups.
- Possible radiological monitoring of offsite areas and increased dose projection activities.

Site Area Emergency

Assessment actions for a Site Area Emergency will be in accordance failure of release of material with the increased probability of a major failure of plant safety functions and the potential release of significant quantities of radioactive Examples are:

- Increased surveillance of instrumentation, which may provide information on the status of the core and reactor coolant system.
- Increased offsite monitoring efforts including direct radiation measurements, sampling and analysis of air and other environmental media.
- Dose projection results correlated with offsite monitoring data.
- Coordinated offsite dose assessment activities with other emergency response organizations.
- Increased reactor coolant sampling and analysis frequency.

General Emergency

The emphasis of assessment actions for a General Emergency will be based on the likelihood of substantial core degradation, potential loss of containment integrity, and the release of large quantities of radioactive material. Surveillance of instrumentation relative to the core condition, reactor coolant system activity, containment pressure and radiation level and radioactive effluents will be increased. Dose projection and offsite monitoring efforts will be further intensified and on-going communications will be maintained with the Oswego County Emergency Operations Center (OCEOC) and New York State Emergency Operations Center (NYSEOC) to ensure that offsite assessments are based on the best available information.

Specifically, post-accident assessment capability will include:

- Post-accident sampling analysis of reactor coolant and containment atmosphere.
- In-plant iodine instrumentation.
- Plots showing containment radiation versus time.
- Determination of the degree of reactor core damage.

4.2.2 Field Radiological Assessment

Field radiological data will be collected by onsite and offsite survey teams. There will be at least one onsite and one offsite survey team, when the ERO is fully staffed and radiological conditions warrant it. Each team should be comprised of at least two individuals. (In instances of a fast-breaking event, only a single technician may be available). The teams will be deployed for any emergencies, which involve actual releases of radioactive materials and at the discretion of the Emergency Director. Survey teams will be formed following the request by the Emergency Director or his designee by direct communication or over the PA system. It is expected that the teams can be deployed in about 30 minutes during normal working hours and in about 60 minutes during other hours. The survey teams will use emergency vehicles (or personal vehicles, if needed) for transportation and will maintain phone or radio contact with the Emergency Director or his designee while deployed.

An onsite survey kit and two offsite survey kits are maintained for emergency use by survey teams. Each kit contains portable instrumentation for direct radiation surveys, contamination surveys, and for collecting and analyzing airborne samples for gross and iodine radioactivity.

Rapid assessment of any radiological hazards resulting from the gaseous pathway will be made in the field by direct radiation surveys and by collecting airborne samples and then analyzing these samples for gross radioactivity and iodine radioactivity. These data will be communicated to the Emergency Director or his designee as the information is obtained.

Rapid field assessment of liquid samples is not considered to be essential because the nearest drinking water supply is far enough away to provide ample time for warning the appropriate state and local authorities in the event protective measures are required. When field liquid samples are required, they will be taken and transported to an Environmental Lab for assessment.

4.2.2.1 In-plant Surveys

In-plant survey teams will be dispatched during an emergency if annunciators, alarms, or other instrumentation indicate the possible or actual release of radioactivity to in-plant locations. The Shift Emergency Director, Station Emergency Director, or Radiation Protection Manager, or designee will notify, brief, and dispatch the survey teams. All dispatching and directing of survey teams and the performance of surveys will be accordance with the EP-AA-112-200-F-60, TSC Radiation Protection Manager Checklist.

The in-plant survey teams will be composed of a team leader and team member. The teams will report to and be dispatched from the Operational Support Center. Emergency survey kits are maintained for use by the in-plant survey teams. These kits contain portable instrumentation for direct radiation surveys, contamination surveys,

the collection and analysis of airborne samples for gross and iodine radioactivity, and the collection of liquid samples.
Equipment is also provided for post-accident reactor water sampling. For details of the specific type and quantities of equipment contained in each kit see inventory procedure SAP-2, EMERGENCY EQUIPMENT INVENTORY.

4.2.2.2 Out-of-plant Surveys

Out-of-plant survey teams may be dispatched if releases of radiation have occurred, or to verify that releases above technical specifications are not occurring. The Environmental Coordinator (EOF), or designee, will notify, brief, and dispatch the survey teams. The dispatching and direction of survey teams to designated locations (see Figures 4.5 and 4.8) and the performance of out-of-plant surveys will be performed in accordance with EP-AA-112-500, Emergency Environmental Monitoring.

Out-of-plant survey teams will (if possible), be composed of a team leader and team member. The teams will report to and be dispatched from the Technical Support Center or the Emergency Operations Facility. Emergency survey kits are maintained for use by the out-of-plant survey teams.

The out-of-plant survey teams have the capability and equipment to collect environmental and emergency TLD/DLR (Dosimeter of Legal Record), filter media from the environmental air samplers, water, milk, soil, vegetation, and snow samples. The field teams can also take direct radiation surveys and collect and analyze in the field, airborne samples for gross and iodine radioactivity. For details of the specific type and amount of equipment contained in the out-of-plant survey kits see SAP-2, EMERGENCY EQUIPMENT INVENTORY.

The field assessment of airborne samples will be reported back to the EOF where the Dose Assessor or RPM will use the data for dose assessment. Other environmental media will be transported to an Environmental Lab for analysis.

One type of radiological data which the onsite and offsite survey teams will be collecting to aid in dose assessment is airborne radioiodine concentrations. Monitoring is accomplished by the use of portable air sampling pumps equipped with a particulate filter and silver zeolite cartridge. The particulate filter and silver zeolite cartridge can be analyzed in a low background area using a count rate meter and mini-scaler for determination of total radioiodine. The silver zeolite cartridges have an iodine retention in excess of 99% while retaining only traces of noble gases. Particulates are removed using a pre-filter. Gamma spectrometry at an Environmental Lab will be used for analysis as time permits but is not necessarily required to make a rapid

estimation of airborne radioiodine.

The count rates obtained from the filter and silver zeolite cartridges are multiplied by correction factors to determine the concentrations of particulates and airborne radioiodine.

With the use of silver zeolite cartridges, the interference from the presence of noble gases is not expected to impair the capability to detect less than IE-7 µCi/cc of radioiodine. Cartridges and filters also can be analyzed using gamma spectrometry in either the JAFNPP counting laboratory, an environmental laboratory, or the adjacent NMPNPS, Unit 1 laboratory.

4.2.3 Dose Assessment Methods and Techniques

Three methods are available at JAFNPP to assess offsite doses following an accident. The first method utilizes EP-AA-112-201, On-Shift Dose Assessment, for Control Room Dose Assessment. The second method utilizes EP-AA-112-200, Dose Assessment, in conjunction with the Unified RASCAL Interface (URI) computer application. The third method uses measured activity in environmental samples collected by the Emergency Radiological Survey Teams. All of these methods estimate external doses from noble gases and thyroid doses from radioiodine. A summary of each method is described in the following paragraphs.

The computer applications used to provide dose calculations are evaluated against the EPA-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 offsite protective action recommendations. Dose assessment actions will be performed in the following sequence:

4.2.3.1 The Dose Assessment and the Emergency Classification and Protective Action Recommendations Procedures will be utilized from the onset of a release to approximately 1 hour post-accident: Shift personnel will rely on a simplified computerized dose model (URI in "rapid mode")to assist them in developing offsite dose projections using real time data from effluent monitors and site meteorology.

4.2.3.2 The Dose Assessment and the Emergency Classification and Protective Action Recommendations Procedures will be utilized from approximately 1 hour post- accident to event termination. Estimates of off-site doses based on more sophisticated techniques are provided. Dedicated ERO personnel will analyze the offsite consequences of a release using the full capabilities of the URI model. These additional methods are able to analyze more offsite conditions than the simplified quick method, as well account for more specific source term considerations.

The URI program utilizes the following features:

a. The system provides results of the sum of the effective dose equivalent from external radiation (both the plume and ground

deposition) and the committed effective dose equivalent from inhalation of radioisotopes (this total is referred to as the TEDE), committed dose equivalent to the thyroid (CDE-thyroid), as well as deposition rates and cumulative deposition at the ground.

b. URI uses both meteorological and source term data screens with editing capabilities, allowing both easy data-entry and the ability to review, edit, or update data entered for other time steps. User "help" functions are available on command, and upon entry of invalid data.

c. The URI meteorological data entry screen also allows for direct entry of data from the NMP-JAF Meteorological Monitoring System (MMS).

d. Program results for URI calculation routines include those for considering source term and plume decay, as well as the effects of wet and dry deposition of iodines and particulates.

e. The model also includes predefined Protective Action Guidelines for the plume and ingestion pathway EPZs to alert users of the program to any exceedances of pre-determined limits.

f. Multiple source term selection representing different isotopic mixtures can be entered or the default values changed to more accurately characterize an accident.

g. The URI model and JAF procedures integrate both JAF and Nine Mile Point dose assessment information.

4.2.3.2 Dose Estimates from Field Measurements

The third method available to assess dose rate is based on activity measured in environmental media. Three techniques will be used to calculate doses from gross radioactivity measurements: Direct gamma dose by TLD/DLR, in mrem; direct beta-gamma dose rate by portable survey instruments, in mrem/hr; and dose from gross measurements following radioiodine sampling. The first two techniques yield direct dose information. The third technique for dose rate determinations, involve environmental sampling by the survey teams with later evaluation using the Dose Assessment Procedure to determine offsite doses. Dose rates will be measured using portable survey instruments. Selective sampling for radioiodine will be performed using a silver zeolite cartridge preceded by a particulate filter. Silver zeolite cartridges are iodine specific because they permit approximately 99% of the noble gases to pass through.

The particulate filters and the silver zeolite cartridges are analyzed in the field by determining a gross count rate using a portable count rate meter and mini-scaler. Calculations of dose from the silver zeolite cartridge are based on the assumption that any measured activity is totally attributable to I-131. Gross measurements of particulate filters and silver zeolite cartridges will be performed in the field.

Because this method of analysis is less accurate than laboratory

analysis, protective actions will not be taken based on these data unless protective actions are deemed necessary and laboratory analytical results are not available.

If it is determined that a release of radioactive liquid to Lake Ontario has occurred, the projected TEDE and CDE skin doses received while boating or swimming on the lake will be determined in accordance with site processes.

Survey teams will also collect environmental media such as milk, human food products, water, snow, and soil which will be analyzed in an environmental laboratory for radioiodine (I-131, 133) by gamma spectrometry. These results, along with the gross radioiodine measurements mentioned above, will be used in determining CDE thyroid dose estimates in accordance with the Dose Assessment Procedure and environmental surveillance procedures.

Dose rate and dose information will be provided to the Radiological Assessment Coordinator (or Radiological Coordinator} for use in determining recommended protective actions.

4.3 Mitigative actions

Detailed operating procedures, emergency operating procedures, and Severe Accident Operating Guidelines (SAOGs) are utilized by the plant operating personnel to assist them in responding to potential or actual emergency events.

These procedures describe the mitigative actions necessary to place the plant in a safe condition. Long term mitigative actions will be taken as part of the Recovery phase (Section 3.7)

In addition, the Operational Support Center will be activated and serve during the emergency as the location for the assembly and dispatch of teams to respond to plant conditions. Specifically, damage control teams, fire brigades, and search and rescue teams will be directed in accordance with emergency implementing procedures. The appropriate Emergency Director will direct all mitigative actions through the appropriate emergency coordinators.

Some essential mitigative actions may involve the risk of higher than normal radiation exposure to emergency response personnel. Such actions could involve protecting valuable property, protection of large populations, or lifesaving actions. Figure 4.1 specifies the limits for such emergency radiation exposure and other relevant criteria to be considered.

4.4 Protective Actions

Protective actions are measures which are implemented to prevent or mitigate consequences to individuals during or after a radiological emergency. Protective actions within the JAFNPP site boundary are primarily the responsibility of the Shift Manager or SED, but may include assistance by offsite organizations.

Protective actions outside the JAFNPP site boundary are primarily the responsibility of State and local emergency organizations, but may include coordination of activities and dissemination of appropriate data with JAFNPP, and recommendations by the JAFNPP Corporate Emergency Director.

4.4.1 Onsite Protective Actions

The primary protective measure for onsite personnel in an emergency is prompt evacuation from areas which may be affected by radiation, concentrations of airborne radioactivity that exceeds normal limits for specific area or areas and cannot be readily controlled, or other hazardous conditions.

All personnel (including employees not having emergency assignments, visitors, and contractor and construction personnel) will be notified of an emergency situation by the sounding of the station alarm and an announcement over the public address system and by Security for the Wellness Center, etc.

A range of protective actions to protect onsite personnel during hostile action is provided to ensure the continued ability to safely shut down the reactor and perform the functions of the emergency plan.

4.4.1.1 Protected Area Evacuation

A Protected Area Evacuation may be ordered by the Shift Manager or SED for all of the protected area based on initiating conditions such as; high radiation levels, fire, toxic gases, etc. Actions will be taken in accordance with EP-CE-113, *Personnel Protective Actions.*

When a Protected Area Evacuation is ordered, personnel will be instructed to proceed to the nearest primary assembly area via a route that bypasses the hazardous area.

Once at the primary assembly areas, accountability will be conducted. The Shift Manager or SED will then decide whether to implement a Site Evacuation, order an early dismissal, or to allow personnel to return to their normal work stations.

4.4.1.2 Site Evacuation

A Site Evacuation involves the movement of personnel from the site to a remote assembly area offsite or to their homes. A site evacuation may be ordered by the Shift Manager or SED based on severe abnormal conditions such as high radiation levels, safety hazards, or

declaration of a General Emergency. Initiating conditions and the implementation of a Site Evacuation are described in detail in EP-CE-113.

When a Site Evacuation is ordered by the sounding of the evacuation alarm, all personnel without emergency assignments will proceed offsite to the remote assembly area or to their homes using their own vehicles.

A Staging/Muster area and an Alternative TSC and Alternative OSC are available if the site is under threat of or experiencing hostile action. Augmented emergency response staff can be staged at these locations in a manner that provides rapid response to mitigate site damage as soon as the site is accessible, as well as continuity of TSC and OSC functions.

The remote assembly area is located at the Oswego County Airport on County Route 176 adjacent to the EOF and JIC in the Town of Volney. Should offsite radiological considerations exist, the Shift Manager or Station emergency director will direct the evacuating personnel to take alternate routes or designate an alternate remote assembly area, if necessary.

A Site Evacuation may be ordered with or without a Protected Area Evacuation previously being ordered. If a Protected Area Evacuation has been ordered, accountability will have been accomplished previously. If no Protected Area Evacuation was ordered, accountability will be accomplished when personnel exit the plant and turn in their badges.

To minimize the spread of contamination, the Shift Manager or SED Manager will direct a team to evaluate contamination on cars and decontaminate them by onsite washing, if time permits. Personnel will be monitored and decontaminated at the remote assembly area by a radiation survey team dispatched from the plant if necessary.

4.4.1.3 Personnel Accountability

The Shift Manager or SED will inform Security and direct them to begin personnel accountability. An accountability supervisor is designated and is responsible for the implementation of personnel accountability and the reporting of results. All actions will be taken in accordance with EP-CE-113.

Accountability compares the name and number of persons in the primary assembly areas with the name and number of persons badged into the protected area. The results of this comparison and any discrepancies are reported to the Shift Manager or SED.

Following any unsuccessful attempts to locate missing personnel through supervisors, co-workers, and PA announcements, the Shift Manager or SED will be notified and will initiate search and rescue actions.

4.4.1.4 Other Onsite Protective Actions

a. Contamination Control

The JAFNPP Radiation Protection Department Procedures and Programs contain provisions governing the control of contamination including access control, use of protective clothing, contamination monitoring, and the release of potentially contaminated items from Radiologically Controlled Areas. The guidelines of this manual shall apply to contamination control during emergency conditions.

b. Food and water in Plant

Drinking water at the JAFNPP is provided by the City of Oswego and distributed by the domestic water system, which is a closed system. As a result of this configuration, contamination of the drinking water is unlikely.

A supply of water is maintained in the Control Room. With the exception of food brought to the site by Plant personnel, or prepared in the cafeteria, all other food supplied to the site arrives sealed for vending machine sale. These machines and the cafeteria are located in non-radiologically controlled areas. If these areas become contaminated, they will be considered as radiologically controlled areas, and eating will be prohibited as is normally the case for radiologically controlled areas. Normal radiologically controlled areas access controls will prevent the removal of contaminated food from these radiologically controlled areas and possible ingestion by unwary individuals.

c. Exposure Control

The exposure of Plant personnel during emergency operations shall be maintained as low as reasonably achievable, and should be maintained less than the administrative guides established in JAFNPP RP Procedures and Programs and/or less than the Federal radiation exposure standards established in 10 CFR 20. In order to accomplish this objective, administrative means used during normal operations to minimize personnel exposure, such as Radiation Work Permits, Authorization to Exceed Radiation Exposure Guides, and ALARA measures should remain in force to the extent consistent with timely implementation of emergency measures.

The Personnel Protective Actions Procedure shall be utilized to provide guidance where normal operations exposure control procedures are not sufficient.

Dosimetry equipment in the form of TLDs/DLRs, direct reading dosimeters and electronic dosimeters are provided at the plant, and such dosimetry will continue to be used during emergency situations.

Personnel will be available 24 hours per day during an emergency to issue and/or process dosimetry devices. JAFNPP RP Procedures and Programs provide guidelines and procedures for issuing, using, and reading/processing dosimetry devices and provisions for exposure record keeping. During an emergency, the processing frequency will be based upon the exposure rates and/or the exposures received by emergency personnel.

Exposure control shall include accelerated or additional bioassays in the event there are individuals who are suspected of being exposed to elevated levels of airborne activity as a result of the emergency.

This bioassay consists primarily of whole body counts. This is supplemented by urinalysis when predetermined screening levels, or predetermined airborne activity exposure levels, are exceeded or suspected of being exceeded (with provisions for follow-up monitoring, medical treatment, and incident reporting).

Exposure control may also involve administration of radioprotective drugs in accordance with the Personnel Protective Actions Procedure.

d. Respiratory Protection

The JAFNPP RP Procedures and Programs contain provisions covering the use of respiratory protection equipment and the administration of the JAFNPP Respiratory Protection program. The provisions of this program shall apply to all usage of respiratory protection equipment during emergencies.

4.4.2 Offsite Protective Actions

If an emergency exists at JAFNPP that involves the actual or potential release of airborne or waterborne radiation, the RPM or designee, will evaluate the doses projected to occur in the offsite area as described in section 4.2.3. Based on the projected dose, the RPM, will evaluate the need for protective actions for the public using EP-CE-111, Emergency Classification and Protective Action Recommendations. The projected doses will be compared to the EPA Protective Action Guides Figure 4-1 and a protective action recommended to the Corporate Emergency Director. The results of this evaluation and the recommended protective action information will be transmitted to the State of New York and Oswego County by the Corporate Emergency Director, or designee, via the dedicated communication system, or alternate communication method.

NOTE: If a General Emergency has been declared, protective action recommendations will be based on the flowcharts contained in the Emergency Classification and Protective Action Recommendations Procedure. However, responsible offsite officials must decide the feasibility of implementing the protective actions at the time of the accident.

The responsibility for actions to protect offsite individuals rests with the State of New York Department of Health, as described in the New York State Radiological Emergency Preparedness Plan.

The Chairman of the Oswego County Legislature, possibly assisted by the Commissioner, State Department of Health is responsible for implementation of that plan and the ordering of actions to protect the public.

Oswego County and NYSDOH is responsible for evaluating information obtained from JAFNPP and/or other sources and recommending appropriate offsite protective actions to Oswego County. Such recommendations, based on all available data, local constraints and other consideration may include:

- Shelter for affected populations.
- Evacuation within designated area(s).
- Control of drinking water, milk, and agricultural products.

