

1. PURPOSE OF THE PLAN

This plan has been developed to provide assistance to State and local officials in responding to a radiological incident at the Vermont Yankee Nuclear Power Station. The Radiological Emergency Response Plan is part of the Vermont State Emergency Operations Plan. This annex is published and distributed to users as a complete plan.

This plan includes both the plume and post-plume phases of a nuclear power plant Incident.

This plan places the services of the Vermont State Government in a role of coordination with respect to all local, state, interstate, and federal response. It provides for timely warning of an emergency, an organized manner in which to protect the population at risk, and the use of State resources to assist in response and recovery efforts. The ability of State and local governments and supporting organizations to respond to an emergency occurring at a nuclear power plant in an expeditious and effective manner is critical to ensuring the protection of the health and safety of the public.

The purpose of the plan is to delineate responsibilities and identify the necessary actions to prevent or minimize the health effects from:

- (1) Direct long term exposure to deposited radioactive materials and
- (2) Ingesting contaminated foods such as milk, fresh fruits and vegetables, or other food stuffs.

In this Plan the terms "Post Plume" and "Ingestion Pathway" are considered to be synonymous. Determining the need for "Relocation" is one of the major tasks in this plan. For brevities sake all three terms are not always included in various titles.

Until the permanently shutdown Yankee Nuclear Power Station in Rowe, Massachusetts is completely decommissioned and all spent fuel removed, the State will be notified and will have a limited response as necessary in the event of an emergency at their facility. The State's actions are described in Section 22 of this document.

SPECIAL NOTE: The Nuclear Regulatory Commission (NRC), the Federal Emergency Management Agency (FEMA) and Entergy Vermont Yankee Nuclear Power Station (VYNPS) and the State of Vermont have agreed that for the purpose of VYNPS providing protective action recommendations and NRC and FEMA conducting federal evaluation, the Town of Marlboro is not in the ten mile Emergency Planning Zone (EPZ). However, in an actual emergency the State of Vermont considers the Town of Marlboro to be in the ten mile EPZ and will include the town of Marlboro in protective action decisions. The Town of Marlboro is included in state training and other EPZ activities but is not federally evaluated.

A. Assumptions

The probability of an emergency at VYNPS with a release of radioactive material to the environment which requires public protective actions is considered extremely low due to redundant safety systems and the design and structural specifications required and enforced by the Nuclear Regulatory Commission. However, in order to be prepared if an emergency was to occur, appropriate plans and procedures have been developed to ensure public safety and protection. Utility, state, local, and federal response personnel are available to support the response efforts.

B. Emergency Response Planning

The Commissioner of Public Safety has designated Vermont Emergency Management as the state/local planning authority for the development of the Vermont Radiological Emergency Response Plan.

The Director of Vermont Emergency Management is responsible for all emergency preparedness in Vermont. Planning and interface functions have also been assigned to the Director of Vermont Emergency Management. Assistance is provided by the Vermont Emergency Management staff and personnel from various Vermont state government organizations.

Radiological Emergency Response Planning is authorized under Title 20, Vermont Statutes Annotated, Section 38.

Local (town) planning authority and personnel designations are local responsibilities. The State of Vermont has accepted the responsibility for providing assistance to any community which could be affected by a radiological emergency to ensure the development of adequate local plans which interface with the State plan. Some organizations require operational plans which utilize both local and state resources to accomplish response actions. State planning assistance is also made available to these organizations.

State agency planning authority and personnel designations are made at the discretion of the agency heads. All participating State organizations will develop operational procedures in support of the VRERP. Vermont Emergency Management is responsible for ensuring that all plans and procedures are compatible with one another and that there is inter-operability between them all.

The acceptance of each town, institutional and State organization plan by authorized representatives and designated state officials will constitute an operational agreement between the parties, eliminating the need for separate letters of agreement for each participant.

C. Basis for Emergency Planning

The basis for emergency Planning for nuclear power plants is found in Title 10, Code of Federal Regulations, Part 50, and in the criteria presented in NUREG-0654, FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." These documents provide guidance relative to the activities, personnel, facilities, and equipment which should be in place in order to establish an effective emergency response capability. NUREG-0396 defines and describes the basis for the 10-mile plume exposure pathway emergency planning zone and the 50-mile ingestion exposure pathway emergency planning zone.

D. Basis for Evaluation of Contamination of Human Food and Animal Feed

Guidance and recommendations put forth by the federal Food and Drug Administration (FDA) or other relevant approaches, tools and/or recommendations, (including but not limited to dose limits) deemed appropriate by the Radiological Health Advisor may be used by the State of Vermont in the evaluation of potentially contaminated human food and animal feed and considered in the development of protective action recommendations for the Ingestion Pathway.

For example, to help prevent or reduce potential internal exposure to radiation due to ingestion of accidentally contaminated human food, it may be deemed appropriate to use the following 1998 FDA Protective Action Guides (PAGs):

- (a) 0.5 rem Committed Effective Dose Equivalent (CEDE) or
- (b) 5 rem Committed Dose Equivalent (CDE) which ever is more limiting.

(Reference: Federal Register, Volume 63, No. 156, dated August 13, 1998)

- (1) The State of Vermont may use the Protective Actions recommended by FDA or other actions deemed appropriate by the Radiological Health Advisor. Necessary protective measures and public concern may require modification of the collection, production, processing, and marketing cycle of potentially contaminated products within the affected areas.
- (2) The State of Vermont has the responsibility and authority to initiate protective actions in the event that a radiological incident results in radioactive contamination of food, water or milk.
- (3) Protective actions would be ordered by the Governor as advised by the Health Services Coordinator, the Secretary of the Agency of Agriculture, Food and Markets, and the Secretary of the Agency of Natural Resources. The Commissioner of the Vermont Department of Health or designee will assume the role of the Health Services Coordinator.

- (4) The decision to recommend protective actions is based on known releases to the environment, radiological measurements, laboratory analyses, and integrated dose projections. It is recommended, with the exception of precautionary sheltering of milk animals, that actions not be taken without consideration for the health, economic, and social impacts of such actions.

2. EMERGENCY CLASSIFICATION

A. Plant Safety Analysis

The Nuclear Regulatory Commission (NRC) requires that the primary assurance of safety be obtained by the application of rigorous standards to the design, construction, and operation of a nuclear facility, and through extensive quality assurance actions. In accordance with the defense in-depth concept, safety features and engineered safeguard systems are provided to prevent or mitigate the consequences of an accident.

In accordance with federal regulations, Vermont Yankee has evaluated the ability of the plant to withstand accidents without posing a hazard to the health and safety of the public. Vermont Yankee has performed safety analyses which address:

- (1) The margins of safety during normal operations, abnormal operational transients and accidents.
- (2) The adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents.

The conditions analyzed range from anticipated operational occurrences which might occur with moderate frequency but result in no significant risk to the public, to accident situations with a theoretical potential for off-site consequences requiring protective actions, but which are very unlikely to occur. The range of incidents considered are categorized as:

- (1) Events of moderate frequency leading to no abnormal radioactive release from the facility.
- (2) Events of small probability with the potential for a small radioactive release from the facility.
- (3) Potentially severe accidents of extremely low probability, postulated to establish the performance requirements of engineered safety features.

B. Emergency Classification Level Scheme

The wide spectrum of component or system failures, or other occurrences that could potentially reduce plant safety margins, are categorized into a classification system that categorizes incidents according to severity.

The four emergency classification levels in ascending order of severity are:

UNUSUAL EVENT
ALERT
SITE AREA EMERGENCY
GENERAL EMERGENCY

These four levels are agreed upon between the licensee and State and local governments. The classification of an event may change as conditions change. The incidents leading to each of the four emergency classifications are further identified by certain measurable and observable indicators of plant conditions known as Emergency Action Levels (EALs). The Emergency Action Levels are provided in the Vermont Yankee Nuclear Power Station Emergency Plan and are described in the Vermont Yankee Emergency Action Level Technical Bases Revision 8, 2009.

State and local governments have plans and procedures in place that provide for response actions to be taken at each emergency classification. Prompt notification by the utility to off-site authorities is required within 15 minutes of the declaration of an emergency and for each escalation. Time is measured from when the control room operator recognizes the emergency condition to notification of off-site authorities.

The four Emergency Classification Levels (ECLs) are defined as:

UNUSUAL EVENT

Class Description Unusual Events are in process or have occurred that indicate a potential degradation in the level of plant safety. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

Purpose Off-site officials are notified to: (1) assure that the first step in any response later found to be necessary has been carried out, (2) bring the operating staff to a state of readiness, and (3) provide systematic handling of information and decision making.

ALERT

Class Description Alert indicates that events are in process or have occurred that involve an actual or potential substantial degradation in the level of plant safety. Releases are expected to be limited to small fractions of the U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAGs) exposure levels.

Purpose The purpose of the Alert declaration is to (1) ensure that on-site emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring, if required, and (2) ensure that off-site response centers are staffed, and (3) provide off-site authorities with current status information.

SITE AREA EMERGENCY

Class Description Site Area Emergency indicates that events are in process or have occurred that involve actual or likely major failures in plant functions needed for protecting the public. Releases are not expected to exceed EPA PAG exposure levels, except near the site boundary.

Purpose The purpose of the Site Area Emergency declaration is to (1) ensure that off-site authorities are prepared to initiate precautionary actions, if required, (2) ensure that monitoring teams are dispatched, (3) assure that personnel required for evacuation of near-site areas are at duty stations if the situation becomes more serious, (4) provide consultation with off-site authorities, and (5) provide updates for the public through off-site authorities.

GENERAL EMERGENCY

Class Description General Emergency indicates that events are in process or have occurred that involve actual or imminent substantial core degradation or melting, with potential for loss of containment integrity. Releases can reasonably be expected to exceed EPA PAG exposure levels off-site, beyond the immediate site area.

Purpose The purpose of the General Emergency declaration is to (1) initiate predetermined protective actions for the public, (2) provide continuous assessment of information from licensee and off-site organization measurements, (3) initiate additional measures as indicated by actual or potential releases and (4) provide consultation with off-site authorities, and (5) provide updates for the public through off-site authorities.

C. Termination of an Emergency Classification

A declared emergency classification is canceled because the underlying conditions have been fixed or neutralized and the plant is considered safe. Emergency classifications do not de-escalate. Once declared, all of the underlying conditions must be corrected before the condition is canceled. The act of canceling that condition is called "termination".

FOR EXAMPLE: If the plant declares a Site Area Emergency, it doesn't fix one problem and de-escalate to an Alert and fix another problem and de-escalate to Unusual Event. They take actions to shutdown the reactor, resolve all of the safety issues and "terminate" the Site Area Emergency.

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3. INTRODUCTION TO RADIATION

"Radiation" is energy moving through matter and space as waves or particles.

"Ionizing Radiation" is energy which disrupts some of the atoms in its path as it moves through matter, separating them into electrically charged (+ or -) pieces called **"ions"**.

This ability to break or split atoms distinguishes ionizing radiation from other types and makes it harmful to living tissue.

The human body is made of trillions of atoms, so when a few are ionized by small doses of ionizing radiation there is no noticeable physical effect. Conversely, large doses of ionizing radiation can ionize many atoms and result in sickness or even death to an individual.

There are several types of ionizing radiation to consider when discussing the effects of an accident at a fixed nuclear facility. **ALPHA** and **BETA** particles, **GAMMA** rays and **NEUTRONS** all have different characteristics, and consequently varied effects upon matter.

ALPHA particles are large particles and can travel only about an inch in air. They have almost no penetrating effects and can be stopped by a thin sheet of paper or the surface of skin tissue. **ALPHA** particles do not pose a serious threat to humans as long as they remain outside the body. They can become extremely dangerous if ingested or inhaled, damaging internal organs.

BETA particles are smaller particles and can travel several feet through air. An inch of wood or a thin sheet of aluminum will stop **BETA** particles, but they can penetrate and cause damage to skin tissue.

GAMMA rays can travel hundreds of feet in air and penetrate most materials. They can be stopped by lead shielding, or thick concrete. **GAMMA** rays can cause damage to the whole body.

NEUTRONS have characteristics similar to **GAMMA** rays in travel and penetration. Neutrons are shielded by hydrogenous materials like water.

Measuring ionizing radiation is complicated as different types have varying effects on different materials. Four basic terms are used to quantify these effects, each with its own specific purpose.

The **ROENTGEN** was the first unit used to measure radiation. **A roentgen is a measure of the ionization of air by GAMMA rays or X-rays.** One roentgen is the amount of **GAMMA** rays which will ionize 2,080,000,000 atoms in one cubic centimeter of air. A roentgen is not applicable in describing the effects of **GAMMA** rays on other materials. The **RAD** was developed to measure radiation effects upon other materials. The letters represent the phrase **Radiation Absorbed Dose.** **A rad measures the energy per gram absorbed by matter as a result of radiation.** It can apply to any substance, affected by

any type of radiation. The quantity of radiation necessary to deposit 100 ergs (a very small measure of energy) to one gram of absorbing material is one rad, and it differs with different types of radiation. Equal numbers of rads of different types of ionizing radiation have different biological effects on humans.

The **REM** was developed to measure biological effects of radiation. Rem is a simple way of expressing radiation in terms of its impact on people. The rem got its name from the phrase "**Roentgen Equivalent Man.**" **A rem is the amount of any type of radiation which produces the same biological effect as one roentgen of gamma rays or X-rays.** The rem equalizes the differences in effects of the various types of radiation on people. One rem of alpha particles expresses the same biological effect as one rem of gamma rays. The rem is probably the most useful measure of radiation for general discussion. Because radiation is likely to occur in very small amounts, some measurements are made in **millirems**. **A millirem is one/one-thousandth of a rem (.001 rem).**

The **CURIE** is the unit used to measure radioactivity. It was named after Marie and Pierre Curie, research pioneers in the field. **A curie is a measure of the number of atoms disintegrating per second in radioactive material.** A curie is equal to 37 billion disintegrations per second. Measuring small amounts of radioactivity requires the use of picocuries which are only one-trillionth of a curie.

Because radioactive materials emit individual patterns of alpha and beta particles and gamma rays, there is no simple conversion of curies to rads or rems. Each substance has an individual character depending upon the combination and proportion of radiation types it emits. This requires a different formula to compute a relationship.

Human exposure to ionizing radiation is measured in millirems and rems which cumulatively become a dose. The greater the dose, the greater the biological effect. It is impossible to predict precisely how an individual will respond to a particular dose as it will vary from one person to another. A dose depends upon the amount of radiation being emitted, the distance from the source, the length of exposure time, and the total area of the body exposed.

Radiation is present in the environment. Natural radiation sources annually produce an average dose of approximately 0.31 rem (310 millirems) for each person in the United States. By far the largest dose of man-made radiation would be produced by medical procedures which could average about 300 millirems per year. Estimated dose rates for Americans from all sources averages 0.62 rem (620 millirem) a year.

Federal and international health agencies have studied the effects of radiation and recommend that exposure of the general population should not exceed 100 millirems or one-tenth a rem annually.

4. **AUTHORITIES AND REFERENCES**

A. State and Local Authorities

Radiological Emergency Response Planning is authorized under Title 20, Vermont Statutes Annotated, Section 38.

The Commissioner of Public Safety has designated the Vermont Emergency Management Division (Planning Section) as the State/Local Planning Authority for the development of the Vermont Radiological Emergency Response Plan. Planning and interface functions have been assigned to the Director of Emergency Management. Assistance is provided by the Department of Public Safety Planning Division, the Vermont Emergency Management staff, and personnel from various participating Vermont State Government agencies. State agency planning authority and personnel designations are at the discretion of the agency heads.

The Commissioner of the Vermont Department of Health coordinates ingestion pathway decisions with assistance from accident assessment personnel from various state agencies, federal agencies, and the Vermont Yankee Nuclear Power Station.

Local (town) planning authority and personnel designations are local responsibilities. The State of Vermont has accepted the responsibility for providing assistance to any community which could be affected by a radiological emergency to assure the development of adequate local plans which interface with the State plan.

The acceptance of each town, institutional and State organization by authorized representatives and designated State officials will constitute an operational agreement between the parties, eliminating the need for separate statements of understanding for each participant.

B. State References

- (1) Title 3, Vermont Statutes Annotated, (VSA) Chapter 51, Creation of Agency of Natural Resources and Supporting Department.
- (2) Title 6, VSA, Chapter 102, Section 1159, Authority to condemn and destroy an animal.
- (3) Title 6, Vermont Statutes Annotated (VSA), Section 491, Authority to condemn and Destroy Adulterated Maple Syrup
- (4) Title 6, VSA, Chapter 102, Section 1159, Authority to condemn and destroy animals

- (5) Title 10, VSA, Chapters 41, 56 and 61, Detailed Authority for Fish and Wildlife, Forest and Parks, and Department of Environmental Conservation
- (6) Title 18, VSA, Sections 1218 and 1282, Water Pollution and Public Drinking Water
- (7) Title 18, VSA, Sections 4055 and 4059, Authority to Condemn and Destroy Contaminated Food Products
- (8) Title 18, VSA, Chapter 31, New England Compact on Radiological Health Protection.
- (9) Title 18, VSA, Chapter 32, Ionizing and Non-ionizing Radiation Control
- (10) Title 20, VSA:

Section 2(7)	"Radiological Incidents" - natural disasters defined as any mishap or occurrence involving radiological activity which may pose a threat to persons or property.
Section 3(e)	Authority for direction and control - Vermont Emergency Management
Section 3 (c) (f)	Delegation of civil defense responsibilities to other agencies of state government and coordination with other states
Section 8	General powers of the Governor
Section 8(b)(c)(g)	Delegation to the Director
Section 9	Emergency powers of the Governor (also see 20 VSA 2)
Section 10	Requests to the Governor by municipal authority
Section 20	Immunities and defenses
Section 38	State Response Plan Authority. Special funds radiological emergency response
Section 601	Call out of the National Guard
Chapter 3	Interstate Civil Defense Compact

C. Federal References:

The following is a list of documents published by federal agencies that would be used in a radiological response and in some cases may form the basis of various parts of plans and procedures.