Since the 10-mile Emergency Planning Zone is located entirely in Oswego County (See Figure 1-2), the principal offsite local coordinating agency for providing response to radiological emergencies in the vicinity of the JAFNPP is the Oswego County Emergency Management Office. Upon notification by NYSDOH or by the JAFNPP SM/ED or CED of a situation which may require protective actions for offsite populations, the Oswego County Emergency Management Office will initiate appropriate actions, including notification (see Figure 4.7) and provision of prompt instructions to the people within the plume exposure EPZ, considering recommendations from the notifying party, and within the guidelines of the Oswego County Radiological Emergency Plan.

In order to facilitate the planning and implementation of protective actions, the 10-mile Emergency Planning Zone is further subdivided in Emergency Response Planning Areas (ERPAs), Figure 4-3. All recommendations from JAFNPP to the State and from the State to the County will be in terms of ERPAs. The Public Information Program, Appendix H, will ensure that the public is aware of the proper response to an emergency or protective action order.

4.4.2.1 Sheltering

Sheltering may be ordered for the population within the 10-mile EPZ.

Sheltering involves the population going or remaining inside of their homes or place of business, to wait further information and instructions.

Sheltering is particularly useful to assure that a population is positioned so that if the need arises, communication with the population can be carried out expeditiously.

4.4.2.2 Evacuation

Evacuation may be ordered for all or part of the population in the affected ERPAs.

The Oswego County Radiological Emergency Preparedness Plan contains a detailed evacuation plan, which includes specific county agency operating procedures and evacuation route maps (refer to Figures 4-4 and 4-9), as well as special facilities throughout the ten-mile EPZ (see Figure 4-6). In addition, a reception center and congregate care centers are designated in the Onondaga County Radiological Emergency Response Host Plan.

4.4.2.3 Thyroid Prophylaxis

Federal Guidance from the NRC and FDA has prompted New York State and Oswego County to include the prophylactic use of potassium iodide (KI) as an additional public protective action. Implementation of this measure is in accordance with the NYS and Oswego County Plans.

4.4.2.4 Food, Water, and Milk Control

Within the Ingestion Pathway Emergency Planning zone (approximate 50-mile radius), the State Commissioner of Health may order controls to minimize radiation doses to the public through ingestion of contaminated food, water and milk. When requested, JAFNPP will assist with radiological sampling of environmental media and the results reported to the NYSDOH. In addition, other sources of sampling information will be used to evaluate the need for controls.

Ingestion Pathway protective actions can include the quarantine or destruction of contaminated water and foodstuffs and the substitution of uncontaminated supplies.

4.5 Aid to Affected Personnel

Procedures are established which provide for the control of radiation exposure including emergency exposure, personnel contamination, and for assistance to injured personnel, including situations involving complications due to the presence of radiation or radioactive contamination.

4.5.1 Radiation Exposure Control

The JAFNPP has an onsite dosimetry system. The system consists of DLRs, and/or direct-reading dosimeters or electronic dosimeters. A limited number of TLDs/DLRs and direct reading dosimeters are also available in emergency kits. During an emergency, personnel are available 24 hours per day to issue and/or process dosimetry devices and to document and maintain the results.

Exposures will be controlled based on the guidance and recommendations contained in the Personnel Protective Actions Procedure. This procedure provides for expeditious decisions with consideration given for a known and reasonable balance of associated risks.

Reasonable measures will be taken to limit the radiation exposure of emergency personnel who provide rescue, first aid, decontamination and ambulance or medical treatment services to within applicable exposure limits specified in 10 CFR 20 unless higher exposures are deemed necessary by the Emergency Director or appropriate offsite authority. Figure 4-1 summarizes the emergency and lifesaving actions such as:

- Removal of injured persons
- Undertaking mitigative actions
- Performing assessment actions
- Providing first aid
- Performing personnel decontamination
- Providing ambulance service
- Providing medical treatment services

4.5.2 Decontamination and First Aid

Personnel contamination in emergency situations will be controlled to the extent feasible by the normal methods of using protective clothing and surveying for contamination following the removal of such clothing.

Personnel decontamination areas, consisting of showers and sinks, which drain to the radwaste system, are available for either routine or emergency use at the JAFNPP. Similar facilities are available at the NMPNPS. Plant employees are instructed in the proper methods of removal of minor contamination from skin surfaces. Decontamination efforts involving significant amounts of contamination, particularly in the vicinity of facial openings, will normally be performed under the direction of Radiation Protection personnel. Detailed criteria and methods for personnel decontamination are described in the JAFNPP RP Procedures and Programs.

At least two persons who are knowledgeable in basic first aid methods are onsite at all times. Procedure FPP-1.4, *Medical Emergencies,* delineates steps for handling a contaminated medical injury. First aid to injured personnel can normally be performed in conjunction with any necessary decontamination methods. However, if immediate treatment of injury is vital, that treatment shall take precedence over decontamination. The philosophy also extends to offsite emergency assistance involving radioactive contamination. For that purpose, measures are established to ensure timely offsite medical treatment, as described in Sections 4.5.3 and 4.5.4.

4.5.3 Medical Transportation

Arrangements have been made for the transportation to a medical treatment facility of personnel who may have injuries complicated with radioactive contamination or who may have been involved in a radiation incident from the JAFNPP.

Agreements from this organization to provide emergency services are listed in Appendix C. Ambulance emergency supply kits are available for use.

A communication link can be established by radio between the County dispatcher and emergency vehicles. A communication link can be established by telephone between the JAFNPP and the dispatcher.

4.5.4 Medical Treatment

Arrangements have been made with the Oswego Hospital for the medical treatment of patients from the JAFNPP who may have injuries complicated by radioactive contamination.

Similar arrangements have been made with the University Hospital for medical treatment of contamination injuries and significant overexposure to radiation. Both facilities have developed detailed procedures for handling radioactively contaminated patients from the JAFNPP.

A listing of Letters of Agreement is contained in Appendix C.

A communication link can be established by telephone between the JAFNPP and any of these medical facilities, if necessary.

Medical treatment facilities and onsite personnel may also contact a radiation management expert who is contracted to provide radiological treatment advice upon request. This service is available to medical personnel 24-hours per day year-round. This contracted letter of agreement is contained in Appendix C.

4.6 Figures, Forms, and Attachments

Figure 4-1 Emergency Exposure Criteria
Figure 4-2 Ten-Mile EPZ Map
Figure 4-3 2010 Population Estimates ERPAs
Figure 4-4 Bus Routes and Pickup Point Map
Figure 4-5 Offsite Survey Locations Map
Figure 4-6 Special Facilities Map
Figure 4-7 Siren Locations Map
Figure 4-8 Offsite Environmental Stations and TLD Locations Map
Figure 4-9 Primary Evacuation Routes Map

FIGURE 4-1
Emergency Exposure Criteria

Planned exposure to the whole body and/or specific organs shall not exceed the following recommendations of the Environmental Protection Agency in EPA-400-R-92-001	
Guidance on Dose Limits for Workers Performing Emergency Services	
Dose Limit[a] TEDE (rem)	Activity
5	All activities during the emergency
10	Protecting valuable property. Lower dose not practicable.
25	Lifesaving or protection of large populations. Lower dose not practicable.
>25	Lifesaving or protection of large populations, only if individual receiving exposure is a volunteer, and fully aware of risks involved
[a] Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.	
Additional General Criteria	
• All reasonable means for keeping personnel emergency exposures as low as reasonable achievable and within 10 CFR 20 limits shall be expended before exposure exceeding 10 CFR 20 limits are permitted.	
• All reasonable measures shall be taken to minimize skin contamination and the uptake of radioactive material.	
• All personnel performing emergency activities involving exposures, which may or will exceed 10 CFR 20 limits, shall be volunteers and shall be briefed on potential exposure consequences prior to receiving such exposures.	
• Women of childbearing age shall not be permitted to receive emergency exposures, which exceed 10 CPR 20 limits.	
• Retrospective exposures shall be evaluated on an individual case basis.	

FIGURE 4-2
MAP NUMBER 1
TEN MILE EMERGENCY PLANNING ZONE (PLUME EXPOSURE PATHWAY)

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Object Type - EXELON RECORD

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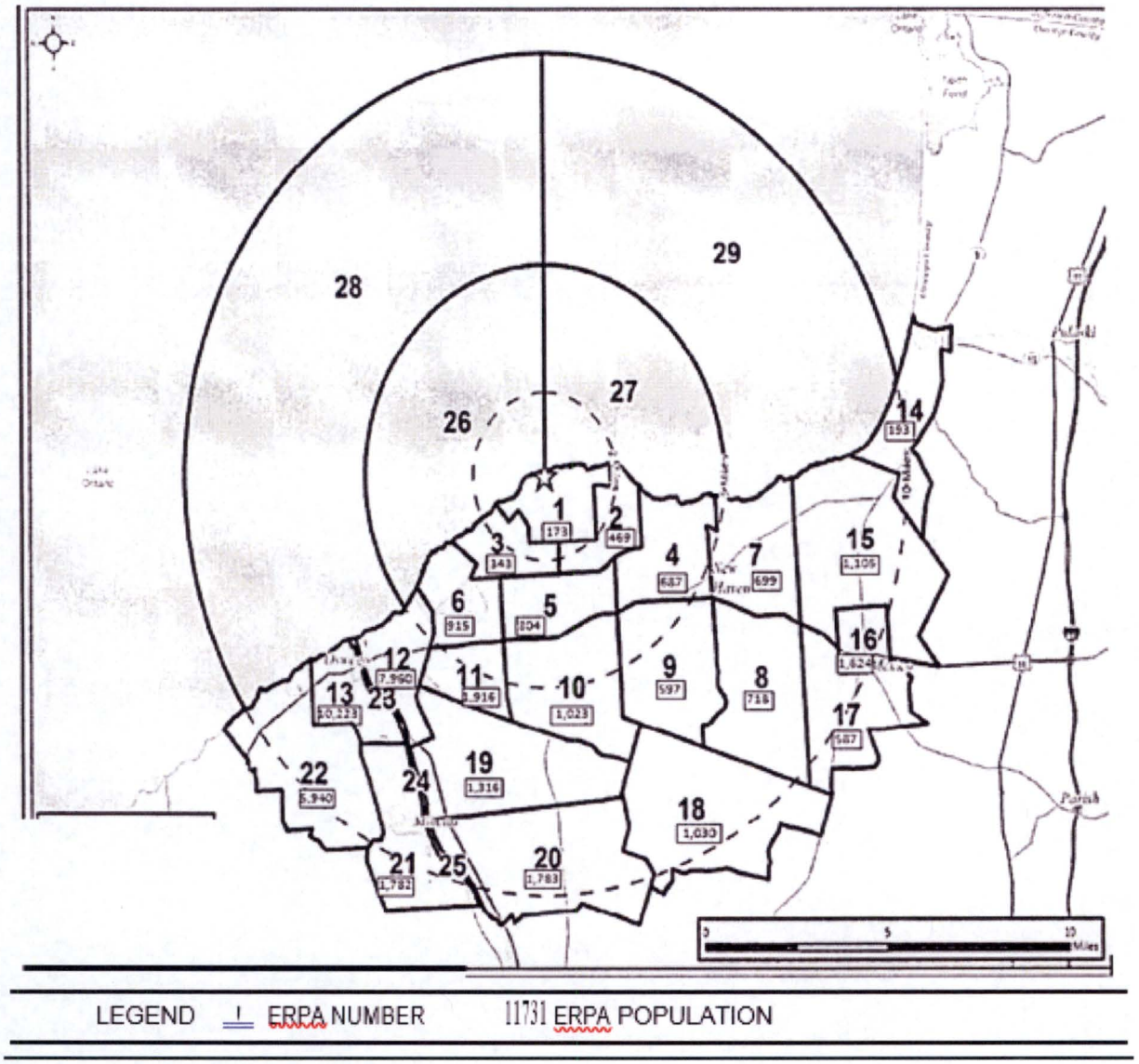
Once EDMS Opens the List of Files

The PDF Name is: Section 6, Sheet 1, 20030527, Figure 6-2 EMERGENCY MEASURES

FIGURE 4-3

2010 POPULATION ESTIMATE ERPAS 1



2010 Population Estimates
Emergency Response
Planning Areas (ERPAs)

J.A. FitzPatrick/ Nine Mile Point
Radiological Emergency Response
Plan and Procedures

FIGURE 4-4
MAP NUMBER 3
BUS ROUTES AND PICKUP POINT MAP

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EMERGENCY MEASURES

FIGURE 4-5
MAP NUMBER 4
OFFSITE SURVEY LOCATIONS

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FIGURE 4-6
MAP NUMBER 5
SPECIAL FACILITIES

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EMERGENCY MEASURES

FIGURE 4-7
MAP NUMBER 6
SIREN LOCATIONS

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The PDF Name is: Section 6, Sheet 5, 20030176, Figure 6-7

EMERGENCY MEASURES

FIGURE 4-8
OFF-SITE ENVIRONMENTAL MONITORING STATION AND TLD LOCATIONS
PAGE 1 OF 1

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Category - GENERAL RECORDS

Document Type - EMERGENCY PLANNING MAPS

Document ID - SECTION 6

FIGURE 4-9
MAP NUMBER 8
PRIMARY EVACUATION ROUTES

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Category - GENERAL RECORDS

Document Type - EMERGENCY PLANNING MAPS

Document ID - SECTION 6

Section 5: Facilities and Equipment

Identified and described in this section of the Plan are the emergency response facilities; communications systems; assessment, protective, first aid, and decontamination facilities; and equipment which is available for the Exelon response to an emergency at JAFNPP. (Facility activation may be modified by the Emergency Director if the safety of incoming personnel may be jeopardized by a security event or other event hazardous to incoming personnel).

5.1 Emergency Response Facilities

The emergency response facilities are identified and described in this section.

5.1.1 Control Room

The Control Room is the primary location in which plant conditions are monitored and controlled and mitigative actions are taken to mitigate emergency conditions. The room is equipped with instrumentation and controls for major plant systems. It is the facility in which initial accident assessment, emergency classification, and emergency response occurs. Meteorological and radiological instrumentation provide data for dose calculations. Emergency communications systems for in-plant and out-of-plant communications are also provided.

Initially, the on-duty Shift Manager will assume the role of Emergency Director and the Control Room will be the primary location for assessment and coordination of corrective and protective actions for essentially all emergency conditions. The Control Room is staffed as specified in the JAFNPP Emergency Plan.

Emergency response functions which are initially conducted in the Control Room will be transferred to the Technical Support Center or the Emergency Operations Facility, as soon as it is feasible to do so, for events which constitute an Alert, Site Area Emergency or a General Emergency. This transfer of emergency response functions may also be implemented for less severe events, at the discretion of the Shift Manager.

The primary consideration is to ensure that the activities and the number of personnel involved with the emergency in and around the Control Room shall not impair the safe and orderly shutdown of the reactor or the operation of plant safety systems.

5.1.2 Technical Support Center (TSC)

Activation and the location of the TSC or OSC may be modified by the Shift Manager if the safety of incoming personnel is in question. Locations for consideration of ventilation include:

1. The JAFNPP Training Building

2. The JAFNPP Technical Library
3. The Emergency Operations Facility
4. The Backup OSC.

Other locations may also be considered.

The TSC is a facility external to the Main Control Room from which plant management and technical support personnel may operate during emergency situations. It is also the facility from which technical support is provided during recovery operations. The TSC will be operational within approximately sixty minutes of the notification of an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY. It may also be activated for an UNUSUAL EVENT at the discretion of the Shift Manager. The activation of the TSC is described in EP-AA-112-200, TSC Activation and Operation. The TSC is located in the old Administration Building on the second floor within a two-minute walk of the Main Control Room. The TSC is close to normal plant administrative offices which can provide additional documentation and equipment use in the TSC.

Assessment activities as well as coordination of corrective and protective actions for most emergency situations will be performed in this facility. These functions may include:

1. Providing guidance to the Control Room operating personnel.
2. Providing plant systems support for management personnel in the EOF during recovery operations.
3. Communication with other emergency response centers.
4. Providing direction to emergency coordinators.
5. Acting as the primary information source to the EOF and the NRC for plant operations.

This center provides an area outside of the Control Room in which to conduct the technical support functions necessary for the control of an emergency situation. These functions include:

1. Capability to display real-time plant status.
2. Capability to transmit plant status data.
3. Capability to communicate with the Control Room and the NRC.
4. Availability of plant systems drawings and other documents for decision making purposes.

The TSC is equipped with appropriate communications and other equipment to perform the above-mentioned functions.

5.1.3 Operations Support Center (OSC)

The OSC is located on the 272' elevation of the old Administration Building, and is the staging and dispatch area for all:

1. Maintenance and Instrument and Control technicians from which personnel will be selected and dispatched to emergency assignments.
2. Radiation Protection and Chemistry technicians who will be dispatched to obtain in-plant radiation measurements and samples.
3. Damage Control Teams.
4. Search and Rescue Teams.

The OSC is located near a Health Physics checkpoint. The issuance of personnel dosimetry, as well as monitoring and decontamination of personnel, may be accomplished in the OSC. Some specialized equipment is available for use in the OSC and is listed in the inventory procedure. The Operational Support Center has communications equipment, with which to control OSC related activities, either installed or readily available.

The OSC will be activated upon the declaration of an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY. It may also be activated for an UNUSUAL EVENT at the discretion of the Shift Manager. Activation and operation of the OSC will be in accordance with EP-AA-112-300, OSC Activation and Operation .

5.1.4 Backup Operational Support Center (BOSC)

The BOSC is located in a work area adjacent to the JAFNPP Control Room. If conditions warrant, and as directed by the JAFNPP Shift Manager or Station emergency director, OSC personnel shall move to and equip this facility. The BOSC is an area with same habitability design as the JAFNPP Control Room. (The 300 ft elevation outside the Control Room and within the TSC ventilation boundary may also be used if habitability conditions warrant. This area has the same habitability design as the TSC). Additional locations may be established as directed by the Shift Manager or Station emergency director, if needed. This facility could further be used to provide a TSC work area.

5.1.5 Emergency Operation Facility (EOF)

The Emergency Operation Facility is located near the Oswego County Airport on Rt. 176. This location is outside of JAFNPP security fence and the 10 mile EPZ and is within 30 minutes ground travel time from the TSC. The EOF will be the location where the following functions are to be performed.

1. Overall management of Exelon emergency response and recovery resources.
2. Evaluation, coordination, and communication of Exelon emergency response activities with Federal, State, and County emergency response organizations.
3. Determination/verification of the magnitude and effects of actual or potential radioactive releases from JAFNPP, as initially calculated in the

Control Room.
4. Receipt and coordination of field radiological survey data and sample media at the adjacent Environmental Lab.
5. Making recommendations to offsite agencies regarding protective actions.
6. Initial communications with Public Information Personnel.

The EOF will be activated following the declaration of an ALERT, SITE AREA EMERGENCY or GENERAL EMERGENCY. The EOF will be activated and/or take Command and Control within approximately one hour. It may also be activated for an Unusual Event at the discretion of the Shift Manager. The activation of the EOF is described in EP-AA-112-400, *Emergency Operations Facility Activation and Operation*.

The Emergency Operations Facility also services for Recovery. This area has sufficient space available for personnel and equipment necessary for planning and arranging recovery activities. Systems are provided for communications with other centers.

An emergency diesel generator is available for use at the EOF.

5.1.6 Joint Information Center (JIC)

The Joint Information Center is located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney. This facility will serve as the central location for release of all information from Exelon, as well as from local and State agencies to the news media.

The JIC is equipped to accommodate the news media for large briefings and conferences. Recording capability for briefings is included. Telephones are provided for the use of reporters. Off-air radio and television monitoring and recording capability is provided to alert Exelon and other representatives to incorrect information or rumors which may be broadcast. This information will then be corrected during briefings.

Rumor control will also be provided using a group of telephones at the JIC. Responses to media telephone inquiries will be handled by additional telephones at the JIC.