- (1) NUREG-0396 (EPA 520/1-78-016), "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978
- (2) NUREG-0654 FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response and Preparedness in Support of Nuclear Power Plants," November 1980
- (3) EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," May 1992
- (4) 67_FR_20580, "Radiological Emergency Preparedness Exercise Evaluation Methodology", published in the Federal Register on September 12, 2001, and amended April 25, 2002
- (5) 66_FR-47546, "FEMA Radiological Emergency Preparedness Alert and Notification", September 12, 2001
- (6) FDA, 1998 Accidental Radioactive Contamination of Human Food and Animal Feeds: Recommendations for State and Local Agencies.
- (7) FRMAC Operations Manual, (DOE/NV/25946-980) Dated May 2010
- (8) FRMAC Health and Safety Manual (DOE/NV/11718-440) Dated May 2001
- (9) FRMAC Monitoring Division Manual, Volume 1, (DOE/NV/11718-853 Vol 1) Dated December 2005
- (10) FRMAC Monitoring and Analysis Manual, Radiation Monitoring and Sampling, Volume 2, (DOE/NV/11718-181 Vol 2) Dated December 2005
- (11) FRMAC Laboratory Analysis Manual, (DOE/NV/11718-852) Dated December 2005
- (12) FRMAC Assessment Manual, Volume 1 - Overview and Methods, (SAND 2010-1405P) Dated April 2010
- (13) FRMAC Assessment Manual, Volume 2 - Pre-assessed Default Scenarios, (SAND 2010-2575P) Dated February 2010

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D. State and Local Plans

The following is a list of plans, including this plan, that have been developed to respond to a possible incident or accident at either Vermont Yankee or Yankee Rowe

PLAN / MANUAL / IP / COMPONENT NAME
1. STATE PLANS:
A. PLANS:
(1) Vermont State Emergency Operations Plan
(2) Vermont Radiological Emergency Response Plan
(3) Staging Area Emergency Response Plan
(4) Bellows Falls Union High School Reception Center Plan
B. MANUALS:
(1) Notification Manual (State Warning Points and Pager Carrier Plan and Procedures)
(a) Dispatch Edition
(b) Standard Edition
(2) Information Officer EPZ Briefing Manual
(3) Traffic and Access Control Manual
2. TOWN PLANS:
A. BRATTLEBORO
B. DUMMERSTON
C. GUILFORD
D. HALIFAX
E. MARLBORO
F. VERNON
3. SCHOOL PLANS:
A. WINDHAM SOUTH EAST SUPERVISORY UNION (WSESU):
(1) Superintendents Office
(2) Vernon Elementary School

PLAN / MANUAL / IP / COMPONENT NAME
(3) Guilford Central School
(4) Oak Grove Elementary School
(5) Early Education Services
(a) Canal Street Head Start and Early Head Start
(b) Elementary Co-op Program (Esteyville School)
(6) Green Street School
(7) Brattleboro Union High School (includes SE VT Career Ed Ctr)
(8) Academy School
(9) Dummerston School
B. WINDHAM SOUTH EAST SUPERVISORY UNION (WSWSU):
(1) Superintendent's Office
(2) West Halifax School
4. OTHER LOCAL PLANS
A. HOSPITALS
(1) Brattleboro Retreat
(2) Brattleboro Memorial Hospital
(a) Staff and Patient Plan
(b) Brattleboro Memorial Hospital Radiological Contaminated Casualty Protocol
B. NURSING HOME and ASSISTED LIVING FACILITIES
(1) Hilltop House
(2) Holton Home
(3) Pine Heights
(4) Thompson House
(5) Vernon Advent Christian Home
C. CHILD CARE CENTERS (GENERIC):

PLAN / MANUAL / IP / COMPONENT NAME	
(1)	Town of Brattleboro
(2)	Town of Dummerston
(3)	Town of Guilford
(4)	Town of Halifax
(5)	Town of Marlboro
(6)	Town of Vernon
D. COLLEGES and PRIVATE SCHOOLS (w/o Child Care)	
(1)	Community House
(2)	Hilltop Montessori
(3)	Meadows School (at Brattleboro Retreat)
(4)	School for International Training
(5)	St Michael's School
(6)	Vermont Center for the Deaf and Hard of Hearing
E. SUMMER CAMPS and CAMP GROUNDS:	
(1)	Brattleboro North KOA Campground
(2)	Camp Waubanoig
(3)	Fort Dummer State Park
(4)	Green Mountain Camp for Girls
(5)	Hidden Acres Campground
(6)	Neringa
F. OTHER PLANS OR PROCEDURES:	
(1)	Rescue. Inc., Ambulance Procedure for managing contaminated & injured patients originating from Vermont Yankee Nuclear Power Station.
(2)	Vermont Radiological Response Emergency Alert System (EAS) Procedure for the Windham County, Vermont EAS Area.
(3)	Radio Station WTSA EAS Procedures
(4)	Radiological Plume Tracking Team

PLAN / MANUAL / IP / COMPONENT NAME
(5) Radiological Sampling Team
5. AGENCY-SPECIFIC PROCEDURES FOR:
A. Department of Public Safety
(1) Vermont Emergency Management
(2) Vermont State Police
(3) Criminal Justice Services
B. Department of Health
C. Department of Public Service
D. Agency of Human Services
E. Agency of Agriculture, Food and Markets
F. Agency of Transportation
G. Agency of Natural Resources
(1) Department of Environmental Conservation
(2) Department of Fish and Wildlife
(3) Department of Forest, Parks and Recreation
H. Vermont National Guard
I. Civil Air Patrol
J. American Red Cross
6. UTILITY REFERENCES:
A. Vermont Yankee Nuclear Power Station Emergency Action Level Technical Bases, Revision 8, 2009
B. Vermont Yankee Nuclear Power Station Development of Evacuation Time Estimates February 2005 Revision 1

5. LEGAL LIABILITY

The **legal liability** for damages resulting from an incident at any nuclear power plant is established at the time of the issuance of a license to operate. The Nuclear Regulatory Commission requires each licensee to have and maintain financial protection in the form of liability insurance. The owners and operators of Vermont Yankee Nuclear Power Station in Vernon, Vermont, have liability insurance with the American Nuclear Insurers (ANI) of Hartford, Connecticut.

In the event a nuclear incident at Vermont Yankee results in damages greater than the amount covered by their private insurance carrier, additional liability will be assumed by the government of the United States of America under the **Price-Anderson Act, Public Law 85-256**. The **Price-Anderson Act** is an amendment to the **Atomic Energy Act of 1954** and provides for indemnification up to seven billion dollars, including reasonable costs for the investigation and settlement of claims.

Damage claims following a nuclear incident will be handled first by the insurance carrier, and if the damages exceed the amount of coverage, by the United States government. If damages from a single nuclear incident appear to exceed the total of available resources for public liability, the licensee may apply to the appropriate district court of the United States for orders to enforce the provisions of the Price-Anderson Act. Such enforcement will include an order limiting the liability of the licensee and additional orders designed for equitable distribution of settlement funds as may be required.

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6. PLANNING CONCEPTS

A. Emergency Planning Zones

The U.S. Nuclear Regulatory Commission (NRC)/U.S. Environmental Protection Agency (EPA) document entitled, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396 provides the planning basis for off-site emergency response plan development. Prepared by an NRC and EPA Task Force on Emergency Planning, NUREG-0396 presents the concept of generic Emergency Planning Zones (EPZs) as a basis for planning response actions which would result in dose savings in the environs of nuclear facilities in the event of a serious nuclear power reactor accident. The EPZ concept was endorsed by the NRC and the EPA. The Federal Emergency Management Agency (FEMA) has concluded that the guidance in NUREG-0396 should be used as a planning basis for emergency preparedness around nuclear power facilities. The NRC/FEMA document entitled, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654, FEMA-REP-1, Rev. 1, provides a common reference and guidance source for State and local governments and nuclear facility operators in the development of radiological emergency response plans in support of nuclear power plants. The EPA's, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," provides radiological protective guidance that may be used in developing plans and making decisions.

Protective action guides, accident considerations, and planning needs are factors central to the EPZ concept and development. The EPZs are designated as areas for which plans are prepared to ensure that prompt and effective actions can be taken to protect the public in the event of an accident. EPZs are considered essential for responding to any accident that would produce off-site doses in excess of the protective action guides. For commercial reactors, a radius of about 10 miles (see Figure 6-1) was selected for the plume exposure pathway EPZ, and a radius of about 50 miles (see Figure 6-2) was selected for the Ingestion Pathway Zone (IPZ).

Although the radius for the generic EPZ implies a circular area, the actual shape depends upon the characteristics of a particular area. Adjustments are often made to accommodate existing boundaries, such as town lines, major roads, or rivers. The EPZ is of sufficient size to provide a dose reduction to the population from design basis accidents. The EPZ also provides for substantial reduction in early severe health effects for the more severe accidents.

(1) Plume Exposure Pathway Zone

The delineation of the Plume Exposure Pathway EPZ is consistent with NUREG-0654, FEMA-REP-1, using appropriate natural geopolitical boundaries within an approximate ten-mile radius (Figure 6-1). Within this area, detailed plans have been developed to protect the public from receiving radiation exposure from an airborne plume in excess of allowable federal limits. These plans are described in this document.

Principal exposure pathways in the Plume Exposure Pathway EPZ are: a) whole body external exposure to gamma radiation from the plume and from deposited materials, and b) inhalation exposure from the passing radioactive plume. The time of potential exposure could range in length from hours to days.

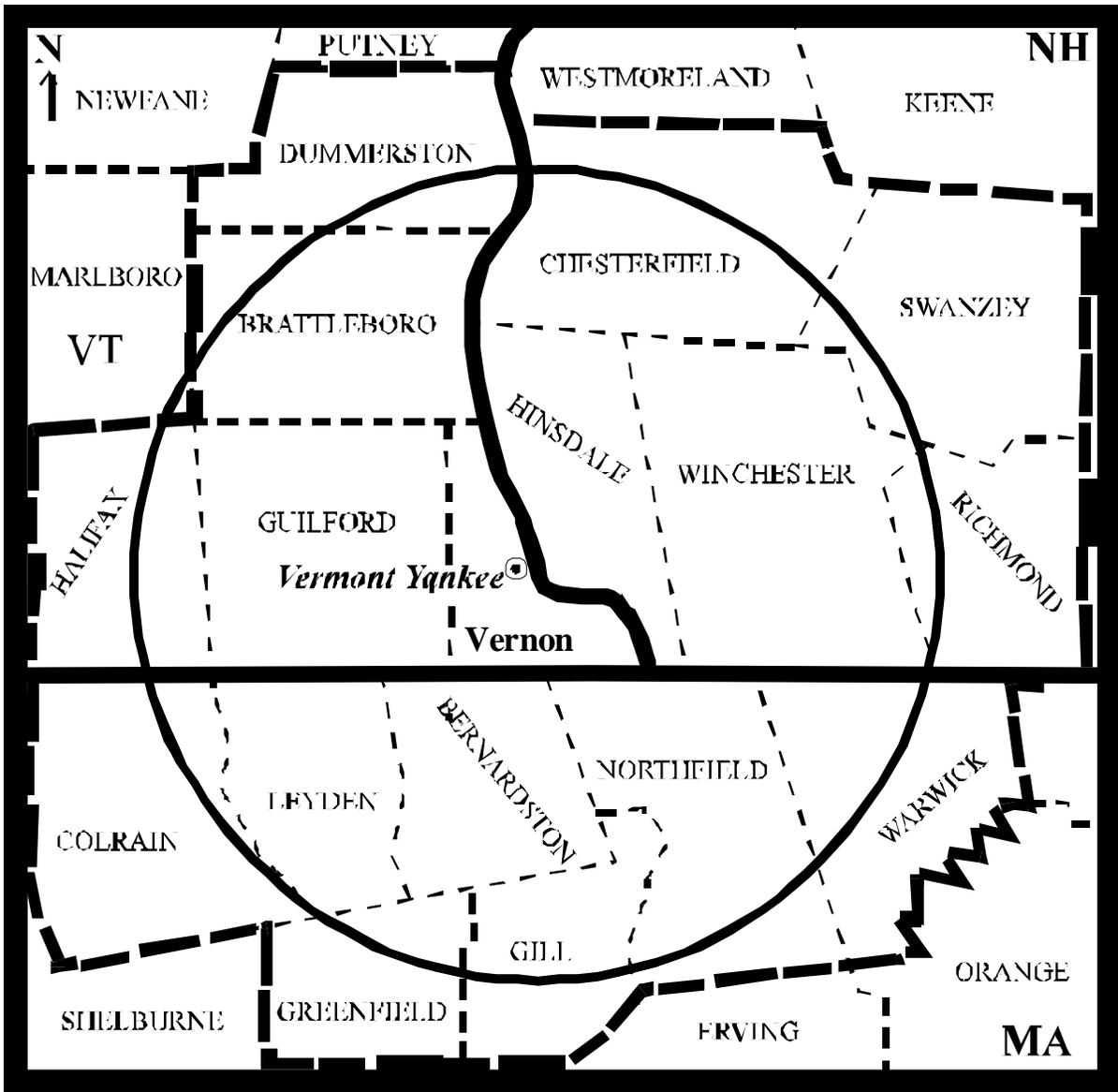
(2) Ingestion Pathway Zone

The Ingestion Pathway Zone (IPZ), as described in NUREG-0645, FEMA-REP-1, is the area where protective action plans are required relative to the food chain (Figure 6-2). This zone encompasses an area with not less than a 50-mile radius around Vermont Yankee. The cities and towns located within the Ingestion Exposure Pathway Zone are listed in the "0-50 Mile Contact List." Ingestion planning includes consideration of protective actions to prevent or mitigate radioactive contamination of water, milk or food which is consumed directly or indirectly. Thus, animal feed for farm animals whose milk or meat is consumed is also of concern. Emphasis is placed on preventing contamination of food in preference to protective actions following contamination.

The emergency planning zones have been further divided into sectors, corresponding to sixteen standard compass directions. The bearing of each sector is indicated by the letter or letters denoting the compass point. Each sector includes 22½ degrees.

The 0-10 mile population by EPZ town is shown in Table 6-1. Table 6-2 depicts school populations for the five Vermont EPZ towns. The 0-50 mile population distribution around the Vermont Yankee Nuclear Power Station is contained in Table 6-3.

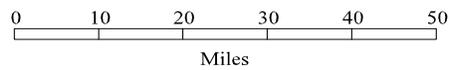
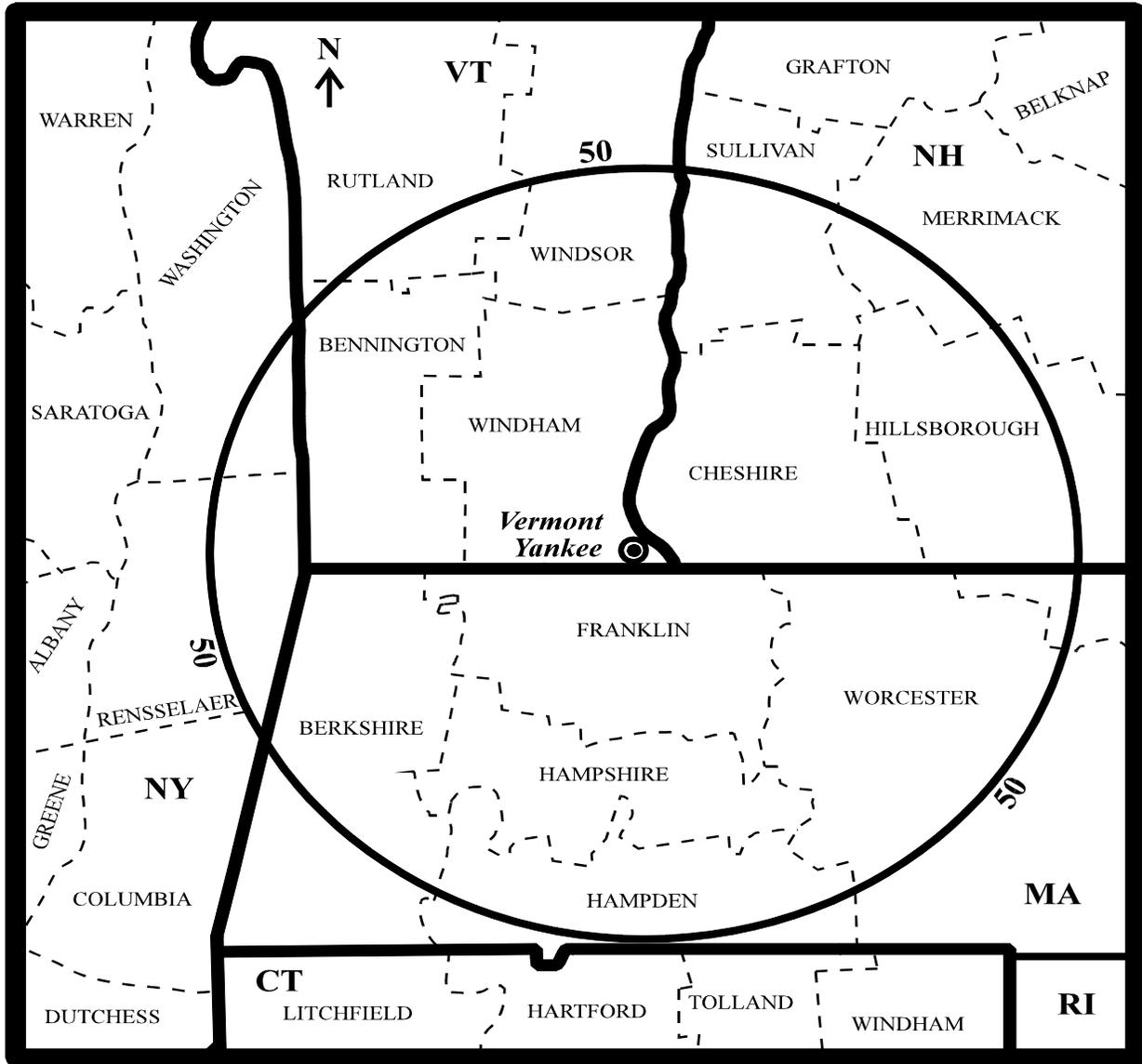
The best available estimate of the permanent resident population located in a 10-mile radius from the plant is shown in Figure 6-3. The best estimate of the transient population located in a 10-mile radius from the plant is shown in Figure 6-4. The best estimate of the population in the Plume Exposure Pathway Zone (EPZ) and Ingestion Exposure Pathway Zone (IPZ) is shown in Figure 6-5.



0 5 10 15 Miles

Figure 6-1

Plume Exposure Pathway Zone



NOTE: The above named jurisdictions are counties.