The Joint Information Center will be activated at the declaration of an ALERT, a SITE AREA EMERGENCY or GENERAL EMERGENCY. It may also be activated at a lesser emergency classification at the discretion of the Shift Manager.

An emergency diesel generator is available for use at the JIC.

5.1.7 Oswego County Emergency Operations Center (OCEOC)

The Oswego County Emergency Operations Center is located in the Emergency Management Office, County Branch Building, Fulton, NY. The County Warning

Point is located at the E-911 Center. Communication systems are manned 24-hours per day at this warning point. Upon activation by the Oswego County Emergency Management Office, communications, planning and coordination personnel will be available for emergency response.

A representative from JAFNPP will be dispatched to this facility to act as a liaison between the County and Exelon, when requested by County Officials.

5.1.8 State Emergency Operations Center

The State Emergency Operations Center is in the substructure of the Public Security Building No. 22, State Office Building Campus, Albany, NY. State Warning Point communication systems and the New York State Emergency Management Office are also located in this center. Communications systems operate on the around-the-clock basis. Upon activation, planning and coordination personnel will be available for emergency response.

5.1.9 Staging/Muster Area

A Staging/Muster Area with communication capabilities for contacting the Control Room and plant security is available to serve as a staging area for augmented emergency response staff if the site is under threat of or experiencing hostile action. The Staging/Muster area is the Remote Assembly Area located at the Oswego County Airport in Fulton, NY, approximately 12 miles from the JAF site. The Remote Assembly Area is adjacent to both the EOF and the Alternative TSC and Alternative OSC. Augmented emergency response staff can be staged at the Remote Assembly Area in a manner that provides rapid response to mitigate site damage as soon as the site is accessible.

5.1.10 Alternative Facilities

Should the primary TSC or OSC, or backup OSC not be available, an Alternative TSC (ATSC) and Alternative OSC (AOSC) are available. These two facilities are located in the EOF building and are positioned to take advantage of the EOF and Remote Assembly Area facilities which are in close proximity. The ATSC and AOSC have the following capabilities:

- communication with the emergency operations facility, control room, and plant security
- the capability to perform offsite notifications
- emergency assessment activities damage control team planning and preparation

The Alternative Facility maintains the capability for staging the TSC/OSC emergency response organization personnel in the event of a hostile action. The alternative facility has the capability for communications with the emergency operations facility, control room, and plant security and the capability for engineering assessment activities, including damage control team planning and preparation. Consistent with NRC EPFAQ No. 2013-005, the EOF will satisfy the offsite notification responsibilities for the Alternative Facility. The Alternative Facility is located at the Nine Mile/Fitzpatrick EOF on County Route 176, just outside

Fulton, NY, adjacent to the Oswego County Airport.

5.2 Communications System

The JAFNPP communication capabilities include multiple systems and redundancies, which ensure the performance of vital functions in transmitting and receiving information throughout the course of an emergency. Figure 5-1 shows the communication systems available and the primary communication links. As can be seen on the diagram, multiple communication modes and paths are available for emergency communications.

Following is a list of available communications systems along with a brief description of each:

5.2.1 Page/Party System (In-Plant)

- Control Room
- Technical Support Center
- Operational Support Center
- Office Area
- Other Plant Areas

The page/party system (Gaitronics) is comprised of a page channel connected to loudspeakers throughout the plant and three channels. System functions allow multiple personnel to participate in a conversation on each of the channels. The page system is also used for announcements and plant alarms.

The alarm mode must be initialized from the Control Room, but the conversation features are available in all emergency response facilities onsite and throughout the plant.

5.2.2 Sound Powered Phone System (In-Plant)

- Control Room
- Technical Support Center
- Other Plant Areas

The sound-powered phone system allows point-to-point Communications as well as multi-point communication without interference from cross-talk. This system is normally used for maintenance and testing but can be used for conversations between individuals performing specialized tasks (e.g., an individual in the Control Room and a technical specialist in the Technical Support Center). This system is operational from the relay room accessible from the TSC and Control Room.

5.2.3 Telephone System

- Control Room
- Operational Support Center (Primary, Backup, and Alternative)

- Technical Support Center (Primary and Alternative)
- Emergency Operations Facility
- Other Plant Areas
- Various Offsite Agencies

The plant telephone systems can be used for in-plant as well as outside communications. The system can be used for point-to-point or multi-point communications. Normal telephone lines are available at each emergency center.

The phone systems include many automated or programmable features that improve notification and allow communications flexibility. Cellular or satellite phones are also available at various locations.

5.2.4 Dedicated Telephone Links

5.2.4.1 Radiological Emergency Communications system (RECS)

The Radiological Emergency Communications System is a dedicated telephone network to be used for communications pertaining to nuclear emergencies at JAFNPP. The RECS system is available 24 hours per day, 7 days per week and is tested by New York State periodically.

The system consists of dedicated transmission telephones providing multi-party communication in a conferencing mode.

A station set is normally located at each of the following locations:

1. New York State Emergency Operations Center
2. New York State Watch Center
3. Alternate State Watch Center
4. State Department of Health
5. NYSOEM Regional Office
6. Oswego County Emergency Operations Center
7. Oswego County E-911 Center (Warning Point)
8. Nine Mile Point Control Rooms
9. Nine Mile Point TSC and EOF
10. JAFNPP Control Room
11. JAFNPP Technical Support Center
12. JAFNPP Emergency Operations Facility/Alternative TSC
13. NYSOEM Technical Resources
14. Joint Information Center

5.2.4.2 Other Dedicated or Special Lines

In addition to the RECS system, the following dedicated or special telephone connections exist.

a. Control Room to:

NRC
Technical Support Center
NMPNS
EOF
OSC

b. Technical Support Center to:
NRC
Control Room
NMPNS
Emergency Operations Facility
Operational Support Center
Backup Operational Support Center

c. Emergency Operations Facility to:
NRC
Technical Support Center
Operational Support Center
JAFNPP Radiation Protection Manager
Control Room

5.2.4.3 NRC Health Physics Network (HPN), FTS2001 Phones

This telephone system is part of the FTS2001. It is used to transmit health physics (radiological) data or other data to the NRC during an emergency. JAFNPP facilities at which these telephones are located include:

- Technical Support Center
- Emergency Operations Facility
- Several FTS2001 telephones exist at the TSC and EOF

5.2.5 Radio System

The JAFNPP radio system utilizes various frequencies at the following locations:

- Control Room radio console
- Technical Support Center radio console
- Emergency Operations Facility/Alternative TSC radio console
- Oswego County radio console
- Security Force radio console
- Portable Units
- Mobile Units

The radio system is intended to serve as a redundant communications system to the telephone system for initial notification and relaying assessment information as necessary. It is also used, in conjunction with cellular phones, to communicate with radiological survey teams.

5.2.6 Data Links

Plant Data System to:

- Technical Support Center
- Emergency Operations Facility
- Joint Information Center
- New York State
- NRC Operations Center

5.2.7 Hard Copy Transceivers (Telecopy)

- Oswego County Emergency Management Office
- Exelon Headquarters
- Technical Support Center (Primary and Alternative TSC)
- Emergency Operations Facility
- Joint Information Center
- New York State Office of Emergency Management
- Other Services as necessary

5.2.8 Alert and Notification System

In order to provide prompt notification to the public of emergency conditions, an Alert and Notification System (ANS) has been installed in the plume exposure EPZ.

The ANS consists of:

- The Alerting portion of the system, which consists of fixed sirens within the 10 mile EPZ. Figure 5-4 depicts the approximate locations of the fixed sirens within the 10 mile EPZ. As a backup to the siren portion of the alerting system, a 911-based mass notification system is available.
- The Notification portion of the system utilizes the Emergency Alert System (EAS) which consists of pre-designated radio stations that will broadcast public protective actions and other emergency news. The 911-based mass notification system can also act as a backup to the EAS portion of the notification system.

The design objectives, construction, operation and maintenance of the ANS meets or exceeds all of the relevant criteria for ANS delineated in NUREG - 0654 and FEMA - REP - 10. The above ANS attributes are described in "Design Report, Nine Mile Point Nuclear Generating Station and James A. Fitzpatrick Nuclear Power Plant, Public Alert and Notification System, Revision 1, November 2015" which was approved by FEMA in February 2016.

In accordance with instructions provided during periodic public information programs (Section 6 of the Plan), the alerted population will turn to EAS radio stations for emergency information and instructions. Nine Mile Point Nuclear Station and James A. FitzPatrick shall provide the hardware for the ANS within the plume

exposure pathway EPZ.

The responsibility for activation of the public warning system rests with the Oswego County Emergency Management Office. This organization will activate the alert portion of the ANS and supply appropriate emergency messages to the EAS station serving the jurisdiction in accordance with the provisions of their emergency response plans.

Reportability criteria for the Alert and Notification System failure is consistent with NUREG-1022 and industry guidance.

5.3 Assessment Facilities and Systems

5.3.1 Onsite Assessment Facilities

Initially following an emergency, the primary onsite emergency assessment facility is the Control Room. This assessment function is transferred to the TSC after that facility has been activated. These facilities are described in Section 5.1.

Post-accident radiological samples may be analyzed in the JAFNPP radiochemistry laboratory if background radiation levels permit. This in-plant laboratory has full computer/HPGe gamma spectral, gross beta and gross alpha analysis capabilities.

5.3.2 Offsite Assessment Facilities

In addition to the in-plant radiochemistry laboratory, the services of an environmental laboratory are available, which can be used for post-accident radiological sample analysis. This environmental laboratory has full computer/HPGe gamma spectral and gross beta analysis capabilities. That service is listed as a Letter of Agreement in Appendix C.

Post-accident radiological samples can be sent to the Nine Mile Point Nuclear Power Station radiochemistry laboratory in the event that the JAFNPP in-plant and contracted environmental laboratories are unavailable for any reason, such as high background radiation levels, or operation at full capacity.

If the above facility cannot perform the analyses or cannot handle the number of analyses required, samples can be sent to the R.E. Ginna Nuclear Power Plant laboratory, located near Rochester, about an hour away by car.

5.3.3 Assessment System

5.3.3.1 Plant Radiation Monitoring Systems

This system, consisting of process and area radiation monitors, provides for personnel protection and accident assessment by measuring and recording radiation levels and radioactivity concentrations at strategically selected locations throughout the plant. The systems are described in the following paragraphs.

- Post Accident Sampling System (PASS)

  The post-accident sampling system shall provide means of obtaining primary and secondary containment atmosphere samples for determination of gas composition by means of gas chromatography, and for performing radiochemical analysis of noble gas, iodine, and particulate activities. Liquid samples shall be taken from the suppression pool and from the reactor coolant system under design conditions of temperature and pressure.

  The system is designed in accordance with the criteria set forth in NUREG-0578 with regard to post-accident sampling system performance and scope of radiochemical analysis.

  An in-line conductivity cell is used as the primary indicator of liquid chemical concentrations and changing chemical conditions. For rapid characterization of samples, pH paper may be used to establish pH to within ±0.5 pH units at high conductivities. The post-accident laboratory will have the ability to perform accurate chloride and pH determinations. The use of an in-line conductivity cell adequately satisfies the immediate need for chemical information without detailed analysis and eliminates unnecessary personnel exposure and the risk of major laboratory contamination. The system has the capability to provide a 1 to 1000 dilution of liquid samples to permit handling using existing facilities. Specific provisions for boron analysis are not included in the system. The only time boron would be present in the reactor coolant system is when the injection of sodium pentaborate was manually initiated from the Control Room via the standby liquid control system. In this case, an increase in reactor coolant system conductivity would indicate injection of the sodium pentaborate solution.

  Liquid samples may be drawn from the reactor coolant system via instrument lines in the reactor water recirculation system and the shutdown cooling configuration of the residual heat removal system. The suppression pool may be sampled from the core spray pumps or via the suppression pool cooling mode of the residual heat removal system.

Provisions have been made to obtain gas samples from the drywell and suppression pool atmospheres and from the secondary containment (Reactor Building).

The gas sampling system is designed to operate at pressures from sub-atmospheric up to the design pressures of the primary and secondary containments. Heat-traced sample lines prevent precipitation and subsequent loss of iodine in the lines. Gas samples may be passed through a particulate filter and silver zeolite filter for the determination of particulate activity and total iodine by analysis of the samples in a gamma spectrometer system. The system provides for grab sampling to allow analysis of gaseous activity as well as the dilution of high activity samples.

- Main Steam Line Radiation Monitoring System

The objective of the main steam line monitoring system is to continuously monitor for the gross release of fission products from the fuel. Indication of such a failure will initiate an alarm condition. The monitoring system consists of four gamma sensitive ionization chambers, logarithmic radiation monitor and dual pen recorder.

- Off-Gas Radiation Monitoring System

The objective of the off-gas radiation monitoring system is to continuously monitor radioactive effluents from the main condenser to the environment via the off-gas treatment system. This radiation monitoring system initiates closure of the off-gas isolation valve after a time delay when off-gas radiation levels exceed a preset limit. This system consists of two identical channels each consisting of a gamma sensitive ionization chamber and logarithmic radiation monitor. Both channels provide input to a dual pen recorder. The off-gas system is also equipped with sampling sub-system to allow for periodic grab sampling for laboratory analysis.

- Main Stack (Off-Gas Vent Pipe) Radiation Monitor

This subsystem monitors the release of radioactive material the environment via the main stack, which receives inputs from the off-gas system and the standby gas treatment system. Isokinetic probes in the stack provide a representative sample of the effluent to the detection system. This system consists of a pair of gamma sensitive scintillation

detectors. The output of these detectors is displayed in the Control Room on logarithmic radiation monitors and multipen recorders.

The High Range Effluent Monitoring System consists of three noble gas monitoring units connected in line with existing effluent monitors. One unit each is connected upstream of the turbine building exhaust sampler, the radwaste building exhaust sampler, and main stack effluent monitor.

Each monitoring unit contains two redundant ion chamber detectors. Associated with each detector is a meter type readout module in the main Control Room panel 09-2, having a range of 1E-1 to 1E+7 mR/hr. In addition to meter readouts, these modules supply digital outputs for annunciation of failure, high radiation ("alert") and high-high radiation. They also supply analog outputs for trend recording and computer logging.

The monitoring units also supply analog and digital outputs to the plant process computer. Digital outputs indicate failure, high, or high-high radiation conditions.

- Service Water and Reactor Building Closed Loop Cooling Water System Monitors

Each of these systems provides cooling water to various heat exchangers for the cooling of systems which may contain radioactive material. These continuous monitoring systems are used to detect leakage and prevent an inadvertent release of radioactive material to the environment. Each of these monitors consists of a gamma-sensitive scintillation detector in a shielded sampling chamber. Activity above a preset level is annunciated in the Control Room.

- Radioactive Waste Effluent Radiation Monitor

This subsystem is used for the control of discharges of low activity liquids. It is similar in design to other water monitoring systems. In the event activity exceeds a predetermined level, the trip unit of this system sends an isolation signal to the discharge valve of the liquid radwaste system.

- Ventilation Monitoring Systems

Ventilation monitoring systems are used to continuously monitor releases from building ventilation systems, provide alarms when releases approach preset levels, isolate

ventilation systems to protect the environment, and maintain habitability of the Control Room. The monitors for the radwaste building, turbine building and reactor building are similar. They consist of a sampling pump, sample chamber, GM radiation detector, and logarithmic display. The monitors also contain in-line particulate and activated charcoal filters which are analyzed to provide a precise determination of releases to the environment. Alarms for high activity and inoperable detectors are provided in the Control Room. The reactor building ventilation monitors have two channels.

If effluent activity exceeds a preset level on either channel, the normal reactor building ventilation system is isolated and the standby gas treatment system is initiated.

The Control Room air inlet is continuously monitored by an in-line GM-type radiation detector. Indication is provided in the Control Room and an alarm is received if activity in the Control Room ventilation intake approaches preset levels.

- Drywell Continuous Airborne Radioactivity Monitors

  The drywell continuous airborne radioactivity monitor consists of two redundant systems. Each of these contains a sampling pump, sample chamber, gamma sensitive scintillation detector and filter chambers. Each system provides continuous indication of particulate and noble gas activity. The system also provides for sampling and analysis of halogens/iodine.

- Iodine Monitoring

  Routine monitoring of ventilation exhausts for iodine is accomplished by the use of in-line activated charcoal filters. These filters are periodically changed and analyzed in a gamma spectrometer. Routine grab sampling is performed using portable sampling pumps fitted with particulate and activated charcoal filters and are similarly analyzed. Continuous air monitors are also located in various areas of the plant and monitor gross airborne activity, as well as halogen activity.

  Monitoring during off-normal conditions can be accomplished by the use of portable sampling pumps equipped with particulate filter and silver zeolite cartridge. The silver zeolite cartridge can be analyzed in a low background area using a count rate meter for immediate determination of total iodine.

  Cartridges can be analyzed using gamma spectrometry in

either the JAFNPP counting laboratory, an environmental laboratory, or the adjacent NMPNS laboratory. The silver zeolite cartridges have an iodine retention in excess of 99% while retaining only traces of noble gases. Particulates are removed using a pre-filter. Thus, gamma spectrometry is not necessarily required to make a rapid estimation of airborne radioiodine. The count rate obtained using the silver zeolite cartridge is then multiplied by a correction factor to determine the concentration of airborne radioiodine. Using this method, it is possible to attain the required minimum detectable activity of 1E-7 µCi/cc.

- Containment Radiation Monitors

  Monitoring of radiation levels within the primary containment (drywell) is accomplished using two redundant high-range (1E+8 rem/hr) ionization chambers. These detectors are located in approximately opposite locations in the drywell. Indications of radiation levels and alarms for high radiation conditions are provided in the Control Room.

  As an aid in assessing the extent of potential core damage, plots have been developed which can be used to correlate containment radiation monitor reading versus time to varying percentages of fuel inventory in containment. The plots in EAP-44, Core Damage Estimation, can be used to estimate core damage as an input to URI.

- Area Radiation Monitoring System

  The fixed area radiation monitoring system consists of thirty units located throughout the plant. Each unit consists of gamma-sensitive GM tube encased in a protective cylinder. Indication of radiation levels is provided in the Control Room on logarithmic radiation monitors and multi-point recorder. Local indication is provided at many locations. The most common ranges are 0.1 to 1000 mR/hr. Monitors in areas such as laboratories, offices and Control Room range from 0.01 to 100 mR/hr. A high range radiation monitor on the refueling floor ranges from 0.1 to 1000 R/hr.

- High Range Effluent Monitor (HREM)

  Three HREM systems have been installed at JAF. The systems were installed to monitor unusually high-level stack, turbine building and radwaste building noble gas releases. Each system consists of a large volume sample chamber and two independent gamma sensitive instrument channels. The instrument readouts and recorders are located on a back panel in the main control room. Computer and annunciator alarms alert plant operators of unusual noble gas releases. A detailed HREM interpretation is contained in SP-03.08 series of procedures.

5.3.3.2 Fire Protection Systems

Fire protection in the plant is provided by a complete network of fire suppression and extinguishing systems. These systems are associated with fire alarms and are activated by a variety of thermal and products of combustion fire detection devices located throughout the plant.

5.3.3.3 Geophysical Phenomena Monitoring System

Monitors are provided for detecting and recording natural phenomena events which could result in plant damage due to ground motion or structural vibration and stress.

Backup information can be obtained from the NMPNPS which also has seismic detectors or a local National Weather Service Station.

Hydrologic conditions (e.g., floods, low water, hurricanes) would be observed by the shift operating crew and / or information would be provided by the U.S. Coast Guard, or a local National Weather Service Station.

5.3.3.4 Environmental Radiological Monitoring Systems

There are 15 environmental radiological monitoring stations, as shown in Figure 5-2 and 5-3. The inner ring of monitoring stations, designated the onsite monitoring stations, surround the plant at a radius of approximately 2000 feet from the plant. The outer ring of monitoring stations, designated the offsite monitoring stations, surround the plant at a radius which varies from approximately 6 to 15 miles from the plant.