FIGURE 6-2

Ingestion Pathway Zone

TABLE 6-1
2000 Population Distribution by EPZ Town
 (0-10 miles)

Town	Plume Exposure Pathway EPZ Boundary⁽¹⁾	Total Town Residential Population⁽²⁾	Transient Population
Brattleboro	Partial	12005	5500
Dummerston	Partial	1915	20
Guilford	Entire Town	2046	None ⁽³⁾
Halifax	Partial	782	None ⁽³⁾
Vernon	Entire Town	2141	320
Total Residential		18,889	
Total Transient			5,840
EPZ Total			24,729
<p>⁽¹⁾Protective actions are implemented on a whole town basis. ⁽²⁾Population figures reflect town residential population. ⁽³⁾As identified in the Vermont Yankee Evacuation Time Estimates, the towns of Guilford and Halifax do not have any recreation areas or motels.</p>			
<p>The census change from 1990 to 2000 was very small. The EPZ total went from 24,323 in 1990 to 24,729 in 2000 for an increase of 406. Some towns such as Brattleboro decreased while all of the other towns increased in population. The transient estimate was left the same.</p> <p>Note: The 2005 Population Estimates used in the 2005 Evacuation Time Estimate show some increase and are as follows:</p>			
Town	Resident Population	Transient Population	
Brattleboro	11,889	5,534	
Dummerston	1,942	1,064	
Guilford	2,101	723	
Halifax	902	0	
Vernon	2,303	793	
EPZ Sub-total	19,137	8,114	
EPZ Total		27,251	

TABLE 6-2**Vermont EPZ Town School Population Data***

Town	School	No. of Students	No. of Teachers	No. of Support Staff	Total
Brattleboro	Canal Street School (Grades K-2)	57	18	8	113
	Green Street School (Grades K-5)	329	26	23	304
	Oak Grove School (Grades 5-6)	189	18	17	175
	Brattleboro Union High School** (Grades 7-12)	1228	189	84	1720
	Academy School (Grades K-5)	552	37	44	457
Dummerston	Dummerston East School (Grades K-8)	197	23	14	220
Guilford	Guilford Central School (Grades K-8)	198	29	11	272
Halifax	West Halifax School (Grades K-8)	59	6 F-T 7 P-T	7 F-T 2 P-T	85
Vernon	Vernon Elementary School (Grades K-6)	208	25	12	241
Total EPZ School Population =					3587
<p>F-T = Full time Teachers and Support Staff P-T = Part time Teachers and Support Staff</p> <p>* Based on October 2004 School Population Data.</p> <p>** Brattleboro Union High School includes the Senior High (9-12), Junior High (7-8), and the Southeastern Vermont Career Education Center (SVCEC).</p> <p>The approximate number of Junior and Senior High students attending the Brattleboro Union High School from the following communities are: Vernon - 144; West Halifax - 0; Guilford - 115; Brattleboro - 832; Dummerston - 97; = 1188</p> <p><i>NOTE: The above information was obtained from: Barbara Nowakowski - WSESU (802)254-3730 VM (802) 254-3733 FAX Rhonda Lackey - WSWSU(802)464-1300 VM (802) 464-1303 FAX</i></p>					

TABLE 6-3**2000 Population Distribution**
(0-50 miles)

Sector	0-5	5-10	10-20	20-30	30-40	40-50	Sector Totals
N	1,153	1,178	3,407	10,292	16,570	14,648	47,248
NNE	368	934	5,470	4,199	5,425	19,810	36,206
NE	328	143	22,058	2,536	5,315	11,010	41,390
ENE	1,280	767	8,183	6,744	10,365	22,919	50,258
E	608	2,350	3,004	11,949	13,953	47,440	79,304
ESE	156	542	1,494	20,506	66,379	98,979	188,056
SE	593	943	13,875	8,042	12,006	98,042	133,501
SSE	546	1,627	2,390	3,494	16,339	35,240	59,636
S	476	1,467	9,522	40,718	64,673	342,689	459,545
SSW	214	1,334	21,488	10,615	36,090	47,691	117,432
SW	216	618	4,691	2,331	5,796	16,155	29,807
WSW	187	371	1,254	6,354	24,579	51,651	84,396
W	194	347	1,765	4,744	23,348	11,720	42,118
WNW	319	561	2,458	1,256	16,167	11,671	32,432
NW	644	3,415	1,359	1,174	4,424	4,211	15,227
NNW	2,197	6,913	1,997	1,625	2,640	3,771	19,143
Total	9,479	23,510	104,415	136,579	324,069	837,647	1,435,699