Each of the 15 monitoring stations continuously collects a particulate and iodine air sample. A continuously operating

sample pump draws air through a two-inch diameter glass fiber filter followed in the flow path by a two-inch diameter by one inch thick charcoal cartridge.

The Technical Specification Environmental Monitoring Stations located at the site boundary, (R1, R2, R3 and R4), and the offsite Environmental Station (R5) each have a direct radiation monitor. The radiation monitors are Eberline Model ERM-2 which consist of a GM detector with an associated power supply and provides a digital dose rate readout. Historical (prior month) monitor readings may be obtained using a computer (PC) interface to access the monitors internal storage ROM. Each radiation monitor has an operating range of 1 μR / hr to 100 mR / hr. The radiation monitors are used to detect and measure dose rates resulting from possible plume releases of radioactive material from the plant.

Each of the 15 monitoring stations has the capability for collecting precipitation samples, if required.

5.3.3.5 Environmental Dosimeter of Legal Record (TLD/DLR) Monitoring Systems

The environmental TLD/DLR monitoring system is comprised of TLD/DLR stations placed on and around the site as shown in Figures 5-2 and 5-3.

The first group of TLD/DLRs is located within the site boundary. This group consists of TLD/DLR stations ranging in distance from adjacent to the plant buildings to approximately 0.9 miles from the plant.

The second group of TLD/DLRs is located beyond the site boundary. This offsite set consists of TLD/DLR stations ranging in distance from approximately 0.6 to 12 miles from the plant.

The current placement of environmental TLD/DLRs is in accordance with the approved Technical Specifications for the site and conforms to the NRC Radiological Assessment Branch Technical Position.

Each environmental TLD/DLR station is comprised of TLD/DLRs sealed in a polyethylene package to ensure dosimeter integrity. The TLD/DLR packages are further protected by placement in plastic enclosures, or by tape sealing to supporting surfaces.

The TLD/DLRs are collected, replaced and evaluated quarterly.

5.3.3.6 Emergency TLD/DLR Monitoring System

In addition to the environmental TLD/DLR monitoring system, a second group of TLD/DLRs called emergency TLD/DLRs has been placed in various locations around the site (as described in procedure EAP-5.3. These TLD/DLRs are evaluated as necessary.

The TLD/DLR chips are renewed quarterly.

5.3.3.7 Meteorological Measuring System

Wind speed, wind direction and temperature sensors are installed on an isolated tower at elevations of approximately 30 feet, 100 feet and 200 feet above grade. The data collected by these sensors are telemetered to the JAFNPP Control Room and TSC and are continuously recorded on strip charts or digital recorders.

This data is also available in the CR, TSC and the EOF in digital form.

Joint frequency distributions of wind speed and direction by atmospheric stability class are maintained to aid in the evaluation of radiation doses which may result from the release of radioactive material from the plant.

As a backup to the primary meteorological measuring system, JAFNPP has an onsite atmospheric sensor with the ability to measure the wind speed and direction at the approximately 90-foot level. The recorders for the backup system are located on the same Control Room and TSC panel as the recorders for the primary system, thus permitting instantaneous, real time readings from two sources. A 30-foot inland tower is also an additional source of meteorological data. These sensors also have digital readouts in the CR, TSC and EOF.

Offsite backup for meteorological data is available from the National Weather Service by telephone.

An additional source of meteorological information is available through online information services. The information services collect weather information comprised of surface and upper air reports, satellite and radar information and other meteorological data on a continuous basis from sources around the world.

Access to this data is available by JAF personnel through an internet computer link.

5.3.3.8 Emergency Radiological Survey Teams

Survey teams may be dispatched to provide immediate support for both onsite and offsite emergency condition assessment. Teams will be provided survey kits composed of adequate portable instrumentation and instruction packages to permit the monitoring of airborne gamma and radioiodine levels and the acquisition of environmental media samples. A listing of available equipment for use by the survey teams is contained in equipment inventory procedure.

The team's activities will be controlled by the Environmental Coordinator, or designee. Cellular phone and / or radio contact will be provided between the plant and survey teams.

Initial responsibilities for each team will include direct radiation measurements and the collection of airborne particulate and iodine samples. Following field evaluations, the collected samples will be individually packaged and identified to permit subsequent re-evaluation, if required. Monitoring locations for the initial surveys may be the locations identified in Figures 5.2, 5.3 and 5.5 and/or other locations as determined by the Emergency Directors and/or, Radiological Protection Managers, or designees.

The survey teams may participate in the collection of samples from the fixed assessment systems described in Sections 5.3.3.4, 5.3.3.5 and 5.3.3.6. The teams will also expand their sampling activities to include collection of environmental media as dictated by the Environmental Coordinator, or designee. Representative media referenced in the Site Radiological Environmental Monitoring Program will be sampled on an increased frequency commensurate with prevailing conditions. In addition to the airborne particulate samples, airborne iodine samples and the TLD/DLRs previously described, environmental media samples may include milk, soil, water and vegetation.

A full description of the radiological monitoring capabilities is described in Section 4, EMERGENCY MEASURES, 4.2.2 Field Radiological Assessment.

5.3.3.9 Process Monitors

Plant parameters such as reactor coolant system level and pressure, containment pressure and temperature and various system flow rates are indicated in the Control Room.

Such parameters are also available in the TSC and EOF via the Safety Parameter Display System(SPDS).

5.4 Protective Facilities

Facilities are provided which ensure adequate radiological protection for personnel assigned to emergency duties in the plant, and for the accommodation of other personnel evacuated from areas that may be affected by radiation and / or airborne radioactivity or other actions that may restrict access to the site.

5.4.1 Plant Control Room

In addition to serving as the initial control location for emergency situations, the plant Control Room has the following features which provide protection for personnel who may have emergency or operational duties throughout the course of any emergency:

1. Adequate shielding by concrete walls to permit continuous occupancy under severe accident conditions.

2. An independent emergency air supply system, equipped with absolute and activated charcoal filters.

3. Continuous monitoring of radiation levels in the Control Room and throughout the plant by the ARM system, with readout in the Control Room.

4. Emergency lighting and power supplied by a 125V dc system and battery packs.

5. Communications system, as described in Section 5.2.

Additional details regarding the design and inherent protective capabilities of the plant Control Room are discussed in the JAFNPP FSAR.

5.4.2 Technical Support Center (TSC)

The TSC serves as the long range emergency control facility. To allow for long-term human occupancy during an emergency situation, the following personnel protective features have been incorporated into design.

1. Adequate shielding by concrete walls to permit continuous long-term occupancy under severe accident conditions. (Certain areas of the TSC

may not be used under certain radiological conditions).

2. An air handling system equipped with HEPA filters to provide proper breathing air during a severe radiological accident.

3. Communications systems as described in Section 5.2.

4. Emergency lighting supplied by a 125V dc system and battery packs. Emergency power is supplied to some receptacles via a plant UPS.

5. Continuous monitoring of radiation and airborne activity levels in the TSC.

5.4.3 Primary Assembly Areas

Specific locations at the plant are designated for assembly of personnel in the event of a Protected Area Evacuation. These areas provide space to accommodate personnel who may be at the plant. They are located on the basis of logical access routes and physical separation from likely areas of radiation and / or airborne radioactivity. See Procedure EP-CE-113-F-06, *JAF Assembly, Accountability, and Evacuation Guidelines,* for a listing of primary assembly areas.

5.4.4 Remote Assembly Area

The Oswego County Airport is designated as a remote assembly area, which provides the function of a staging/muster area.

This facility is located approximately 12 miles from the site on County Route 176 in the Town of Volney (Fulton, N.Y.). It is adjacent to the EOF/JIC and is away from the prevailing downwind direction.

Employee vehicles shall be used to transport employees to the Remote Assembly Area. Backup bus transportation is available from the Oswego County Emergency Management Office upon the Emergency Director's request. Evacuated personnel and vehicles can be decontaminated at this site if necessary.

5.5 Onsite First Aid and Medical Facilities

First aid treatment facilities, equipped with industrial first aid supplies, are located on the first floor of the Administration / Support Building.

5.6 Decontamination Facilities for Emergency Personnel

The personnel decontamination facilities at the JAFNPP and/or the EOF will be the primary facilities for decontaminating emergency personnel. If those facilities are unavailable for any reason, emergency personnel may be decontaminated at the NMPNPS facility.

The liquid waste from each of these decontamination facilities would be disposed of in the respective plant or facility liquid radwaste system. Solid waste would be disposed of in containers provided for this purpose.

A typical listing of personnel decontamination equipment is contained in the Radiation Protection Procedures.

5.7 Damage Control Equipment

Damage control equipment consists of normal and special purpose tools and devices used for maintenance functions throughout the plant. Personnel assigned to damage control teams are trained and participate in drills and exercises in accordance with the Drill and Exercise Program procedure. Guidance for damage control teams is contained in the Operations Support Center Activation and Operation Procedure.

5.8 Control of Emergency Equipment

A list of emergency equipment and kits is included in Appendix I, EMERGENCY EQUIPMENT KITS. The frequency of emergency equipment maintenance is specified in the inventory procedure.

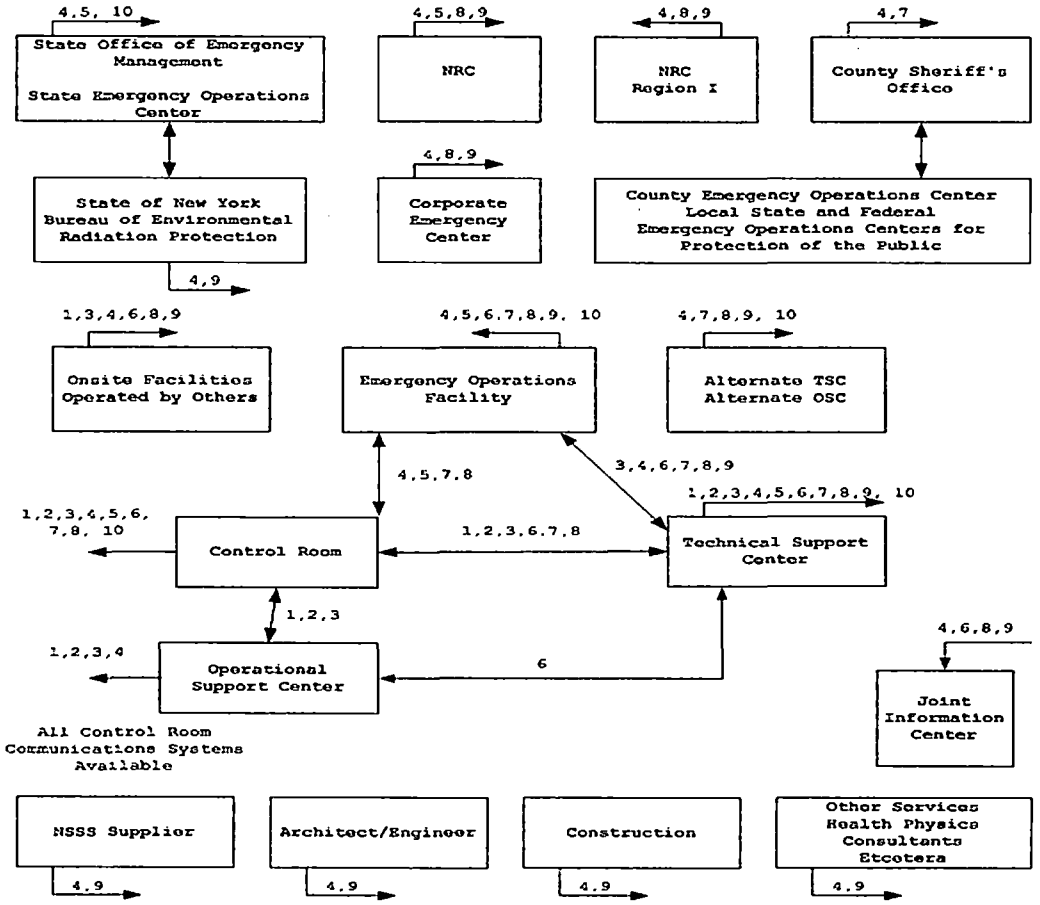
5.9 Federal Response Support

Information vital to Federal Response Support is contained in Appendix N, TYPICAL FEDERAL SUPPORT RESOURCES.

5.10 Figures, Forms, and Attachments

Figure 5.1 Emergency Communications Network
Figure 5.2 Onsite Environmental Station and TLD/DLR Locations
Figure 5.3 Offsite Environmental Station and TLD/DLR Locations
Figure 5.4 Siren Locations Map
Figure 5.5 Offsite Survey Locations Map

FIGURE 5-1 Emergency Communications Network



Communications Systems
(Corresponding Numbers)

1. Page/Party System (In-Plant)
2. Sound-Powered Phone System (In-Plant)
3. Telephone - In-Plant
4. Telephone - Outside/Normal Line
5. Telephone - Auto Dial
6. Telephone - Dedicated Line
7. Radio
8. Data Link
9. Hardcopy Transceiver (Telecopy)
10. Satellite phone

J.A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN
FIGURE 7.1
EMERGENCY COMMUNICATIONS NETWORK

Figure 5-2, Onsite Environmental Station and TLD/DLR Locations

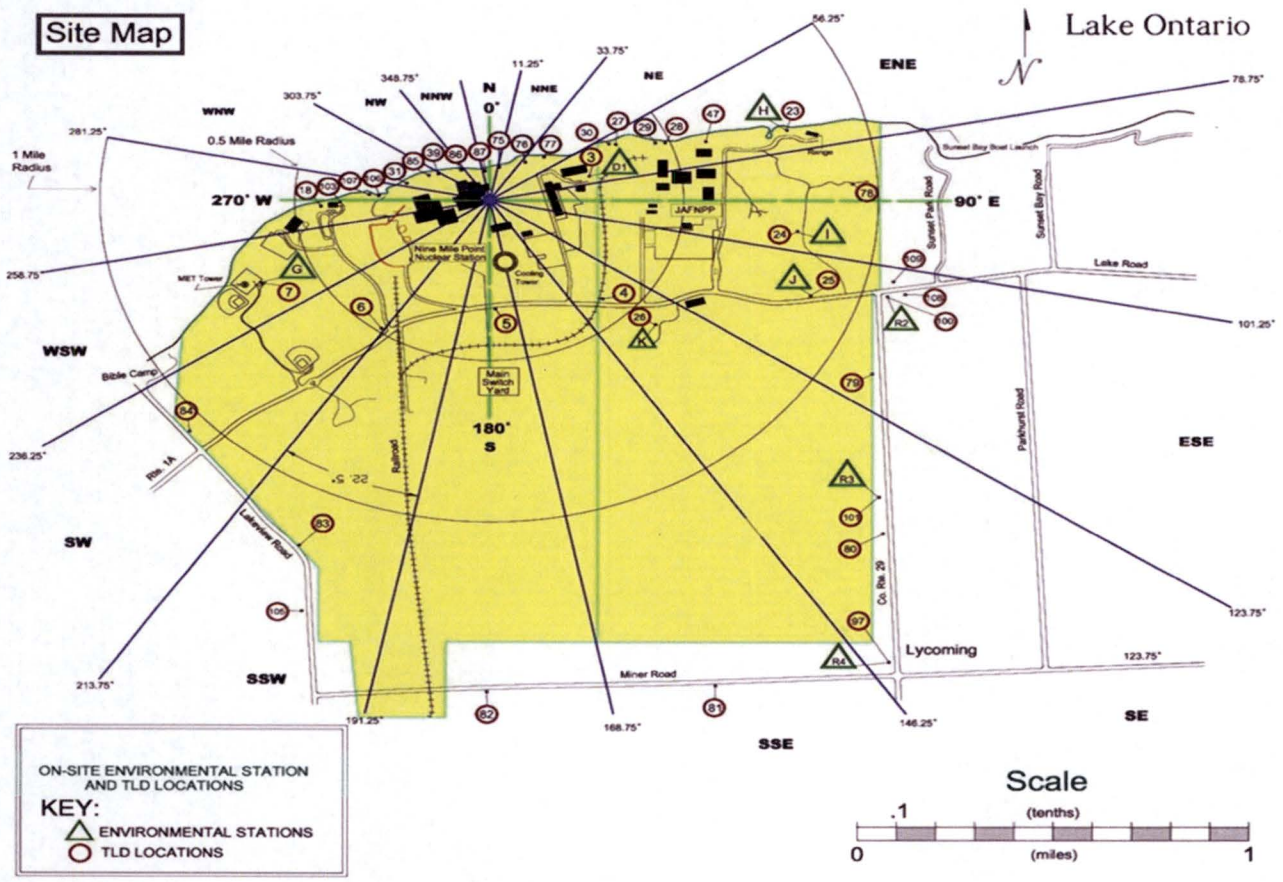


Figure 5-3, Off-Site Environmental Station and TLD/DLR Locations

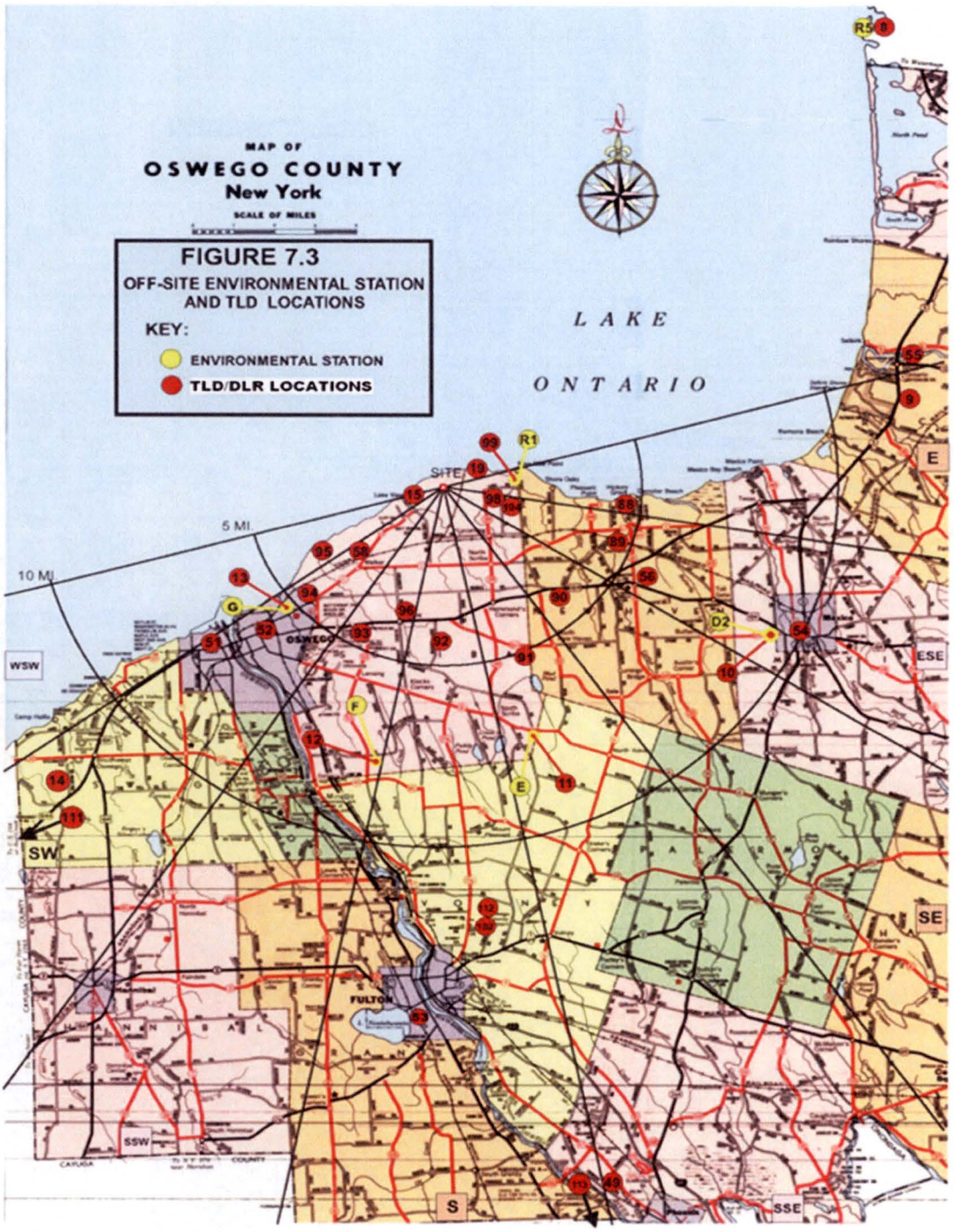


Figure 5-4, Siren Locations Map
Page 1 of 2

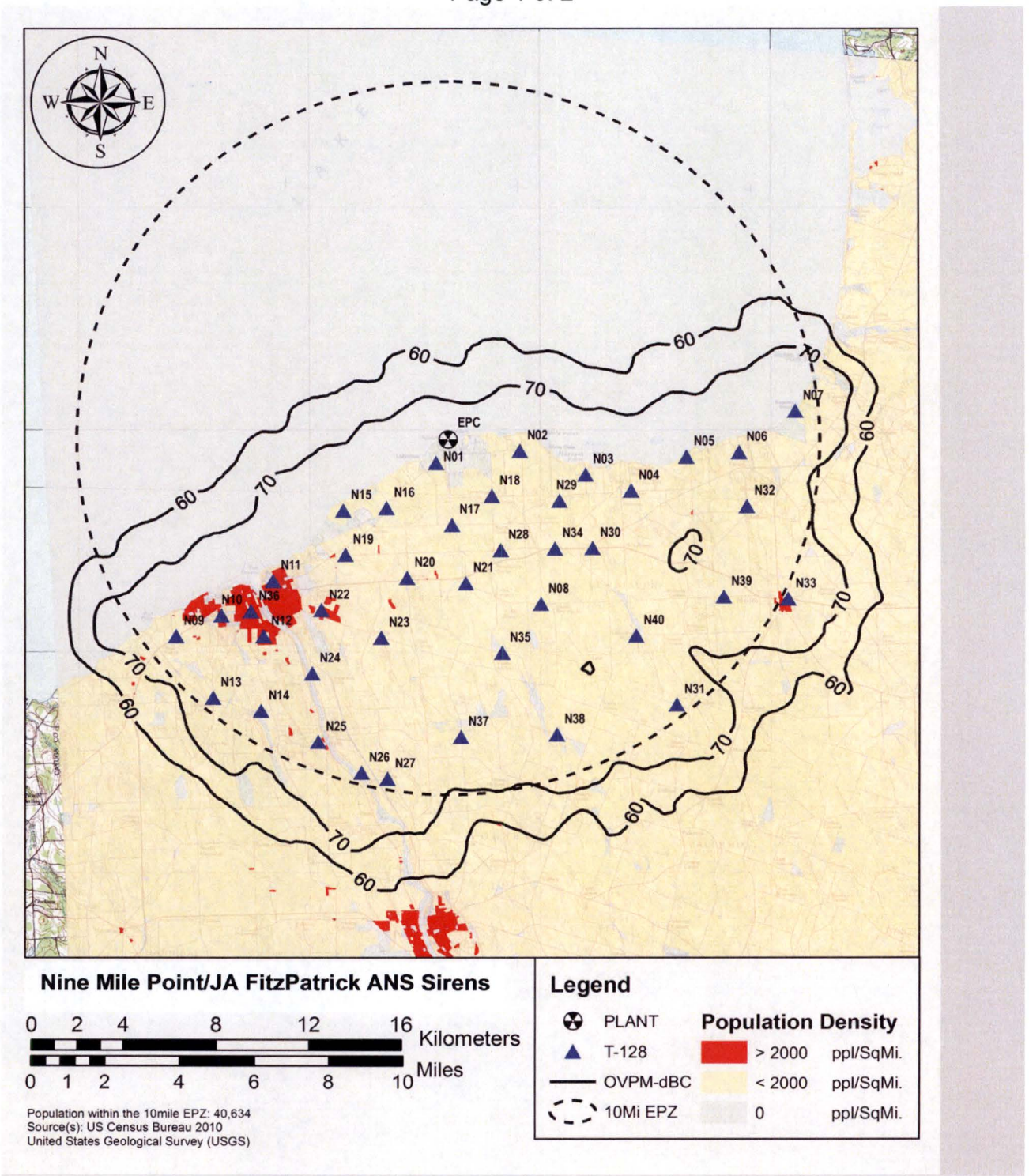


FIGURE 5.4 - SIREN LOCATIONS

MAP NUMBER 6

Page 2 of 2

To search for the map do the following in EDMS:

1.) Log onto EDMS Reference Library via the intranet
2.) Type in your user name, pass word, and group is general
3.) Click on general records
4.) In the Document ID area type in Section 7 and hit search
5.) Highlight the row that has title - "Figure 7-4 Emergency Facilities and Equipment"
6.) Select view from top
7.) Select preview
8.) The map should appear and you can resize it if you like
9.) The document is MAP NUMBER 6 - SIREN LOCATIONS
10.) Map may be printed on any size paper for expansion and ease of reading, depending on printer selected.

Figure 5.5 Offsite Survey Locations Map
Page 1 of 2

FIGURE 5.5 - OFFSITE SURVEY LOCATIONS
MAP NUMBER 4
Page 2 of 2

To search for the map, do the following in EDMS:

1.) Log onto EDMS Reference Library via the intranet
2.) Type in your user name, pass word, and group is general
3.) Click on general records
4.) In the Document ID area type in Section 7 and hit search
5.) Highlight the row that has title - "Figure 7-6 Emergency Facilities and Equipment"
6.) Select view from top
7.) Select preview
8.) The map should appear and you can resize it if you like
9.) The document is MAP NUMBER 4 - OFFSITE SURVEY LOCATIONS
10.) Map may be printed on any size paper for expansion and ease of reading, depending on printer selected.

Section 6: Maintaining Nuclear Emergency Preparedness

Emergency preparedness is maintained at the JAFNPP through administrative controls designed to; (1) train and periodically retrain site personnel, and offsite emergency organization personnel, (2) evaluate onsite and offsite proficiency and provide hands on experience through drills and exercises, (3) ensure that plans and implementing procedures are in place and current through document control procedures, (4) maintain sufficient stores of functional emergency equipment and supplies through equipment inventory procedures, (5) and maintain public and news media awareness of emergency preparedness through annual information updates and meetings with members of the media.

6.1 Responsibility for Maintaining Emergency Preparedness

The Plant Manager has overall authority and responsibility for radiological emergency response planning. The Emergency Preparedness Manager is delegated the overall authority and responsibility for radiological emergency response planning and has the responsibility for developing and updating emergency plans and implementing procedures.

Primary duties of the Emergency Preparedness Manager or Emergency Planners include coordination of training with the Training Director for JAF personnel and with offsite organizations, scheduling and coordination of drills and exercises, maintenance of plans and implementing procedures, and maintenance and inventory of emergency equipment. The Emergency Preparedness Manager usually delegates the responsibilities for maintenance and inventory of emergency equipment to the Emergency Planners.

The JAFNPP Training Director is responsible for ensuring that all personnel who have emergency plan duties at the JAFNPP receive the appropriate emergency preparedness training.

The Training Director shall coordinate the scheduling of training of onsite personnel and provide for the training of all offsite fire support personnel.

The Emergency Preparedness Manager shall be responsible for coordinating, scheduling and administrating news organization training.

The Oswego County Director of Emergency Management is responsible for planning and conducting emergency preparedness training for emergency response personnel in Oswego County.

The Director Emergency Programs is responsible for ensuring that corporate personnel who have emergency plan duties supporting JAFNPP receive the appropriate emergency preparedness training.

Individuals responsible for Emergency Planning are trained in accordance with paragraphs 6.2 - Training of Emergency Personnel and 6.3 - Emergency Planning Staff Training. In addition, the Emergency Planning Staff receives training by:

attendance at Emergency Planning Workshops conducted with other utilities and attendance at NRC, FEMA and other government sponsored Emergency Planning seminars and, participation in JAFNPP specific training programs related to emergency preparedness.

6.2 Training of Emergency Personnel

Plant personnel, participating corporate personnel, and offsite response organization personnel that respond to onsite requests for assistance receive emergency response training in accordance with their roles in an emergency.

The JAFNPP Training Department shall maintain a centralized records program concerning Emergency Plan Training Documentation. Records will include classroom training for plant personnel, and records documenting drills and exercise participation.

The following curriculum shall be completed by individuals on the Authorized Access List.

a. Overview of the Emergency Plan, include planning objectives, emergency organizations and facilities, the existence of coordinated procedures and the ability of the Emergency Response Organization (ERO) to mitigate the consequences of emergencies.

b. Site alarms and general responses.

c. Onsite and offsite evacuation routes, assembly areas, and decontamination of personnel and vehicles.

d. Reporting of fires, injuries, spills and other emergency conditions.

e. Accountability procedures.

f. Emergency classifications.

g. Rumor control.

Personnel assigned to the JAFNPP with specific emergency preparedness duties and responsibilities shall receive specialized training for their respective assignments. The types of training given in conjunction with Emergency Preparedness are:

a. Training for directors, coordinators, and personnel responsible for accident assessment

b. Emergency Communications training

c. Training for Radiological Monitoring Teams and Radiological Assessment personnel

d. Emergency access control, evacuation and accountability

e. Search and rescue/first aid response

f. Emergency repair/mitigative actions

g. Training for onsite firefighting personnel

h. Medical support personnel

i. Offsite firefighting personnel

j. Severe Accident Management training

Figure 6.1 – Emergency Response Training presents a summary of the emergency response training program including type of training, personnel receiving training, frequency of training and retraining, applicable procedures, and objectives of the training. The emergency planning training program is described in the Standard Plan and TQ-AA-113, *ERO Training and Qualification.*

Training will include classroom training and where applicable practical training.

6.2.1 Annual Review of Emergency Action Levels

The Emergency Preparedness Manager, in accordance with 10 CFR 50, shall conduct an annual review of the JAFNPP Emergency Action Levels (or changes to those EALs from the prior review cycle) with appropriate representatives of New York State and Oswego County. Reviews will be documented by memorandum.

6.3 Emergency Planning Staff Training

Personnel responsible for the Fitzpatrick emergency preparedness effort receive appropriate training to maintain their level of competency. On an annual basis, site Emergency Planning staff may participate in any one of the following. The Site Emergency Preparedness Manager and staff attend relevant seminars and meetings on emergency preparedness issues, such as those held by the NRC/FEMA and Nuclear Energy Institute. In addition, appropriate technical literature (such as that received from NEI, FEMA, NRC, etc.) is reviewed to assist in maintaining this competency. Training requirements for FitzPatrick personnel responsible for the emergency planning effort are described in the Standard Plan and in the Emergency Plan Administration procedure.

6.4 Drills and Exercises

An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations.

Drills and Exercises are discussed in the Standard Plan and EP-AA-122-100, Drill and Exercise Planning and Scheduling. Drills and exercises provide the means to evaluate training effectiveness under simulated emergency conditions, skills developed during training, reinforce correct actions and identify and correct short-comings in training, equipment, or procedures.

6.4.1 Drills

A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. A drill is often a component of an exercise. A drill may also be tabletop supervised instruction or role-playing.

The Emergency Preparedness Manager is responsible for the conduct of drills listed in Figure 6.2 - Schedule of Drill Performance (except for Fire Fighting drills which are the responsibility of the Training Director).

Drills shall be conducted using the following guidelines:

a. Drills are planned in advance using formal scenarios (except communications drills which may be performed by a single individual).
b. Observers/evaluators, and/or controllers are designated and briefed in advance, as required.
c. Drill critiques are conducted as described in the Standard Plan and in accordance with the Drill and Exercise Evaluation procedure. The results of the critique along with observer, evaluator, controller and participant comments are utilized to evaluate and resolve any identified shortcomings.
d. Major elements of the JAFNPP Emergency Plan are tested within an eight-year period.
e. At least once per eight-year period a drill starts between 6:00 p.m. and 4:00 a.m.
f. Drills are conducted under various weather conditions.

6.4.2 Exercises

The Emergency Preparedness Manager is responsible for the coordination and conduct of exercises. Exercises are conducted at least once every two years in accordance with NRC and FEMA rules. The conduct of exercises is described in the Standard Plan and the Drill and Exercise Program procedure. In summary, the following criteria apply to exercises conducted at JAFNPP.

Exercises will be conducted using the same criteria as applied to drills and in accordance with the Figure 6.2 -Schedule of Drill Performance as summarized below:

a. The JAFNPP Exercise should include simulated off-site radiological releases.

b. Federal, State, and company observers/evaluators may be present.
c. Exercises are planned in advance using formal scenarios.

d. Scenarios shall be reviewed and approved in advance by the Emergency Preparedness Manager and a representative from the Plant Operations Safety Review Committee (PORC) or senior management reviewer. The reviewer should have plant experience and have participated in an SRO training program or have a current SRO license.

e. Observers, evaluators and controllers are designated and briefed in advance.

f. Unannounced exercises are controlled through input of initiating events by controllers.

g. Observers, evaluators, controllers and participants comments from the exercise documentation package.

h. The NRC/FEMA critique is factored into the exercise documentation package (when applicable).

i. The exercise documentation package is used as a basis to evaluate shortcomings and develop a plan to correct deficiencies through additional training or equipment or procedure revision.

j. Drill/Exercise report generation is discussed in the Standard Plan and EP-AA-122, *Drills and Exercise Program.*

6.4.3 Drill and Exercise Scenario Preparation Responsibilities

The development of drills and exercises for JAFNPP shall be coordinated by the JAFNPP Emergency Preparedness Manager. The JAFNPP Training Director shall have the responsibility for developing plant specific data. The JAFNPP Emergency Preparedness Manager shall have the responsibility for ensuring plant specific radiological data is provided. Exercise Scenario preparation shall be conducted by a committee and documented by the Emergency Preparedness Manager. Responsibilities are discussed in the Standard Plan and the Drill and Exercise Program procedure.

6.5 Document Maintenance

6.5.1 Plans and Procedures

The JAFNPP Emergency Plan and Procedures will be maintained in the format and by the method specified in the EP-AA-120, Emergency Plan Administration, and Exelon fleet Document Control Administrative procedures.

6.5.2 Letters of Agreement

The Emergency Preparedness Manager will ensure that letters of agreement from all participating organizations are reviewed and recertified. Recertification may include a written recertification, purchase order documentation, memo form, or a memo of a telephone conversation. The Plant Manager JAF is the individual with the authority and responsibility to make agreements with utility and non-utility organizations.

6.5.3 Reviews

An independent review of the JAFNPP Emergency Preparedness Program shall be conducted by Nuclear Oversight. The independent review shall be conducted in accordance with 10CFR50.54(t) as follows:

- At intervals not to exceed 12 months or,
- As necessary, based on an assessment by the licensee against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect emergency preparedness, but no longer than 12 months after the change. In any case, all elements of the emergency preparedness program must be reviewed at least once every 24 months.

- The review must include an evaluation for adequacy of interfaces with State and local governments and of licensee drills, exercises, capabilities, and procedures. The results of the review, along with recommendations for improvements, must be documented, reported to the licensee's corporate and plant management. The part of the review involving the evaluation for adequacy of interface with State and local governments must be available to the appropriate State and local government.

6.5.5 Supporting Documents

A list of supporting documents is contained in Appendix J, Supporting Documents. Documents on this list will be maintained in the manner specified by the agency the supporting document is received from.

6.6 Maintenance and Inventory of Emergency Equipment and Supplies

Periodic testing, calibration and inventory of emergency equipment and supplies are conducted in accordance with Emergency Plan Implementing Procedure SAP-2, EMERGENCY EQUIPMENT INVENTORY. The Emergency Preparedness Manager or designated alternate shall conduct an annual review of this procedure to ensure the operational readiness of emergency equipment and supplies.

Emergency equipment and instrumentation shall be inventoried, inspected and operationally checked monthly, quarterly, or semiannually as indicated by the procedure and after each use. Sufficient reserves of equipment and instrumentation are stocked to replace emergency equipment and instrumentation removed from service for calibration and/or repair.

Appendix I, EMERGENCY EQUIPMENT KITS presents a list of emergency equipment and instrumentation and emergency equipment kits.

Records detailing the testing, calibration and inventory of emergency equipment and supplies shall be maintained for two years.

Communications checks and drills will be conducted in accordance with SAP-3,

EMERGENCY COMMUNICATIONS TESTING. This procedure specifies that certain emergency telephones and telephone numbers shall be verified at least quarterly.

6.7 Maintenance of Public and News Media Awareness

6.7.1 Public Awareness

JAF, in conjunction with the Nine Mile Point Site, New York State EMO, and the Oswego County EMO, has established an information program for the permanent residents and transient population within the Plume Exposure EPZ. The information provided emphasizes the means of notification and subsequent actions to be taken in the event of an emergency at the JAFNPP (or NMPNPS), and includes information on contacts for additional information and protective measures. Refer to Appendix H, PUBLIC INFORMATION PROGRAM for detailed information.

Information is distributed to permanent residents by various methods, including mailings to their residence or placement in local telephone books. Postings in public areas and places of business frequented by the transient population is the principal method for informing those individuals.

Public postings are updated as necessary and public distribution shall be conducted at least annually, or a frequency to coincide with telephone book distribution.

6.7.2 Residents Who May Require Special Care

Information for residents who may require special care (e.g. handicapped, elderly) is included with the annual mailing sent to the resident population. Along with this information is a card that is requested to be returned if an individual requires special care. A list of these individuals is maintained by the OCEMO for their use.

6.7.3 Rumor Control

Rumor control is conducted by a telephone answering system that may include both mechanical or electronic devices as well as operators for the answering of calls from the public.

6.7.4 News Media Awareness

News media awareness is completed by meeting with representatives annually in conjunction with Oswego County, Nine Mile Point, and New York State, or other means, as necessary. These meetings provide information concerning radiation, emergency planning, and the means established for the release of information to the news media during an emergency. In addition, media manuals are distributed to media organizations, as necessary.

6.8 Figures, Forms and Attachments

Figure 6.1 - Emergency Response Training

Figure 6.2 - Schedule of Drill Performance

FIGURE 6.1
EMERGENCY RESPONSE TRAINING

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	TRAINING OBJECTIVE
Emergency Plan Indoctrination for Non-Essential Personnel	Personnel requiring regular access to the site.	Per General Employee Training	Emergency Plan content and implementation; specifically: • personal actions • warnings • assembly areas • use of station communications • personnel accountability • evacuation to an offsite assembly area
Emergency Plan Indoctrination for Essential Personnel	Essential personnel who may be assigned to specific response functions in JAFNPP Emergency Plan.	Before assuming position, annually thereafter.	The objective of Emergency Plan Indoctrination for Essential Personnel shall be to provide Emergency Response Personnel a more detailed knowledge of the plant Emergency Plan and Procedures to ensure these personnel are familiar with their scope, applicability, and implementation.

FIGURE 6.1
EMERGENCY RESPONSE TRAINING
(continued)

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	TRAINING OBJECTIVE
Personnel responsible for accident assessment and/or accident management *Licensed Operator training may be substituted for Emergency Director training.	SM/Emergency Director and the Emergency Director at EOF, TSC, OSC and, EOF Managers; and Alternates	Before assuming position Annually thereafter	Instruction on the JAFNPP Emergency Plan and Implementing Procedures and Technical Support Guidelines germane to their particular assessment/management function, including Incident Command System (ICS) concepts, position titles and terminology.
Emergency Plan Training for Licensed Operators and Shift Technical Advisors	Any personnel not listed above who are assigned to a position that requires a valid USNRC Operator License, or who are designated as STAs.	Before assuming position Annually thereafter	The objective of Emergency Plan training for Licensed Operators and STAs shall be to ensure the capability for immediate response, assessment, and the implementation of measures to prevent or mitigate the consequences of emergencies.