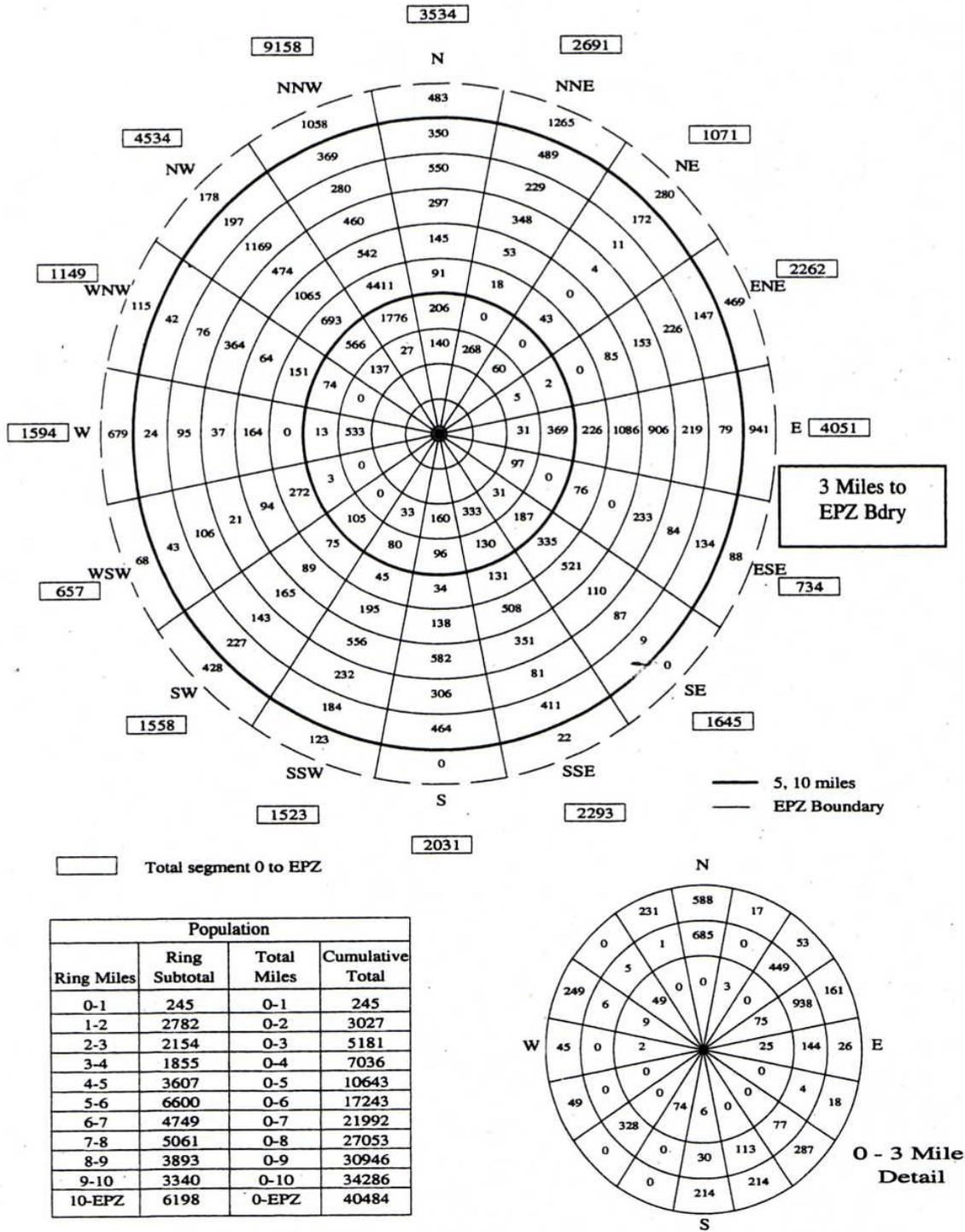


FIGURE 6-3

10-Mile Radius Area Population Distribution

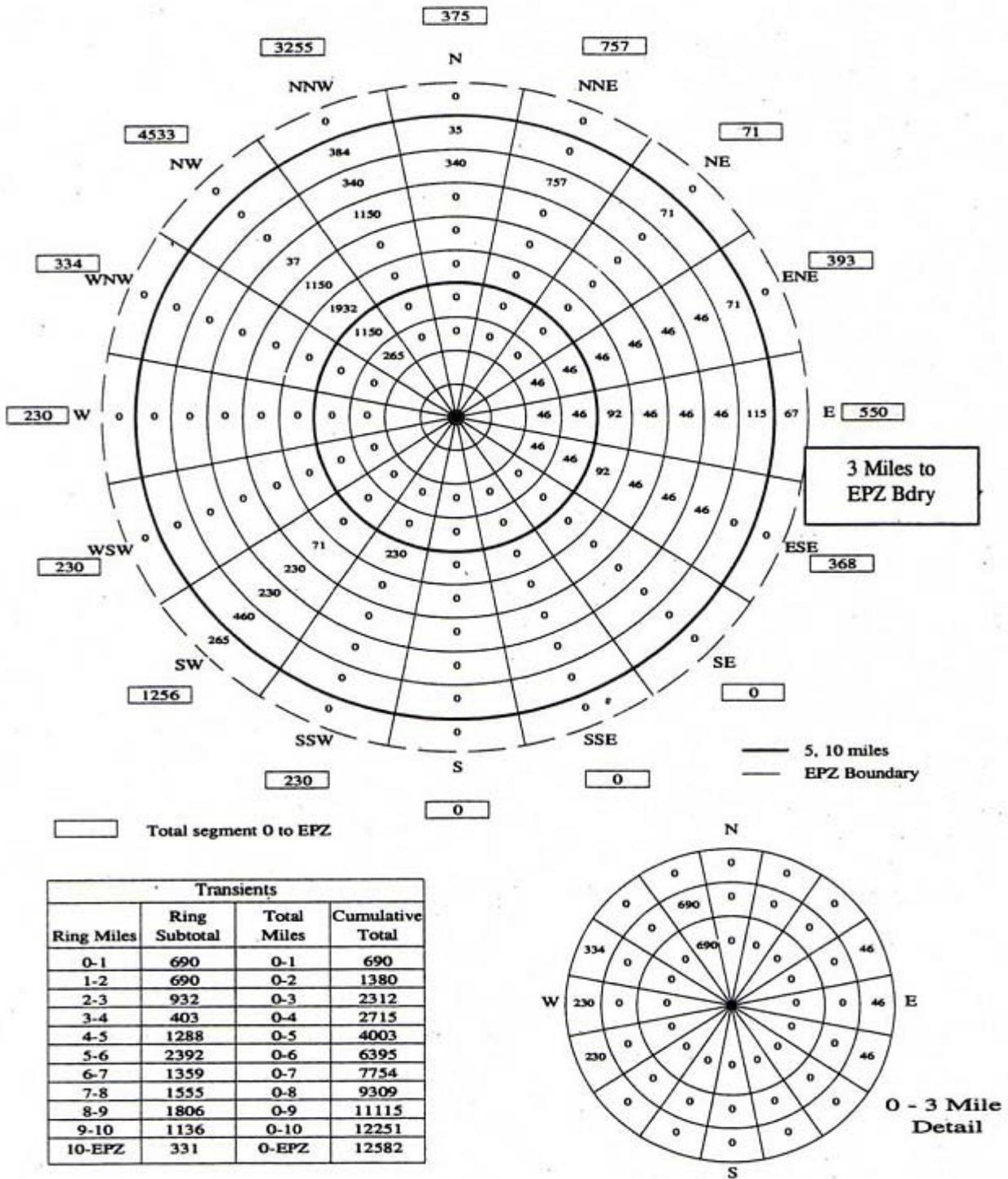


FIGURE 6-4

10-Mile Radius Area Transient Population Distribution

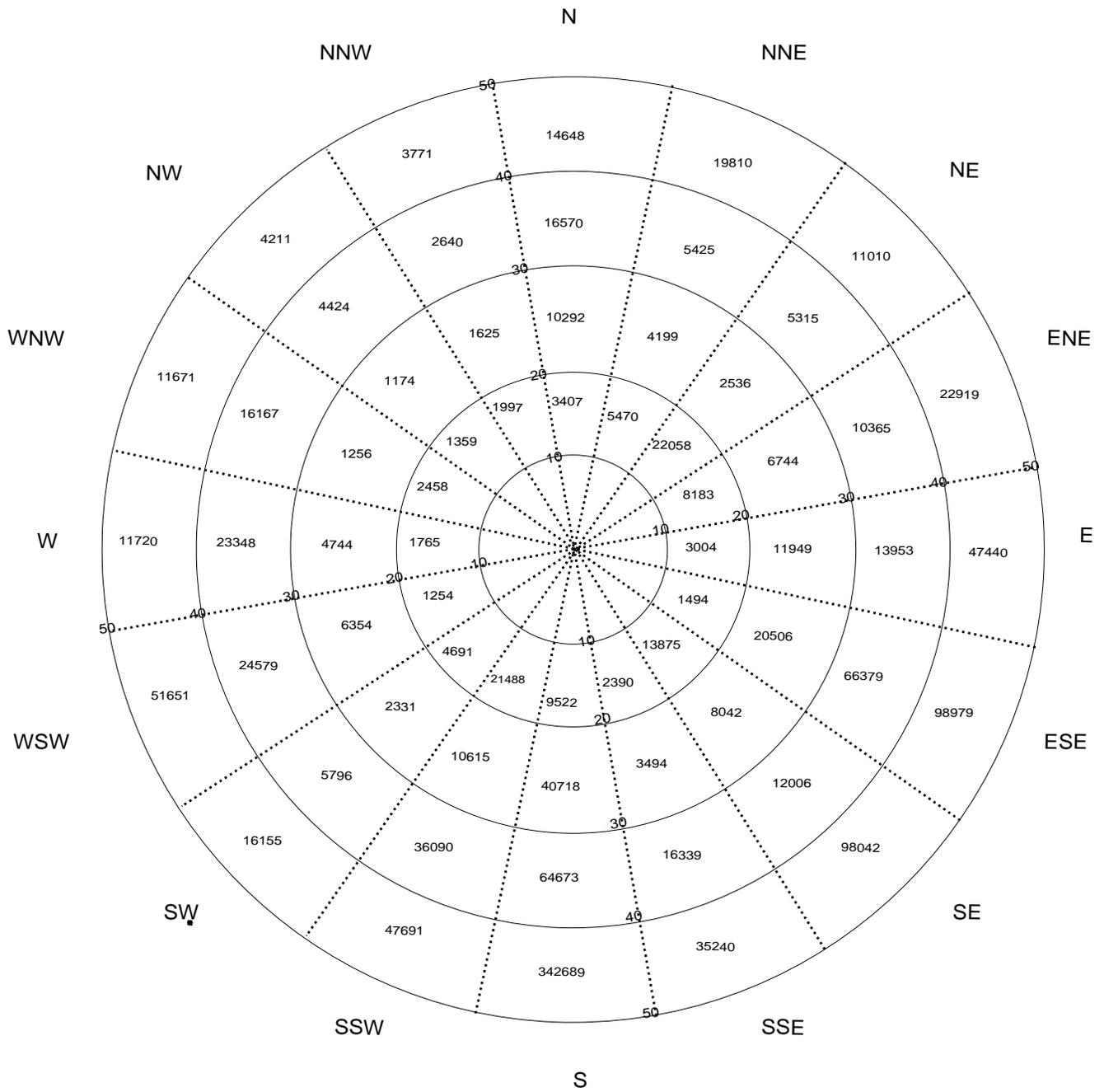


FIGURE 6-5

1990 - 50-Mile Radius Area Population Distribution

7. NOTIFICATION AND COMMUNICATIONS

Dependable and prompt notification capabilities and an extensive primary and redundant communications network are essential to effective response operations. This section describes some of the various means of notification and communication that may be used. Other means may be used as deemed necessary and appropriate.

A. Notification

This section describes the responsibilities and means of rapidly notifying state and local officials and the public within the plume exposure Emergency Planning Zone of the Vermont Yankee Nuclear Power Station. Additional details can be found in the Standard Version of the Notification Manual.

(1) Notification to State and Local Emergency Response Personnel

- (a) The Vermont State Police at the State Warning Point (SWP), Rockingham PSAP, and the Alternate State Warning Point (ASWP) Derby PSAP will receive initial notification of an emergency from the Vermont Yankee Control Room via the Nuclear Alert System (NAS). Commercial telephone is used as backup. The Yankee Rowe Independent Spent Fuel Storage Installation (ISFSI) will use commercial telephone with Satellite phone as backup. Notification is verified in both cases.
 - i. The automated notification system will be used as the primary notification system. If it fails, the manual system will be used.
 - ii. If the automated system is used:
 - a. A variety of notification devices including pagers will be used as programmed in the system.
 - b. Either the SWP or the ASWP will activate it.
 - c. Responders will respond to the system.
 - iii. If the manual system is used:
 - a. The SWP and ASWP will work collaboratively according to the Notification Manual to notify both state and local primary responders.
 - b. Pagers will be activated initially and then phone calls made manually to the most likely places for those organizations from whom no one responds.

- c. The responders will respond to a dispatcher at the indicated warning point.
 - iv. All primary pager carriers will be able to listen to a recorded message that provides all of the information received on the Vermont Yankee or Yankee Rowe notification form.
 - v. Both the SWP and the ASWP operate on a 24-hour basis (refer to Figure 7-1).
- (b) Essential State personnel and at least two primary responders per EPZ town carry pagers. Additionally the Staging Area Director, the Reception Center Directors and the local representative of the American Red Cross carry pagers.
 - (c) If a local community does not respond to the page or notification by commercial telephone, the SWP in Rockingham will dispatch uniformed law enforcement officers to the community to notify local officials.
 - (d) State and local agencies utilize specific procedures, including telephone call out lists and local paging frequencies, to notify additional response personnel who are not notified by the SWP.
 - (e) After full activation (Site Area Emergency or higher classification) of the State EOC and the VY Emergency Operations Facility (EOF), notification of changes in the emergency classification will generally be made by the Site Recovery Manager (at the EOF) to the State EOC over the NAS. The State Liaison at the EOF will be notified by direct contact. The EPZ towns will be notified by RERP radio from the State EOC (refer to Figure 7-2).