FIGURE 6.1
EMERGENCY RESPONSE TRAINING
(continued)

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	TRAINING OBJECTIVE
Severe Accident Management Training	Designated Staff	Before assuming position Per the ERO Training and Qualification procedure.	The objective of SAM training shall be to ensure the capabilities for coordination, and assumption of responsibilities of actions associated with Severe Accident Operations Guidelines.
Emergency Plan Training for Non-Licensed Operators	Non-Licensed Operators	Before assuming position Annually thereafter	The objective of Emergency Plan training for Non-Licensed Operators shall be to ensure the capability for immediate response by conducting measures to prevent or mitigate accident conditions.
Emergency Communications	Designated Primary and Alternates: a. ENS Communicator b. Offsite Communicators (EOF) c. EOF Communicators	Before assuming position Annually thereafter	The objective of training for emergency communicators shall be to review appropriate Implementing Procedures, communications equipment and messages, including Incident Command System (ICS) concepts, position titles and terminology.

FIGURE 6.1
EMERGENCY RESPONSE TRAINING
(continued)

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	TRAINING OBJECTIVE
Radiological Assessment	Designated Primary and Alternates: a. Radiological Protection Manager (EOF) b. Environmental Coordinator (EOF) c. Dose Assessor (EOF)	Before assuming position Annually thereafter	The objective of training for personnel performing radiation monitoring and analysis duties will include downwind and/or in plant radiation monitoring and sampling Implementing procedures, including Incident Command System (ICS) concepts, position titles and terminology.
Radiological Controls and Surveys during Emergencies	Designated Primary and Alternates: a) In-Plant Radiological Controls and Downwind Survey Teams b) RP Technicians c) Chemistry Technicians d) Radiation Protection / Chemistry Coordinator e) Offsite Monitoring Team	Before assuming position Annually thereafter	The objective of training for personnel performing radiation monitoring and analysis duties will include downwind and/or in plant radiation monitoring and sampling Implementing Procedures, including Incident Command System (ICS) concepts, position titles and terminology.

FIGURE 6.1
EMERGENCY RESPONSE TRAINING
(continued)

Emergency Access Control, Evacuation and Accountability	Security personnel assigned responsibilities for Emergency Plan function, and Local Law Enforcement Officials.	Before assuming position Annually thereafter	Training and retraining requirements are outlined in the Exelon Fleet Nuclear Security Training and Qualification Plan, including Incident Command System (ICS) concepts, position titles and terminology.
Search and Rescue/First Aid Response	Plant Fire Brigade members.	Before assuming position Annually thereafter	Designated members will receive training as appropriate in basic patient care and treatment. Members will also be instructed on the availability of onsite medical treatment supplies and equipment; communication systems; access controls radiological hazards; and roles, interfaces and responsibilities with local fire/medical support personnel, including Incident Command System (ICS) concepts, position titles and terminology. and to provide effective search and rescue capabilities for missing, trapped or injured personnel in an emergency.
Damage Control / Repair Teams personnel	Designated Primary and Alternates: a. TSC Maintenance Manager b. OSC Director c. Mechanics d. Electricians e. Instrument and Control Technicians f. Electrical/I & C Lead g. Mechanical Lead		Position-related training provides the qualification for job functions of the listed personnel and, as such, special training in these functions, other than appropriate emergency plan and procedures training, is not required.

FIGURE 6.1
EMERGENCY RESPONSE TRAINING
(continued)

Onsite Fire Fighting Personnel	a. Fire Brigade members and Supervisors as specified in the Fire Protection Procedures Manual	Annually	Develop well-trained fire brigade whose actions minimize injuries, property loss and damage and lost generation time.
Medical Support Personnel and Offsite Fire Fighting Personnel	Offsite Fire Departments, Ambulance and Hospital Personnel.	Annually	Designated members will receive training as appropriate in basic patient care and treatment. Members will also be instructed on the availability of onsite medical treatment supplies and equipment; communication systems; access controls radiological hazards; and roles, interfaces and responsibilities with local fire/medical support personnel, including Incident Command System (ICS) concepts, position titles and terminology.

FIGURE 6.2
SCHEDULE OF DRILL PERFORMANCE

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	ORGANIZATION(S)/ PERSONNEL	TRAINING OBJECTIVE
COMMUNICATION	Function of Communications link to State and Local Governments	Monthly	Plant NY State Oswego Co.	Test in Accordance with SAP-3, EP-AA-122
Communication	Function of Communications link to Federal Emergency Response Organization	Monthly	Plant ENS HPN NRC	Test in Accordance with SAP-3, EP-AA-122, EP-AA-112
Communication	Function of Communications network out to field assessment personnel	Annually	Plant NY State Oswego Co. Plant Field Monitoring Teams	Test in Accordance with annual exercise and EP-AA-122
Fire Fighting	Fire Brigade Response	Refer to FPPs	Plant - Operations Fire Brigade Misc. Personnel Offsite - Scriba FD (Mutual Aid)	In Accordance with Fire Protection Procedures, CC-AA-211 FIRE PROTECTION PROGRAM and OP-AA-201-003 FIRE DRILL PERFORMANCE, EP-AA-122

FIGURE 6.2
SCHEDULE OF DRILL PERFORMANCE
(continued)

TITLE/FUNCTION	ASSIGNED PERSONNEL	FREQUENCY	ORGANIZATION(S)/ PERSONNEL	TRAINING OBJECTIVE
MEDICAL EMERGENCY	Treatment of Contaminated, injured person	Annually	Plant - Operations First Aid Team Misc. Personnel Offsite - Ambulance Personnel Hospital Personnel	In Accordance with written scenario per EP-AA-122, EP-AA-122, EN-EP-308
Radiological Monitoring	Dispatching and directing survey teams to perform radiation surveys and collect environmental samples (air, soil, water, etc.).	Annually	Plant - Radiological Assessment Coordinator Radiological Coordinator Radiological Monitors Other Support personnel	In accordance with written scenario per EP-AA-122, EP-AA-122, EN-EP-308

SECTION 7: DEFINITIONS AND ACRONYMS

7.1 Definitions

This section contains the definition of terms for the James A. FitzPatrick Nuclear Power Plant.

Accountability - The process by which the onsite emergency organization determines the location of personnel in order to identify missing and/or injured personnel.

Activated - Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is setup and available to assume/perform the emergency functions assigned to that facility.

Alert - Events are in process or have occurred which involve a potential or actual substantial degradation of the level of safety of the plant, or a Security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of a hostile act. Any releases are expected to be limited to small fractions of the EPA Protective Action Guides exposure levels beyond the site boundary.

Alternate NY State Watch Center (Alternate SWC) - The Alternate NY SWC is located in the New York State Police Communications Center in Public Security Building No. 22, State Office Building Campus, Albany, New York. This facility is manned 24 hours per day to receive Radiological Emergency Communication System (RECS) or alternate notifications during off-hours.

Area Radiation Monitor (ARM) – Instruments (some of which are fixed) which typically measures gross gamma radiation levels in a local area and alarms when the radiation exposure rate reaches the preset alarm level.

Assessment Actions - Those actions taken during or after an accident to obtain and process information necessary to make decisions to implement specific emergency measures.

Augmented Dose Assessment - Dose Assessment from the Emergency Offsite Facility (EOF) or Technical Support Center (TSC) utilizing dose assessment staff.

Command and Control – This is the function where the current Emergency Director resides (Control Room, TSC, or EOF).

Committed Dose Equivalent (CDE) - The dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake (organ dose) (per EPA-400 definition).

Committed Effective Dose Equivalent (CEDE) - The sum of the products of the weighing factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

Corporate Emergency Director (CED) – The designated individual who has the authority, management ability, and technical knowledge to manage Exelon Nuclear' s Emergency Response Activities.

Mitigative actions - Those emergency measures taken to mitigate or terminate an emergency situation at or near the source of the problem in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of a release.

County Warning Point - The E-911 Center at the Oswego County Public Safety Building in Oswego. This serves as a notification point for messages from the utilities to appropriate officials in Oswego County.

Deep Dose Equivalent (DDE) - Applies to external whole body exposure, is the dose equivalent at tissue depth of 1 cm (1,000 mg/cm^2) [external whole body dose].

Dose Equivalent (DE) - The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest; measured in rem or seivert.

Dose Projection - A calculated estimate of the potential dose to individuals at a given location, usually off site.

Emergency Actions - A collective term which encompasses the assessment, corrective and protective actions taken during the course of an emergency.

Emergency Action Levels (EAL) - Plant instrumentation readings, survey measurements or off normal plant conditions that are used to classify an emergency. (See Emergency Classification System.)

Emergency Action Procedure (EAP) - The procedures which provide a detailed list of responsibilities and actions to be implemented by personnel staffing emergency facilities.

Emergency Alert System (EAS) [formerly Emergency Broadcast System (EBS)] - A network of radio stations organized to permit designated government officials a means of timely and efficient issuance of emergency information and instructions to the public.

Emergency Classification System - A system that categorizes certain abnormal plant conditions into one of the following classes:
- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

Emergency Operations Center (EOC) - Designated state and county facilities used for the assessment of emergency information and coordination and control of local and state emergency response personnel.

Emergency Operations Facility (EOF) - The designated and equipped facility that is used to provide continuous coordination with local, state, and federal agencies, and provide

evaluation of FitzPatrick activities during an emergency having or potentially having environmental consequences. The EOF is located on County Route 176, approximately 12 miles south of the JAF plant.

Emergency Plan Implementing Procedures - The procedures, which detail the specific course of action for implementing the emergency plan at the JAF Facility.

Emergency Preparedness Manager - The individual responsible for the coordination of emergency planning efforts.

Emergency Plant Manager (EPM) – Individual normally assigned to the TSC who normally oversees the onsite and plant aspects of the emergency. The EPM reports to the Emergency Director.

Emergency Planning Zone (EPZ) - There are two Emergency Planning Zones. The first is an area, approximately 10 miles in radius around the JAFNPP, for which detailed emergency planning consideration of the Plume Exposure Pathway has been given to ensure prompt and effective protective actions for the public. The second is an area, approximately 50 miles in radius around the JAFNPP, for which emergency planning consideration of the Ingestion Exposure Pathway has been given to ensure effective preventative measures for the public.

Emergency and Plant Information Computer (EPIC) - Computer providing display of plant data to the Control Room, TSC, and EOF. EPIC includes Safety Parameter Display System (SPDS) information.

Emergency Response Data System (ERDS) - A computerized link between JAF EPIC data system and the NRC Operations Center.

Emergency Response Facility (ERF) - ERF is a generic term referring to a facility that is used for emergency purposes. These facilities include the Control Room, Technical Support Center, Emergency Operations Facility, Operational Support Center, Alternate Operational Support Center, Joint Information Center, Oswego County Emergency Operations Center.

Emergency Response Planning Area (ERPA) – Pre-designated sub-areas within the 10-Mile Emergency Planning Zone used to more specifically target the recommendation of off site protective actions.

Emergency Response/Recovery Organization – The organizational structure within the James A. FitzPatrick Nuclear Power Plant Emergency Response Organization, which is responsible for coordinating response and recovery from emergency conditions at the plant. EP-CE-115, Termination and Recovery, specifies the Recovery Organization.

Emergency Telecommunications System (ETS) - Part of the Federal Telecommunications system used by the NRC for emergency communications.

Exclusion Area - The property of the James A. FitzPatrick Nuclear Power Plant and Nine

Mile Point stations surrounding the Protected Area in which the licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area.

Federal Radiological Monitoring and Assessment Plan - An arrangement whereby the Department of Energy and other federal agencies provide teams to assist JAFNPP, Oswego County and New York State with an in-depth capability during a radiological emergency.

Final Safety Analysis Report (FSAR) - Multi-volume report describing a nuclear power plant's site, design features, safety features and the utility's intended methods of operation.

General Emergency - Events, which are in process or have occurred which involve imminent or actual substantial core degradation or melting with the potential for loss of containment integrity, or Security events that result in an actual loss of physical control of the facility.

Hostile Action - An act toward JAFNPP or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. Hostile Action should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on JAFNPP.

Ingestion Exposure Pathway - A pathway by which individuals can be exposed to radiation from ingestion of contaminated water or foods such as milk, fresh vegetables, and fish.

Initial Dose Assessment - Dose assessment using a pre-calculated dose assessment value tree, to be conducted before augmented dose assessment.

Joint Information Center - Located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney. The Joint Information Center provides a central facility for the release of information to the public. The facility includes participants from JAFNPP, Nine Mile Point, Oswego County, New York State, and Federal Agencies.

Joint Information Center Manager - ERO position whose primary responsibility is direction of all activities at the Joint Information Center and coordination of information.

Meteorological Monitoring System - A computer and software that accesses the main, backup and inland tower data. Data is accessible via designated computers.

National Warning System (NAWAS) - A nationwide warning system used to warn of actual or impending natural or man-made disasters. NAWAS warning points are strategically located and are manned on a 24-hour-a-day basis.

New York State Emergency Operations Center (NYSEOC) - The New York State EOC is located in the substructure of the Public Safety Building No. 22, State Office Building Campus, Albany, New York. It is the State Command Post from which emergency operations will be directed and coordinated.

NSSS Supplier - Nuclear Steam Supply System Supplier, General Electric Company, San Jose, California.

Offsite - The area outside the Exclusion Area. Offsite surveys include the area inside the exclusion area, but outside the protected area.

Onsite - The area within the Exclusion Area.

Operational Support Center (OSC) - The area on the 272' level of the old administration building that serves as an onsite assembly and dispatch area for plant survey, fire, rescue, and maintenance teams.

Oswego County Emergency Management Office (OCEMO) - The lead local government agency responsible for off site emergency response within the 10 mile EPZ surrounding the James A. FitzPatrick Nuclear Power Plant.

Oswego County Emergency Operations Center (OCEOC) -Located in the Emergency Management Office in the basement of the Oswego County Branch Building, Fulton, New York; serves as a command post from which emergency operations will be directed and coordinated.

Oswego County Warning Point (OCWP) - The dispatch center at Oswego E-911 Center in Oswego. This serves as a notification point for messages from the utilities to appropriate officials in the County.

Plant Data Acquisition System - A computer link making plant data available for onsite and offsite emergency facilities.

Plant Operator - Any member of the plant staff who, by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs in the licensee's emergency classification scheme.

Plume Exposure Pathway - The principal exposure sources from this pathway are: a) external exposure to gamma radiation from the plume and from deposited material; and b) inhalation exposure from the passing radioactive plume. This pathway is commonly identified as the 10 mile EPZ.

Population at Risk - Those persons for whom protective actions are being or would be taken.

Primary Assembly Areas - Specific locations at the plant designated for the assembly of personnel in the event of a Protected Area Evacuation.

Projected Dose - The estimated radiation dose that would be received by individuals following a release of radiation.

Protected Area - The area within the plant security fence designated to implement the

security requirements of 10 CFR 73.

Protected Area Evacuation - Evacuation of individuals from the Protected Area, with assembly at designated primary assembly areas.

Protective Actions - Actions taken in anticipation of / or after a release of radioactive material, for the purpose of preventing or minimizing radiological exposures to persons that would otherwise be likely to occur if the actions were not taken. Some of the protective actions are:
- Protected Area Evacuation
- Site Evacuation
- Sheltering off site population
- Evacuation of the off site population
- Isolation of ingestion pathways and sources

Protective Action Guides (PAG) - Guidance developed by the Environmental Protection Agency regarding projected radiological dose or dose commitment values to individuals in the general population that warrant protective action following a release of radioactive material.

Radiologically Controlled Area (RCA) – Any area, access to which is limited for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. The RCA is posted with a sign bearing the radiation caution symbol in magenta, purple or black on a yellow background. Examples of radiologically controlled areas are:
- Reactor Building
- Turbine Building
- Radwaste Building
- Main Stack

Examples of other postings within an RCA include:
- RADIOACTIVE MATERIALS
- CONTAMINATED AREA
- AIRBORNE RADIOACTIVITY AREA
- HIGHLY CONTAMINATED AREA
- RADIATION AREA
- HIGH RADIATION
- VERY HIGH RADIATION AREA

Radiological Emergency Communications System (RECS) -System used to provide initial notification of an emergency, and continuing emergency information, to the State, Oswego County and Nine Mile Point Stations.
Recovery Activities - Those actions taken after the emergency to restore the plant as nearly as possible to its pre-emergency condition.

Remote Assembly Area - Specific locations outside the JAFNPP exclusion area for the assembly of personnel in the event of a Site Evacuation. The primary Remote Assembly Area is the Oswego County Airport on Co. Rt. 176 in the Town of Volney.

Restricted Area – An area, access to which is limited by the licensee, for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Separate rooms or areas in any building may be set apart as a restricted area. The restricted area is that area inside of the protected area fence and any other area within the site boundary that is appropriately identified and restricted from unauthorized entry.

Severe Accident Operating Guidelines (SAOG's) – Guidelines to assist in dealing with a Severe Accident.

Safety Parameter Display System (SPDS) - System providing a display of plant data from which the safety status of plant operations may be assessed in the Control Room, Technical Support Center and Emergency Operations Facility.

Site Area Emergency - Events which are in process, or have occurred, which involve potential or actual major failure of plant functions needed for protection of the public, or Security events that result in intentional damage or because of intentional malicious dedicated efforts of hostile action: toward site personnel or equipment that could lead to the likely failure of, or: prevents effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guide exposure levels beyond the site boundary.

Site Evacuation - Evacuation of all people, except NMPNS personnel, from the exclusion area and evacuation of all nonessential personnel from the JAFNPP protected area via the security gate to the designated Remote Assembly Area or home.

Site Recovery Director – The Site Recovery Director is responsible for the management of recovery operations and other support functions. The Recovery Director is the senior company official who has the requisite authority, management ability and technical know-how to manage the nuclear power plant recovery operations. He has full authority to make required decisions regarding plant recovery without consulting higher management.

Spokesperson - ERO position whose primary responsibility is to act as the individual to coordinate all outgoing information to public officials, the news media and to the public.

State Emergency Operations Center - The New York State EOC is located in the substructure of the Public Safety Building No. 22, State Office Building Campus, Albany, New York. It is the State Command Post from which emergency operations will be directed and coordinated.

State Watch Center (SWC) - A center for receipt and dissemination of warnings of an attack upon the United States as well as for actual or impending natural or man-made disasters.

Station Emergency Director (SED) - The position designated in the emergency response organization that has the authority and responsibility to implement and administer the Emergency Plan at the station.

Technical Support Center (TSC) - The emergency facility activated and staffed by plant management and other personnel during an emergency to utilize technical data and

displays to provide direction for implementation of emergency procedures, and in-depth technical support to Control Room activities. Located on the second floor of the old administration building.

Technical Support Guidelines (TSG's) – Guidelines providing information for use in implementing SAOGs.

Thyroid Dose and Thyroid Dose Rate - These terms have been replaced with Committed Dose Equivalent-Thyroid (CDE-Thyroid). CDE-Thyroid is defined as the internal dose that will be received by the thyroid over 50 years following an intake of radioactive materials plus the deep dose equivalent to the thyroid. For application offsite, dose to the child thyroid has been agreed upon by the New York State Dose Assessment Task Force. For application onsite to JAFNPP emergency workers, an adult thyroid dose is used.

Total Effective Dose Equivalent (TEDE) - The sum of the Deep Dose Equivalent (DDE) plus Committed Effective Dose Equivalent (CEDE) from inhalation components.

Unified Rascal Interface (URI) - Dose assessment software that is operated from a PC or the network that utilizes real-time met data inputs to project dose to members of the public for use in determining PARs. URI uses the NRC's RASCAL dose model and has a user plant specific front end and output format. URI has two modes – the first is a rapid assessment mode that is utilized by the Control Room, and the second is a detailed dose assessment mode that is utilized by the EOF.