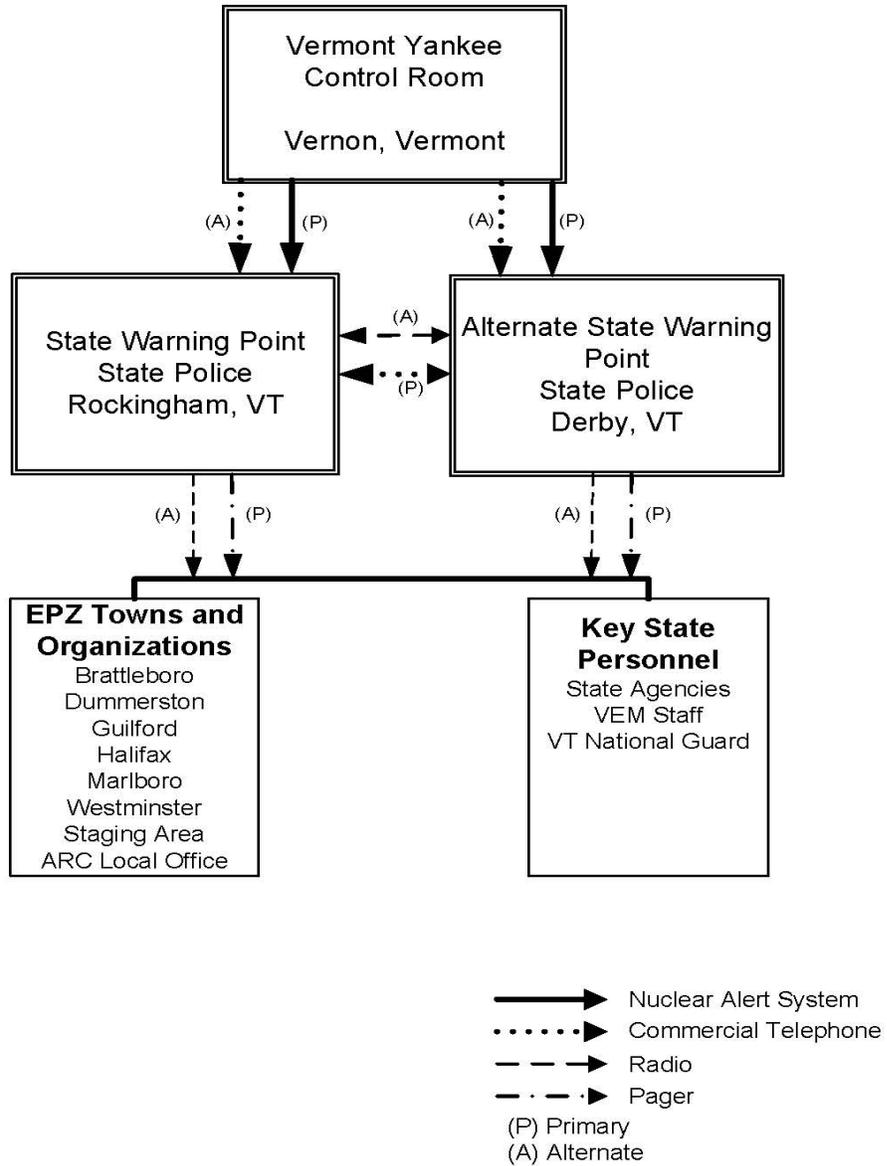


FIGURE 7-1

Initial Notification
 (State EOC Not Activated)

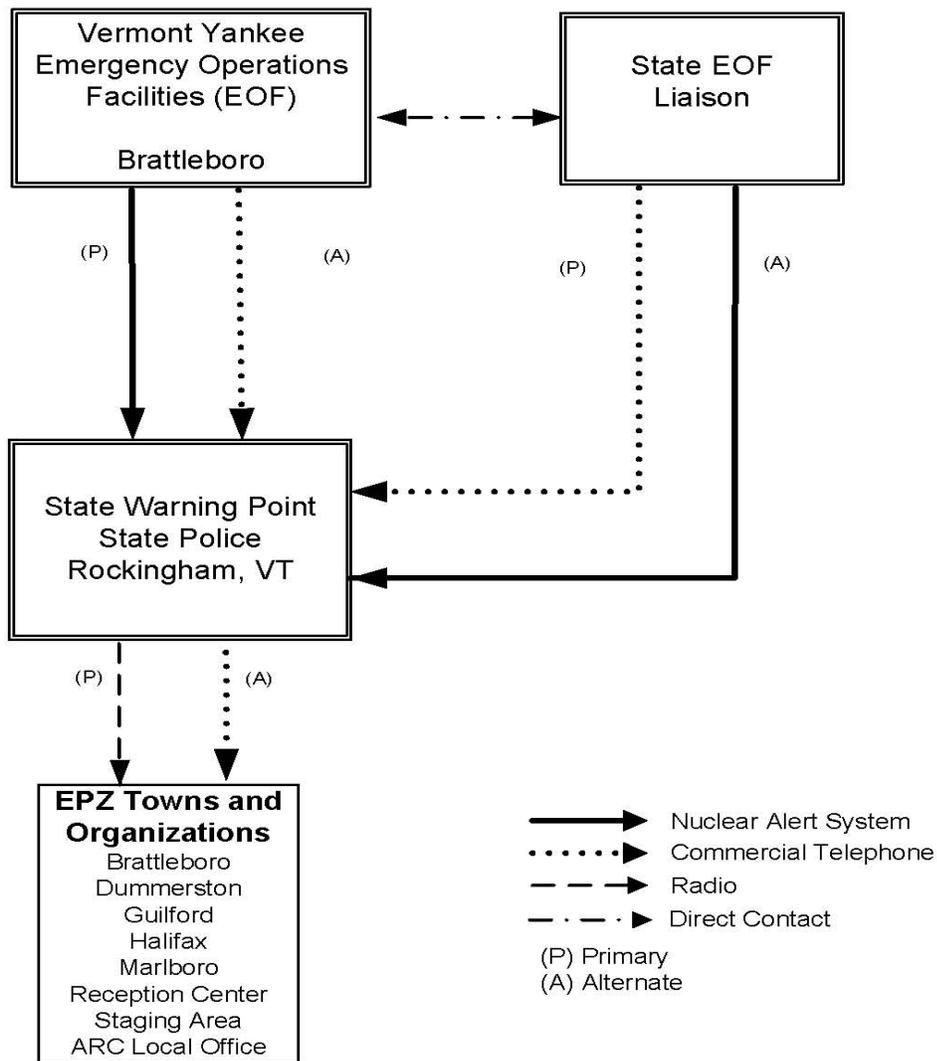


FIGURE 7-2
Notification
(State EOC Activated)

(2) Notification to the Public

- (a) The Public Notification System for the Vermont Yankee Plume Exposure Pathway Emergency Planning Zone consists of weather alert radios, automated phone alerting systems, sirens and the Emergency Alert System (EAS). Weather alert radios (in all six towns), automated telephone alerting systems, and sirens (in the towns of Vernon and Brattleboro only) are used to alert and notify the public to tune their radios to local EAS stations for emergency guidance and instructions. The State has a 24-hour per day capability to activate the Public Notification System.
- (b) The minimum acceptable design objectives of the system include: the capability to provide both an alert signal and an informational or instructional message to the population on an area wide basis throughout the 10-mile EPZ within 15 minutes; direct coverage of essentially 100 percent of the population within 5 miles of the site; and special arrangements to ensure 100 percent coverage within 45 minutes for the population who may not have received the initial notification within the entire plume exposure emergency planning zone.
- (c) Activation of the Public Notification System will be coordinated by the Emergency Management Agencies of Vermont, Massachusetts, and New Hampshire. After the coordination activities are completed, the following will occur:
 - i. Vermont state officials will request the National Weather Service in Albany, New York to activate the weather alert radio transmitter on Ames Hill in Marlboro, VT which will activate tone alert radios in all EPZ towns in Vermont, New Hampshire, and Massachusetts.
 - ii. New Hampshire will activate the Code Red automated phone alerting system for all three states. When the Vermont E-911 system implements its automated phone alerting system, Vermont will activate that for Vermont and New Hampshire will only activate Code Red for New Hampshire and Massachusetts.
 - iii. Massachusetts will activate the VY siren system for all three states as the primary means. As a concurrent redundancy local officials in the towns of Vernon and Brattleboro will also activate their sirens at the designated time. As an additional redundancy, the Vermont SWP will be capable of activating the sirens in the Vermont EPZ. The sirens will activate a 3 minute continuous tone as directed by State officials. These outdoor signals advise the public to go indoors and tune to the local EAS radio station for further information.

- iv. Each State is responsible for activating their own EAS system.
- (d) The National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), maintains and operates a weather radio (tone alert) system throughout the United States. In Vermont, weather broadcasts are controlled through the Burlington, Vermont, NWS office and the Albany, NY, NWS office. Weather alert radios have been distributed to EPZ residents unable to receive notification by other means. Through the NWS transmitter on Ames Hill in Marlboro, VT., the NWS in Albany, NY, can activate the weather alert radios.

When VEM contacts the NOAA weather control station in Albany, NY, and requests activation of the weather alert radios a tone will sound and a message instructing listeners to tune to their EAS station will be broadcast. WTSA AM/FM (CPSC-1) in Brattleboro also has the capability to activate the Ames Hill transmitter in the event the NWS System network between Albany and Ames Hill is inoperable.

- (e) The Federal Communications Commission has approved the use of the EAS for radiological emergency response. Procedures for "Vermont Radiological Response" from the primary EAS station (CPCS-1) radio station WTSA-AM/FM in Brattleboro, Vermont have been developed by the Windham County, Vermont EAS Operational Area. WKVT-AM/FM in Brattleboro monitors and serves as backup to WTSA. Additionally, WVAY-FM, with a transmitter on Mount Snow, monitors and re-broadcasts EAS messages from WTSA.

Utilizing the SAGE "ENDEC" Encoder at the State EOC, the Information Officer will create and record EAS messages and transmit them over the dedicated EAS circuitry to the primary EAS station (WTSA AM/FM, Brattleboro, VT) in the incident area and remotely activate the EAS stations in the Windham County Operational Area. As a courtesy, when time allows, the Information Officer will contact the primary EAS station to warn them that a message is about to be transmitted. The Backup method for activation is to use the state microwave channel telephone circuit or commercial telephone line to contact WTSA and have them record and activate the message from their studio. WTSA AM/FM will broadcast public notification and guidance information authorized by the State EOC or during a fast breaking emergency, by the State Warning Point. Both the State EOC and the State Warning Point have the ENDEC encoder. Local requests for activation of the EAS must be approved and processed through the State EOC. WTSA AM/FM operates on a 24-hour, 7 days a week, basis. Despite the fact that the station is not always attended, the State EOC can activate an EAS message on a 24-hour, 7 days a week, basis.