Unrestricted Area - An area, access to which is neither limited nor controlled by the licensee.

Unusual Event (UE) - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection. No releases of radioactive material requiring offsite response or monitoring are expected, unless further degradation of safety systems occurs.

Web-based Emergency Operations Center (WebEOC) – A crisis information management software tool.

Whole Body Dose and Whole Body Dose Rate - These terms have been replaced with Total Effective Dose Equivalent (TEDE). TEDE is defined as the sum of the deep dose equivalent (DDE) (external dose) and the inhalation components. The New York State Utilities Dose Assessment Task Force agrees with the recommendation of NUMARC in defining TEDE (previously external dose) as the DDE and any measurable thyroid CEDE components during the early phase of the emergency. The early phase is defined up to the first four days after an emergency. In this usage, the TEDE rate may be considered equivalent to a gamma dose rate reading on a fixed or portable survey instrument. Actual iodine, particulate and ground shine dose components should be factored in to the TEDE as soon as possible, although this is not required for initial TEDE determination. Default iodine to noble gas ratios may be used until actual data becomes available. Since the iodine contribution to TEDE is very small using the default ratio of approximately 1E-4, it can be omitted from the determination of TEDE.

7.2 Acronyms

AE	Architect/Engineer
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
AOP	Abnormal Operating Procedures
ARM	Area Radiation Monitor
BRH	New York State Bureau of Environmental Radiation Protection
CDE	Committed Dose Equivalent
CEDE	Committed Effective Dose Equivalent
CWP	County Warning Point
DDE	Deep Dose Equivalent
DE	Dose Equivalent
DHS	Department of Homeland Security
DLR	Dosimeter Legal Record
DO	Duty Officer
DOE	US Department of Energy
EAL	Emergency Action Level
EAP	JAFNPP Emergency Action Procedure
EAS	Emergency Alert System
ECCS	Emergency Core Cooling System
ED	Emergency Director
EMS	Emergency Medical Service
ENS	Emergency Notification System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedures
EP	EOP Support Procedure
EPA	Environmental Protection Agency
EPM	Emergency Plant Manager
EPIP	NMPNS Emergency Plan Implementing Procedure
EPZ	Emergency Planning Zone
ERDS	Emergency Response Data System
ERON	Emergency Response Organization Notification

	System
ERPA	Emergency Response Planning Area
ETS	Emergency Telecommunications System
FEMA	Federal Emergency Management Agency
FRMAP	Federal Radiological Monitoring and Assessment Program
FSAR	Final Safety Analysis Report
IAP	JAFFNPP Emergency Plan Immediate Action Procedure
JAFNPP	James A. FitzPatrick Nuclear Power Plant
JIC	Joint Information Center
KI	Potassium Iodide
LCO	Limiting Condition of Operation
LOCA	Loss of Coolant Accident
MSIV	Main Steam Isolation Valve
NAWAS	National Warning System
NFPA	Fire Prevention Association
NFO	Nuclear Facility Operator
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory Commission
NSSS	Nuclear Steam Supply System
NWS	National Weather Service
NYSDOH	New York State Department of Health
NYSEOC	New York State Emergency Operations Center
NYSOEM	New York State Office of Emergency Management
NYSPIO	New York State Public Information Officer
NYSWC	New York State Watch Center
OCEMO	Oswego County Emergency Management Office
OCEOC	Oswego County Emergency Operations Center
OCNFLO	Oswego County Nuclear Facility Liaison Officer
OP	Operating Procedures
OSC	Operational Support Center
OSCR	Onsite Safety Review Committee
PA	Public Address
PAG	Protective Action Guidelines
PAR	Protective Action Recommendation

PASS	Post Accident Sampling System
PNS	Prompt Notification System
RCA	Radiologically Controlled Area
RECS	Radiological Emergency Communications System
RERP	Radiological Emergency Response Plan
SAOG	Severe Accident Operating Guideline
SAP	JAFNPP Emergency Plan Supplemental Action Procedure
SBGT	Standby Gas Treatment
SEMO	State Emergency Management Office
SEOC	State Emergency Operations Center
SGTS	Standby Gas Treatment System
SM	Shift Manager
SOCA	Security Owner Controlled Area
SUNY	State University of New York
SWC	State Watch Center
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminscent Dosimeter
TSC	Technical Support Center
TSG	Technical Support Guidelines
URI	Unified Rascal Interface

APPENDIX A
Emergency Plan Implementing Procedures

EMERGENCY PLAN IMPLEMENTING PROCEDURES		
PROCEDURE NUMBER	**PROCEDURE TITLE**	**CORRESPONDING SECTION / APPENDIX**
EP-AA-114 EP-CE-114-100	Notifications Emergency Notifications	4.1.2 4.1.2
FFP-1.4	Medical Emergencies	4.5.2 4.5.3 4.5.4 5.5
CC-AA-211	Fire Protection Program	5.3.3.2
EP-AA-110-201	On Shift Dose Assessment	4.2.3.1 5.3.1 5.3.2 5.3.3.1 5.3.3.7
EP-AA-110-200	Dose Assessment	5.3.3 4.2.2.2 4.2.3 4.4.2 5.3.1 5.3.2 5.3.3.1 5.3.3.7
EP-CE-111	Emergency Classification and Protective Action Recommendations	5.3.3.9 4.2.3 4.4.2
EP-AA-114-F-08	JAF Release In Progress Determination Guidance	3.1 3.2 2.3.9 4.2.3 5.3.3.1 5.3.3.7
EP-AA-112-500	Emergency Environmental Monitoring	4.2.2.2 4.2.3.3 5.3.3.4 5.3.3.5 5.3.3.6 5.3.3.7 5.3.3.8
EP-AA-112-200-F-60	TSC Radiation Protection Manager Checklist	4.2.2.1 Appendix I
EP-CE-113	Personnel Protective Actions	2.3.11 4.4.1.3
EP-AA-112-100-F-50	Shift Emergency Director Checklist	4.4.1.3
EP-CE-113	Personnel Protective Actions	3.2 6.4.1.1 6.4.1.2 7.4.3
EP-AA-113-F-06	JAF Assembly, Accountability, and Evacuation Guidelines	1.3.6 4.4.1.2
SP-01-05	Waste Water Sampling and Analysis	4.2.3.3
EP-AA-112-300	Operations Support Center Activation and Operation	4.3 5.1.3 5.7
EP-CE-113	Personnel Protective Actions	5.1.4 5.4.1 5.4.2

APPENDIX A
Emergency Plan Implementing Procedures

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	**PROCEDURE TITLE**	**CORRESPONDING VOLUME 1 SECTION / APPENDIX**
EP-CE-113-F-06 EP-CE-113-F-07	JAF Assembly, Accountability, and Evacuation Guidelines Remote Assembly Area Activation Operations Checklist	5.4.4
EP-AA-112-700	Alternative Facility Operation	4.4.1.2
EP-CE-113	Personnel Protective Actions	2.3.1 2.3.9 4.4.1.4 4.5.1 Figure 4 .1
EP-AA-112-600	Public Information Organization Activation and Operation	2.3.12 2.4.1 4.4.2 5.1.2 5.1.6 5.1.7 5.1.8 5.2.8 6.7 3.7.1 Appendix H
EP-AA-112-600	Public Information Organization Activation and Operation	2.3.12 2.5.1 5.1.6 6.7 3.7.1 3.7.2 3.7.3 Appendix H
EP-AA-112-100F-57	ERONS Notification Details	2.2 2.3 Figure 2-2 Figure 3 -3 Table 2-1 4.1.1
EP-CE-113	Personnel Protective Actions	5.3.1 4.4.1.4 4.4.2.3
EAP-20	Post Accident Sample, Offsite Shipment and Analysis	4.2.1 4.2.2.1 5.3.1 5.3.2 5.3.3.1 Figure 6.2
EP-AA-112-200-F-61	Security Coordinator Checklist	2.3.11 4.4.1 5.9 6.2
EAP-24	EOF Vehicle and Personnel Decontamination	.4.1.2 .5.2 .4.4 .6
EP-CE-115 EP-AA-112-400-F-58	Termination and Recovery EOF Radiation Protection Manager Checklist (CNG)	3.7

APPENDIX A
Emergency Plan Implementing Procedures

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	**PROCEDURE TITLE**	**CORRESPONDING VOLUME 1 SECTION / APPENDIX**
EP-CE-115 EP-CE-111-F-01	Termination and Recovery Event Termination Checklist	3.7
EAP-34	Acceptance of Environmental Samples at the EOF/EL During an Emergency	5.1.5 5.3.2
EAP-35	EOF TLD Issuance During an Emergency	2.3.1 2.3.9 4.4.1.4 4.5.1
EP-AA-110-200 EP-AA-110-201	Dose Assessment On Shift Dose Assessment	5.3.3.7
EAP-44	Core Damage Estimation	.1 .2 .2.1 .3.3.1
EP-AA-112 and T&RMs by facility	Emergency Response Organization (ERO) Emergency Response Facility (ERF) Activation and Operation	None Applicable
EP-AA-122	Drills and Exercises	6.4
EP-AA-122	Drill and Exercise Program	6.4
EP-AA-112-100	Control Room Operations	None Applicable
EP-AA- 112-400	Emergency Operations Facility(EOF) Operations	5.1.5
EP-AA-112-200	Technical Support Center(TSC) Operations	5.1.2 5.4.2
EP-AA-112-300	Operational Support Center (OSC) Operations	5.1.3
EP-AA-112	Emergency Response Organization (ERO) Emergency Response Facility (ERF) Activation and Opaertion	2.2 2.3

Appendix B – JAFNPP Policy Statement

Immediate response, assessment, and the implementation of protective and corrective measure pertaining to an emergency condition at the James A. FitzPatrick Nuclear Power Plant (JAFNPP) shall be the responsibility of the JAFNPP Emergency Director (SM/CED/SED). The individual who shall act in the capacity of Emergency Director is determined as follows:

Immediately upon the occurrence of an emergency, the Shift Manager on duty at the plant shall assume the role of Emergency Director. The Shift Manager shall continue to perform the functions of the Emergency Director as described in the Emergency Plan, until relieved of that responsibility by a designated Corporate and Station Emergency Director.

The Emergency Director (Shift Manager/ED, Corporate Emergency Director and Station Emergency Director) shall implement applicable portions of the Emergency Plan to prevent or mitigate the consequences of emergencies at the JAFNPP. They shall have the authority to act on the behalf of the company in all matters concerning an emergency, at least until such time as the scope, severity and potential radiological consequences have been assessed, and the appropriate protective and mitigative actions have been implemented. Following that critical period, but still with complete regard for health and safety, major decisions and commitments are the responsibility of corporate management.

Throughout the course of an emergency condition, all expertise and support available within the corporation shall be provided at the request of the JAFNPP Corporate Emergency Director

Appendix C
LETTERS OF AGREEMENT

		Page No.
1.	SUNY Upstate Medical University University Hospital 750 East Adams Street Syracuse, NY 13210	on file in JAF EP Dept.
2.	Oswego County Sheriff's Department 39 Churchill Road Oswego, NY 13126	on file in JAF EP Dept.
3.	Oswego County Airport 40 Airport Drive Fulton, NY 13069	on file in JAF EP Dept.
4.	The Day & Zimmermann Group, Inc. 5426 Robin Hood Road Norfolk, VA 23510	on file in JAF EP Dept.
5.	Sargent & Lundy, LLC Agreement 10321404 (Engineerof Choice)	on file in JAF MP&C Dept.
6.	EA Engineering, PC EA Science and Technology 6712 Brooklawn Parkway Suite 104 Syracuse, NY 13211	on file in JAF EP Dept.
7.	Energy Solutions Suite 100, Center Point II 100 Center Point Dr. Columbia, SC 29210	on file in JAF EP Dept.

8.	Oswego Hospital 110 West 6th Street Oswego, NY 13126	on file in JAF EP Dept.
9.	New York State Office of Emergency Management 1220 Washington Avenue Building 22, Suite 101 Albany, NY 12226-2251	on file in JAF EP Dept.
10.	AREVA NP Inc. 3315 Old Forest Road P.O. Box 10935 Lynchburg, VA 24506-0935 24x7 AREVA NP Inc.	on file in JAF EP Dept.
11.	Oswego County Fire Coordinator 720 East Seneca Street Oswego, NY 13126	on file in JAF EP Dept.
12.	Institute of Nuclear Power Operations (INPO) Suite 100 700 Galleria Parkway, SE Atlanta, GA 30339-5943	on file in JAF EP Dept.
13.	Teledyne Brown Engineering (P.O.) Bioassay Analysis Radiochemical Analysis	Corporate EP
14.	City of Oswego Fire Department City Hall - C/0 The Mayor 13 West Oneida Street Oswego, NY 13126	on file in JAF EP Dept.
15.	Pooled Equipment Inventory Co. (PEICo) Bldg 925C, 1701 Dunn Ave. Memphis, Tenn 38106	on file in JAF EP Dept

16. Oswego County Emergency Management Office
    200 North Second Street
    Fulton, NY 13069

    on file in JAF
    EP Dept

17. Department of Energy
    Oak Ridge Office
    P.O. Box 2008
    Oak Ridge, Tennessee 37831

18. Scriba Volunteer Fire Department
    PO Box 69
    Lycoming, NY 13093

19. Oswego County Ambulance Service
    404 Ontario Street
    Fulton, New York 13069

    Teleydyne
21. TBE Knoxville
    2508 Quality Lane
    Knoxville, TN 37931

APPENDIX D
NEW YORK STATE PLAN AND PROCEDURES

The New York State Plan and Procedures are maintained in the JAFNPP Emergency Planning Offices and the JAFNPP Emergency Operations Facility.

The New York State Emergency Preparedness Plan and Procedures received Federal approval on February 1, 1985. Attached is a FEMA Fact Sheet listing the chronology of events prior to approval.

FEDERAL EMERGENCY MANAGEMENT AGENCY
Region II I 26 Federal Plaza I New York, NY 10278 2/5/85
55-5

(For further information contact Marinne C. Jackson or Nancy Kelly (212) 264-8980)

FACT SHEET

Off-Site Emergency Planning Chronology for Nine Mile Point

Federal Emergency Management Agency - Region II

Following the accident at Three Mile Island, the Federal Emergency Management Agency (FEMA) was assigned responsibility for reviewing and approving state and local emergency plans for nuclear power plants. Frank P. Petrone heads.FEMA Region II which covers New York, New Jersey, Puerto Rico and the Virgin Islands. Commercial nuclear power plants are operating in New York State at Ginna, Indian Point and Nine Mile Point. The Nuclear Regulatory Commission (NRC), the licensing authority, reviews and approves the utilities' on-site emergency plans.

July 15, 1981: The State of New York submits off-site emergency plans for Nine Mile Point to the Director of FEMA Region II for review and approval. The plans consist of Oswego County's plan for the Emergency Planning Zone, (the area within a ten mile radius of the plant) and the state's site specific plan for assisting the county in the event of an accident. The Committee comprised of representatives from 8 federal agencies.

September 15, 1981: The first full scale radiological emergency exercise in New York State is conducted to assess the adequacy of the response plans for New York State and Oswego County. 22 federal observers evaluate the response of county and state personnel to a simulated accident at the plant. On September 30, FEMA issues a post exercise assessment of the exercise. The assessment identifies deficiencies which state and county officials target for improvement.

November 4, 1981: A public meeting is held in Oswego to answer questions about the off-site plans and receive recommendations for changes.

August 11, 1982: A 24 member federal observer team observes the second full scale exercise of off-site emergency response by New York State and Oswego County. On October 29, the post exercise assessment is issued for the exercise.

September 28, 1983: A 22 member off-site team observes a third full scale exercise. On October 12, federal observers evaluate a medical drill. The post exercise assessment evaluating both the full scale exercise and the medical drill is issued in December 1983.

(more)

September 28, 1984: FEMA Region II Director Petrone forwards the evaluation of the New York State and Oswego plans to FEMA National Office. The submission includes an

evaluation of the plans, the full-scale exercises and issues raised at the public meeting.

November 16, 1984: The alert and Notification System is activated and successfully tested.

February 1, 1985: Based on the evaluation by FEMA Region II Director Petrone and the review by FEMA headquarters staff, FEMA Associate Director Samuel W. Speck certifies to the Nuclear Regulatory Commission that the State and Oswego plans and preparedness and adequate to protect the health and safety of the public in the vicinity of Nine Mile Point. This is both the first approval for radiological plans and the first approval of an alert and notification system in the New York
State.

APPENDIX E
OSWEGO COUNTY PLANS AND PROCEDURES

The Oswego County Plans and Procedures are maintained in the JAFNPP Emergency Planning Office and at the JAFNPP Emergency Operations Facility.

The Oswego County Radiological Emergency Preparedness Plan and Procedures received Federal approval on February 1, 1985. Attached is a FEMA Fact sheet listing the chronology of events prior to approval.

FEDERAL EMERGENCY MANAGEMENT AGENCY
Region II I 26 Federal Plaza I New York, NY 10278 2/5/85 55-5
For further information contact Marinne C. Jackson or Nancy Kelly
(212) 264-8980)

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APPENDIX F
TYPICAL SUPPORT COMPANIES AND ORGANIZATIONS

NAME	SERVICE
DZ ATLANTIC	Health Physics support personnel
Energy Solutions	Solidification of liquid waste, shipping cask rental, waste burial, tool and equipment decontamination
Chicago Bridge & Iron (CB&I)	A/E Engineering support
General Electric Company	Nuclear maintenance support
EA Science and Technology	Evaluation of environmental samples
GEL Laboratories, LLC	Liquid and gas sample analysis

APPENDIX H
PUBLIC INFORMATION PROGRAM

1. GENERAL

In order to maintain the awareness of the public and the news media, JAFNPP has instituted a program of public information prior to and during an emergency.

2. PRE-EMERGENCY INFORMATION

JAFNPP in conjunction with the NMPNS Staff, the NYSOEM, and OCEMO has established a public information program for the permanent and transient population within the plume exposure EPZ. Information is provided in several forms: brochure, signs, and telephone book insert.

a. Information Brochure/Calendar

An information brochure/calendar containing radiological emergency response information and instructions has been prepared and mailed to all residents of the plume exposure EPZ. It presents the following information:

1. General Information
2. Radiological health
3. Public notification systems
4. Courses of action
5. General preparedness
6. Sheltering
7. General evacuation
8. Relocation to a public shelter or someone's home
9. Bus information (including pick-up points) for transit-dependent people
10. Obtaining special assistance
11. School evacuation
12. Maps describing ERPAs, evacuation routes, location of reception centers and bus pickup locations
13. Phone numbers for further information
14. KI Information

Brochures/calendar shall be updated and mailed to all residences in the plume exposure EPZ annually.

APPENDIX H
PUBLIC INFORMATION PROGRAM

b. Signs

In order to provide information to people visiting the area who may not have seen the public information brochure, emergency information signs have been prepared for posting in public places. Areas to be posted have been selected by the OCEMO. The signs present a summary of the key information contained in the brochure described above. These signs shall be updated annually.

c. Telephone Book Information Inserts

Emergency information is also provided to the resident and transient population through inserts in telephone books covering the plume exposure EPZ. The information provided is the same as that provided on the sign and shall be updated annually, or as updated by the phone book publication. Inserts are provided in many of the local telephone books.

3. PUBLIC INFORMATION DURING EMERGENCIES

During an emergency, the Spokesperson shall provide information to the news media and the public.

The designated location for the dissemination of coordinated information regarding JAFNPP, State and County emergency response to the news media is the Joint Information Center located on Co. Rt. 176 in the Town of Volney. It shall be activated during an Alert, a Site Area Emergency and General Emergency arid may be activated during an Unusual Event.

The Joint Information Center provides working space and communications for State, County, Federal, and company media relations staff and the news media. It is equipped for large briefings and has the capability for the recording of those briefings.

The Joint Information Center is also the location where public inquiry is provided through off-air monitoring of radio and television broadcasts and the use of staffed telephones which the public can call. Response to media inquiries shall be handled through telephones at the Joint Information Center.

APPENDIX I
EMERGENCY EQUIPMENT KITS

TYPE	DESCRIPTION	NUMBER
Fire Cabinet	Fire Brigade equipment	4
Ambulance Kit	Equipment for handling contaminated persons	1
Rescue Kit	Rescue Equipment	1
Downwind Survey Kit (OSC)	Offsite radiological monitoring equipment	2
Emergency Operations Facility Survey/Reentry Kit	Supplies for operation of EOF and offsite monitoring	1
JAF Decontamination Kit	Supplies for personnel decontamination	1
OSC Emergency Kit	Emergency Equipment	1
Emergency Survey Kit	Offsite and onsite radiological monitoring equipment	1
Medical Trauma Kit	First Aid Team supplies	5
Security Building Kit	Protective equipment	1
Control Room Inventory	Emergency plans and dose assessment material	1
Technical Support Center Inventory	Supplies for operation of TSC	1
PASS Cabinet	Entry equipment for obtaining PASS sample	1
Oswego Hospital Emergency Cabinet	Equipment for handling contaminated persons	1
EOF Decontamination Kit	Supplies for personnel decontamination	1
EOF Inventory	Supplies for operation of EOF	1

APPENDIX J
SUPPORTING DOCUMENTS

1. James A. FitzPatrick Nuclear Power Plant
   a. JAFNPP Emergency Plan and Implementing Procedures
   b. JAFNPP Final Safety Analysis Report (FSAR)
   c. Radiation Protection Department Procedures and Programs
   d. Administrative Procedures
   e. Fire Protection and Prevention Procedures
   f. Security / Safeguards Implementing Procedures
   g. Technical Specifications
   h. Operating and Special Procedures
   i. Chemistry Department Procedures
   j. Nuclear Management Manual Policies & Procedures
2. State of New York
   a. New York State Radiological Emergency Preparedness Plan and Procedures
3. Oswego County
   a. Oswego County Radiological Emergency Preparedness Plan and Procedures
   b. Oswego Hospital Plan: Decontamination and Treatment of the Radioactively Contaminated Patient at Oswego Hospital
4. Nine Mile Point Nuclear Station
   a. Nine Mile Point Nuclear Station Emergency Plan and Procedures
   b. Exelon Alert and Notification System Maintenance and Operations Procedures
5. Onondaga County
   a. University Hospital Procedures
   b. Onondaga County Radiological Emergency Response Host Plan

APPENDIX L
NUREG-0654 / FEMA-REP-1 CROSS REFERENCE

PURPOSE: Appendix L provides a cross reference for locating NUREG-0654 planning standards within the James A. FitzPatrick Emergency Plan. This cross reference will facilitate timeliness in reviewing which sections of the JAF Emergency Plan satisfy applicable planning standards established in NUREG-0654.

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
A.1.a	Overall response organization identification - State, Local, Federal and Private Organizations	Section 2.4.2 Section 2.4.3 Section 2.5.1 Section 2.5.2 Section 2.6 Appendix N
A.1.b	Organizational concept of operations	Section 2.2 Section 2.3 Section 2.4 Section 2.5 Section 2.6
A.1.c	Organizational interrelationships - block diagram	Figure 2-1 Figure 2-2 Figure 3-3
A.1.d	Identification of individual in charge	Section 2.3.1 Section 2.4.1 Appendix B
A.1.e	24-hour response capability (including communications)	Section 2.1 Section 2.2 Section 2.3 Section 2.4.1 Section 4.5 Section 5.2.4
A.2.a	Specification of functions and responsibilities of key individuals	N/A*
A.2.b	Legal basis for authority	N/A*

* N/A – Not applicable applies throughout Appendix L

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
A.3	Written agreements referring to concept of operations	Section 2.4 Section 4.1.2 Section 4.5.3 Section 4.5.4 Section 6.5.2
A.4	Provisions for 24-hour operations/continuity of resources	Section 2.3 Section 2.4 Section 2.6
B.1	Onsite Emergency Organization	Section 2.2 Figure 2-2 Section 2.3 Table 2-1
B.2	Designation of Emergency Coordinator	Section 2.3.1 Appendix D
B.3	Emergency Coordinator - line of succession	Section 2.3.1 Section 3.7.1 Appendix D
B.4	Functional responsibilities of Emergency Coordinator	Section 2.3.1
B.5	Titles and major tasks of emergency positions	Section 2.1 Table 2-1 Section 2.2 Section 2.3 Section 2.4
B.6	Interfaces between and among emergency organizations - block diagram	Figure 2-1
B.7	Augmentation of plant staff	Section 2.3 Appendix F
B.7.a	Logistics support	Section 2.6 Section 3.7
B.7.b	Technical support	Section 3.7 Figure 3-3
B.7.c	Management interface with governmental authorities	Section 2.4 Section 2.5
B.7.d	Release of information to news media	Section 2.3.12 Section 3.7 Appendix H

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
B.8	Contractor and private organization assistance / staff augmentation	Section 2.4.2 Section 2.4.3 Appendix C Appendix F
B.9	Emergency services provided by local agencies	Section 2.4.2 Section 4.5 Appendix C
C.1.a	Incorporation of Federal response capability into Plan - request for	Section 2.3.1 Section 2.5.2 Section 4.1.2
C.1.b	Federal resources expected	Section 2.5.2 Appendix C
C.1.c	Resources to support Federal response	Appendix N
C.2.a	Offsite EOF representative	N/A*
C.2.b	Licensee representative at offsite locations	Section 2.3.13
C.3	Identification of radiological laboratories	Section 2.4.3 Section 4.2.2.2 Section 5.3.1 Section 5.3.2
C.4	Identification of organizations to provide assistance	Section 2.4.3 Appendix C Appendix F
D.1	Establishment of emergency classification/emergency action	Section 3.1
D.2	Initiating conditions for postulated accidents in FSAR	Section 3.1 Section 3.2
D.3	State/local emergency	N/A*
D.4	Offsite procedures providing emergency actions	N/A*

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
E.1	Procedures to describe notification of response organizations	Section 4.1
E.2	Establishment of personnel alerting, notifying, and mobilizing procedures	Section 4.1.1
E.3	Contents of initial emergency messages from Licensee	Section 4.1.2
E.4.a-n	Contents of follow-up messages from Licensee	Section 4.1.2
E.5	Offsite system to disseminate message	N/A
E.6	Establishment of means to notify public in EPZ	Section 5.2.8
E.7	Provisions for written messages to notify the public	Section 7.3.12 Appendix H
F.1.a	24-hour primary and backup provision for notification and activation of local emergency network	Section 5.2.3 Section 5.2.4.1 Section 5.2.5
F.1.b	Primary and backup communications with contiguous State/local governments	Section 4.1.2 Section 5.2.3 Section 5.2.4.1
F.1.c	Primary and backup communications with Federal organizations	Section 4.1.2 Section 5.2.3 Section 5.2.4.2 Section 5.2.4.3
F.1.d	Primary and backup communications between nuclear facility, State/local EOCs and radiological monitoring teams	Section 5.2.3 Section 5.2.4.1 Section 5.2.5
F.1.e	Primary and backup alerting of emergency personnel	Section 4.1.1 Section 4.1.2

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
F.1.f	Provision for communication by Licensee to NRC, EOF, and radiation monitoring team	Section 4.1.2 Section 5.2.3 Section 5.2.4.2 Section 5.2.4.3 Section 5.2.5
F.2	Primary and backup communications link to medical support facilities	Section 4.5.3 Section 4.5.4 Section 5.2.3 Section 5.2.5
F.3	Periodic testing of communications system	Section 6.4 Section 6.6 Figure 6.2
G.I.a-d	Coordinated periodic dissemination of information to the public	Section 6.7.1 Section 6.7.2 Appendix H
G.2	Provisions for public information program	Section 6.7.1 Section 6.7.4 Appendix H
G.3.a	Physical location for use by news media	Section 5.1.6 Appendix H
G.3.b SUPP 1, G.3	Space for news media at EOF	Section 5.1.6
G.4.a SUPP 1, G.4.a	Designation of spokesperson	Section 5.1.6 Section 3.7.1
G.4.b SUPP 1, G.4.b	Exchange of information among spokespersons	Section 5.1.6 Appendix H
G.4.c SUPP 1, G.4.c	Coordinated arrangements for dealing with rumors	Section 7.1.6 Section 6.7.3
G.5 SUPP 1, G.5	Annual coordinated programs for the news media	Section 6.7.4 Appendix H
H.1	Establishment of TSC and osc	Section 5.1. 2 Section 51. 3 Section 5.1.4 Section 5.1.10
H.2	Establishment of EOF for Licensee Emergency activities	Section 5.1.5

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
H.3	Establishment of EOC for response functions	N/A*
H.4	Provisions for timely activation and staffing of facilities	Section 2.2 Section 2.3 Section 4.1.1 Section 5.1
H.5.a	Identification of geophysical phenomena monitors	Section 5.3.3.3 Section 5.3.3.7
H.5.b	Identification of radiological monitors	Section 4.5.1 Section 4.5.2 Section 5.3.3.1 Section 5.3.3.8
H.5.c	Identification of process monitors	Section 5.3.3.9
H.5.d	Identification of fire detectors	Section 5.3.3.2
H.6.a	Acquisition of data from geophysical phenomena monitors	Section 5.3.3.3 Section 5.3.3.7
H.6.b	Acquisition of data from radiological monitors	Section 4.5.1 Section 5.3.3.1 Section 5.3.3.4 Section 5.3.3.5 Section 5.3.3.6
H.6.c	Acquisition of data from laboratory facilities	Section 5.3.1 Section 5.3.2
H.7	Provisions for offsite monitoring equipment	Section 4.2.2.2 Section 5.3.3.8
H.8	Provisions for meteorological instrumentation and procedures	Section 5.3.3.7
H.9	Provisions for onsite Operations Support Center	Section 5.1.3
H.10	Provisions to inspect, inventory, and operationally check equipment	Section 6.6
H.11	Identification of emergency equipment	Appendix I

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
H.12	Establishment of central point for receipt/analysis of field monitoring data	Section 5.1. 5 Section 5.3.2
I.1	Identification of plant system and effluent values characteristic of off-normal conditions	Section 3.1
I.2	Onsite capability to provide initial values and assessment throughout accident	Section 5.3.3.1
I.3.a	Establishment of methods and techniques to determine source term of releases	Section 5.3.3.1
I.3.b	Establishment of methods and techniques to determine magnitude of releases	Section 4.2.3
I.4	Establishment of relationship between effluent monitor readings and exposures	Section 5.3.3.1
I.5	Capability to acquire and evaluate meteorological information	Section 5.3.3.7
I.6	Methodology for determining release rate/projected doses	Section 4.2.3
I.7	Capability and resources for field monitoring within EPZ	Section 4.2.2.2 Section 4.2.3.3 Section 5.3.3.4 Section 5.3.3.5 Section 5.3.3.6 Section 5.3.3.8
I.8	Provisions for methods, equipment and expertise to make rapid assessments of radiological hazards	Section 4.2.2 Section 4.2.3 Section 5.3.3.8
I.9	Capability to detect and measure radioiodine concentration in EPZ as low as IE-7 µCi/cc	Section 4.2.2.2

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
I.10	Establishment of means for relating measured parameters to dose rates	Section 4.2.3
I.11	Arrangements to track airborne plume using Federal and State resources	N/A*
J.1. a-d	Means to warn onsite individuals in controlled areas	Section 4.4.1
J.2	Provisions for evacuation routes and transportation for onsite individuals	Section 4.4.1.2
J.3	Provisions for radiological monitoring of people evacuated from site	Section 4.4.1.2 Section 5.4.4 Section 5.6
J.4	Provisions for decontamination facility for onsite personnel	Section 5.4.1.2 Section 5.4.4 Section 5.6
J.5	Provisions for onsite accountability	Section 4.4.1.3
J.6.a	Provisions for respiratory protection	Section 4.4.1.4.d
J.6.b	Provisions for protective clothing	Section 4.4.1.4.a
J.6.c	Provisions for radioprotective drugs	Section 4.4.1.4.c Section 4.4.2.3
J.7	Mechanism for recommending protective actions to State and local authorities	Section 3.1 Section 2.3.1 Section 4.4.2 Figure 3.1
J.8	Inclusion of evacuation time estimates in Licensee's plan	Appendix K
J.9	State/local capability for implementing protective measures	N/A*

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
J.10.a	Inclusion of maps showing evacuation routes, monitoring locations, and relocation centers	Figure 4.2 Figure 4.9 Figure 5.2 Figure 5.3 Figure 5.4 Figure 5.6 Appendix H
J.10.b	Inclusion of maps showing population distribution around the facility	Figure 1.4 Figure 4.3 Appendix K
J.10.c	Means for notifying all segments of the population	Section 5.2.8 Appendix H
J.10.d-l	State/local plans to implement various protective measures	N/A*
J.10.m	Basis for choice of recommended protective actions	Section 4.4.2
J.11	State protective measures for ingestion pathway	N/A*
J.12	State/local plans for registration and monitoring of evacuees	N/A*
K.1.a-g	Establishment of onsite exposure guidelines consistent	Section 4.4.1 Section 4.5.1 Figure 4.1
K.2	Onsite radiation protection program to be implemented during emergencies	Section 2.3.1 Section 2.3.9 Section 4.4.1.4 Section 4.5.1
K.3.a-b	Provisions for 24-hour capability to determine emergency personnel doses	Section 4.5.1
K.4	State/local decision chain for authorizing exposures in excess of EPA PAGs	N/A*
K.5.a	Specification of action levels for decontamination	Section 4.5.2
K.5.b	Means for radiological decontamination of emergency personnel	Section 4.5.2 Section 5.6

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
K.6.a	Provisions for area access control	Section 4.4.1
K.6.b	Provisions for drinking water and food contamination control	Section 4.4.1.4.a and b
K.6c	Criteria for permitting return of areas to normal use	Section 4.4.1.4.a
K.7	Provisions for decontaminating relocated onsite personnel	Section 4.4.1.2 Section 5.4.4 Section 5.6
L.1	Arrangements for local and backup hospital and medical services	Section 4.5.3 Section 4.5.4 Appendix C
L.2	Provision for onsite first aid capability	Section 5.5
L.3	State listing of medical support facilities	N/A*
L.4	Arrangements for transport of victims of radiological accidents	Section 4.5.3
M.1	Development of plans for reentry and recovery	Section 3.7.4
M.2	Listing of individuals filling positions in recovery organization	Section 3.7.1 Section 3.7.2 Figure 3-3
M.3	Means to inform organization that recovery is initiated	Section 3.7 Section 3.7.1
M.4	Establishment of method to estimate total population exposure	Section 3.7.2
N.1.a	Provisions for periodic exercises	Section 6.4 Figure 6.2
N.1.b	Provisions for exercise critique/varied scenarios	Section 6.4
N2.a-e	Provisions for drills	Section 6.4 Figure 6.2

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
N.3.a-f	Description of components of drills and exercises	Section 6.4 Figure 6.2
N.4	Provisions for observers/	Section 6.4 Figure 6.2
N. 5	Provisions for exercise corrective actions	Section 6.4
0.1.a	Provisions for site specific training for offsite emergency organizations	Section 6.2 Figure 6.1
0.1.b	Provisions for training mutual aid organizations	N/A*
0.2	Onsite training program/ practical drills	Section 6.2 Figure 6.1
0.3	Training for Licensee first aid teams	Section 6.2 Figure 6.1
0.4.a-j	Training and retraining programs for personnel implementing	Section 6.2 Figure 6.1
0.5	Initial training and retraining of personnel	Figure 6.1
P.1	Training of individuals responsible for the planning effort	Section 6.1 Section 6.2 Section 6.3 Figure 6.1
P.2	Identification of individual responsible for planning	Section 6.1
P.3	Designation of Emergency Planning Coordinator	Section 6.1
P.4	Annual update of plan and agreements	Section 8.5.1 Section 6.5.2
P.5	Distribution of approved plans	Section 6.5
P.6	Detailed listing of support plans	Appendix J
P.7	Procedures required to implement the plan	Appendix A

NUREG-0654 Section	Evaluation Criteria	JAFNPP EMERGENCY PLAN
P.8	Plan table of contents/ cross reference	Appendix L Table of Contents
P.9	Annual independent review of emergency preparedness program	Section 6.5.3
P.10	Quarterly update of telephone numbers	Section 6.6
EALs were revised in accordance with NEI 99-01 Rev. 5, Methodology for Development of Emergency Action Levels. The EALs are not included in the NUREG-0654 Cross Reference.		

APPENDIX N
TYPICAL FEDERAL SUPPORT RESOURCES

1. AIRFIELDS

a. Greater Rochester International Airport
1200 Brooks Avenue
Rochester, NY 14624
Tel. 585/753-7001

b. Oswego County Airport
40 Airport Drive
Fulton, NY 13069
Tel. 315/591-9130

c. Griffiss International Airport
592 Hanger Road
Suite 200
Rome, NY 13441
Tel. 315/736-4171

d. Syracuse Hancock International Airport
1000 Colonel Eileen Collins Boulevard
Syracuse, NY 13212
Tel. 315/454-3263 (Commissionerof Aviation) Tel.
315/455-3800 (Air Traffic Control)

e. Watertown International Airport
22564 Airport Drive
Dexter, NY 13634
Tel. 315/786-6000
Fax: 315/639-3990

2. COMMAND POSTS

a. JAFNPP Emergency Operations Facility
2262 State Route 176
Fulton, NY 13069
Tel. 315/593-5700

b. JAFNPP Technical Support Center
JAFNPP
268 Lake Road East
Lycoming, NY 13093
Tel. 315/349-6710

c. Joint Information Center
10 Airport Drive
Fulton, NY 13069
Tel. 315-592-3700

d. New York State Emergency Operations Center
New York State Office of Emergency Management
Public Security Building, State Campus
Albany, NY 12226
Tel. 518/292-2200
FAX. 518/322-4982

e. Oswego County Emergency Operations Center
Oswego County Office Building Annex
200 North Second Street
Fulton, NY 13069
Tel. 315/591-9150

3. TELEPHONE SYSTEMS IN PLANT VICINITY

a. WINDSTREAM
COMMUNICATIONS
Tel. 866/990-3282
(Repair) and
EARTHLINK BUSINESS(JAF Intermediate Provider)
Tel. 800/883-9177 (Repair)

b. VERIZON
Tel. 800/837-4966 (Repair)

c. AT&T
Tel. 800/222-0400 (Repair)
800/222-3000 (Repair)

4. RADIO FREQUENCIES

ORGANIZATION/FUNCTION	FREQUENCY-MHz
a. JAFNPP Security Force	153.635
b. JAFNPP Radiological Survey Teams	153.560
c. Law Enforcement - Oswego County Oswego County Sheriff / Police agencies 39 Churchill Road, Oswego, NY	155.370
Oswego Police Department	460 *
Fulton Police Department	460 *
d. E-911 Center	460 *
Trunk Radio 460 MHz System	45.88
Plus all other frequencies listed for Oswego County Dept's 39 Churchill Road, Oswego, NY	
e. Oswego County Highway Department Airport Road, Town of Scriba, NY	460 *
f. Nine Mile Point Nuclear Stations Rad and	456.575
Offsite Administration B/U Rad	457.750
g. Oswego County Agencies	
Oswego County Emergency Management	460 *
Organization	458.650
Oswego County Health	460 *
Oswego County Fire Control	460 *
	46.220

* The 460 MHz radio system utilizes a digital trunked radio system maintained by Oswego County. All County, City and Village Public Safety Agencies utilize a 460 MHz trunked land mobile radio system.