- (f) In the event of the failure of a Primary Notification System (sirens or Weather Alert Radios) each EPZ town has a route alerting system in place.
- (g) State and local personnel will be dispatched to parks and recreation areas to notify transient populations. Provisions for notifying "special needs" individuals and special institutions are addressed in the local plans.
- (h) During a fast breaking situation when initial notification from the plant includes a protective action recommendation for the public under a **General Emergency**, public notification is made in accordance with the Notification Manual procedure. The SWP will contact the State Fast Breaker Response Group consisting of the Director of Emergency Management, the Deputy Directors, the VEM Duty Officer, and others for verification that the situation is in fact a General Emergency Fast-Breaker. If these individuals are not available, the Dispatcher will proceed with the "Fast-Breaker" procedure. The SWP will also request activation of the EPZ town sirens and will activate the Windham County EAS Station WTSA. These actions will be taken prior to other State and local notifications.

B. Communications

Reliable communications among principal organizations are necessary for coordinated emergency response. A number of primary and backup communication systems are available. The following section describes the various means of communications available to the response organization.

(1) Communication Systems

- (a) Nuclear Alert System. The Nuclear Alert System (NAS) is a party selectable, limited access system from AT&T and Verizon used for initial notification from the Control Room to the States (Vermont, New Hampshire and Massachusetts) via the State Warning Points. This dedicated communications system also links essential emergency response facilities, including the three state EOCs and the Vermont Yankee EOF and is used for interstate coordination and administrative exchange of information. In Vermont there are additional NAS telephones at the State Warning Point (Rockingham), the Alternate State Warning Point (Derby, and at the Staging Area Office in Dummerston.
- (b) Commercial Telephone. Commercial telephone is the primary communications system for State response personnel. Both the State EOC and the Staging Area have been wired with additional lines to provide response agencies with private lines and numbers to communicate with field operations and other response organizations. Facsimile machines also link the utility, State EOC, Staging Area, and the local EPZ towns.

- (c) Emergency Management Radio, "45.52 MHZ". Emergency Management Radio provides the State EOC with radio communications with emergency management bases located at the Staging Area, the Vermont Yankee EOF, and the primary (CPCS-1) Windham County Operational Area EAS station, WTSA AM/FM. Mobile units are provided for Emergency Management (State and local) vehicles. Base stations have been installed in all six (6) town EOCs, the Staging Area, the Vermont liaison at the VY Emergency Operations Facility (EOF), and the Reception Center.
- (d) Vermont National Guard Radio. The Vermont National Guard base radio will be made available at the State EOC and Staging Area. This radio provides National Guard personnel with dedicated radio communications with units in the field. A permanent antenna has been installed at the State EOC.
- (e) Civil Air Patrol Radio. Civil Air Patrol (CAP) radio communications are available at the State EOC. Mobile and portable units are available to provide additional net locations that can operate interstate, intrastate, and ground/air.
- (f) Radio Amateur Civilian Emergency Services (RACES): RACES volunteer radio operators provide a statewide backup communications network. RACES will provide equipment and operators at various locations. Primary assignments include the six EPZ towns, the Bellows Falls Union High School Reception Center (primarily for the American Red Cross), the Staging Area Office, and other field locations as requested. Additional RACES sites include all Vermont hospitals, Vermont Department of Health locations and Vermont National Guard Joint Operations Center (JOC).
- (g) Emergency Medical Service Radio System, "150 MHZ". The Emergency Medical Service (EMS) Radio System provides communications between hospitals and mobile units in ambulances.
- (h) Vermont State Police Radio Net "450 MHZ". The Vermont State Police radio net provides backup radio capability between the State EOC and the Staging Area, as well as interface with all police services.
- (i) Agency of Transportation (AOT) Radio Net, "150 MHZ". Transportation Radio provides backup radio communications between the State EOC, Staging Area, and the Agency of Transportation (Capitol District, Montpelier, Vermont) dispatcher and all agency facilities and mobiles.

(2) Communications with Local Governments

The RERP Radio System "45.52 MHZ" is the primary means of communications between the EPZ towns and the State EOC. Local governments can also use the system to communicate with each other.

Commercial telephone is the primary backup system for local governments. Local Law Enforcement radio communications provide a backup radio link with the state where available. Emergency Management Radio provides an additional radio link in Vernon and Brattleboro.

A new disaster management system known as "DisasterLAN" has been implemented in Vermont and is in all EPZ facilities. Additionally the Vermont EOC has access to a similar program known as "Web EOC" used by Vermont Yankee, New Hampshire and Massachusetts.

(3) Communication with Other States

Response activities require substantial coordination with the Commonwealth of Massachusetts and State of New Hampshire. The primary means of communication among the three states is the Nuclear Alert System (NAS). Commercial telephone is also utilized.

Additionally the States of New Hampshire and Vermont and the National Weather Service Offices in Albany, NY and Burlington, VT can communicate on low band radio (45.520).

(4) Communications with the Federal Government

The primary means of communication with federal agencies is through FEMA. The following is a description of the various federal communication systems that can be used in the response effort.

- (a) Federal National Message System. The Federal National Message System (FNAMS) is a dial up dedicated message system capable of sending and receiving messages between all state emergency management agencies and FEMA.
- (b) Federal National Alert Radio System. The Federal National Radio System (FNARS) provides high frequency voice and data communications with FEMA.
- (c) National Warning System. The National Warning System (NAWAS) is dedicated nationwide early warning system. It is used to broadcast information to each of the 50 states, U.S. territories and possessions, and selected military bases. The NAWAS uses land lines as well as microwave channels. It provides a redundant link for the State with the National

Weather Service.

- (d) STE. The STE is a secure voice telephone that can be used to communicate classified traffic to the Secret level. This system is available at the State EOCs, the FEMA Federal Regional Centers, and the Vermont Fusion Center.
 - (e) Video conferencing in either a secure or non-secure mode is available in the Public Safety Department conference room.
 - (f) The Federal Emergency Management Agency facility in Maynard, MA. has been provided a low band radio which will allow them another means of communication with the State of Vermont.
- (5) Communications with Field Personnel
- (a) Radiological Plume Tracking Teams Personnel. HAZMAT Team personnel working in the field may utilize satellite telephone units for communications capability. They are also provided with mobile radios on UHF and cell phones. Other relevant methods of communication may be employed if deemed necessary and appropriate.
 - (b) Radiological Post Plume Sampling Teams are provided cellular telephones and mobile radios which enable them to communicate with the State EOC and the Environmental Sampling Team Director. Other relevant methods of communication may be employed if deemed necessary and appropriate.
 - (c) The Vermont Department of Health Laboratory in Burlington, VT, will communicate with the State EOC via commercial telephone or other relevant method if deemed necessary and appropriate.
 - (d) Police. The Vermont State Police serving in the field utilize the Law Enforcement Radio System as a primary link with State Police stations, the State EOC, and the Staging Area. The system also provides radio communications throughout Vermont with County Sheriff and local police organizations. The radio system is also used between the Police Services Coordinators at the State EOC and Staging Area and the Windham County Sheriff mobile emergency management units. The Windham County Sheriff Radio System provides an additional frequency.
- Police personnel also utilize the State Police Intercom System between station-to-station and other State agency locations. Commercial telephone provides additional land-line links. Other relevant methods of communication may be employed if deemed necessary and appropriate.

- (e) Transportation. Agency of Transportation units assisting in evacuation operations utilize the Transportation Radio System as a primary means of communications. Transportation Agency field personnel supporting traffic and access control functions utilize agency mobiles to communicate with the State EOC and the Staging Area, and monitor progress of other transportation units. Other relevant methods of communication may be employed if deemed necessary and appropriate.
- (f) The Department of Fish and Wildlife Radio Net, 150 MHZ. Fish and Wildlife wardens have an active role in alerting people in the EPZ that are on waterways and remote areas. Additionally, the Radiological Sampling Teams may also use the radio net when deployed.
- (g) Reception Centers. Primary communication from the Bellows Falls Union High School Reception Center in Westminster, Vermont to the State EOC is via the RERP radio. Commercial telephone is used as backup. Additional communications to the Reception Center are available from the Amateur Radio Emergency Services who may be dispatched by the State EOC. Other relevant methods of communication may be employed if deemed necessary and appropriate.

Local radio communications are used among field personnel supporting reception center operations (i.e., traffic personnel, radiological monitoring and decontamination personnel, and security personnel). This equipment includes various base station, mobile, and portable radios available through the Westminster Fire and Highway Departments.

(6) Fixed and Mobile Medical Communications

The Emergency Medical Service Radio System is utilized for communications between ambulance and hospital personnel.

C. System Testing

The various systems used for notification and communications must be tested on a regular basis to identify problem areas and minimize the possibility of malfunctions during an emergency. The various components are tested as follows:

System Components	Frequency of Test
1. Nuclear Alert System, WESCOM SS-4A	Monthly as Scheduled by the Utility and periodically as initiated by the SWP
2. Notification System	EPZ, VEM Staff and HazMat Team weekly; State monthly
3. NOAA Weather Alert Radio	Weekly, Wednesdays at 10:00 am - Noon
4. RERP Radio Local Interface	Monthly, as Scheduled by VEM
5. EAS	As Required by FCC
6. NAWAS	Once per 8-Hour Shift, Daily
7. Law Enforcement Radio System	Daily Usage
8. Transportation Radio System	Daily Usage
9. Emergency Management Radio System	Daily Usage
10. RERP Portable Units	Regular Usage
11. FNARS	Daily Usage During Normal Work Week
12. RACES	As Scheduled by Amateur Radio Emergency Services
13. CAP Radio Communications	As Scheduled by Civil Air Patrol
14. Vermont National Guard Radio System	As Regulated
15. Commercial telephone to the VY control room	Weekly, initiated by either the SWP or the ASWP
16. VT HAZMAT Response Team Radios	Regular Usage
17. Satellite Telephones	Monthly as Scheduled
18. Fish & Wildlife Radio Net work	Daily Usage

D. Communications Drills

Monthly drills are conducted in conjunction with the pager and radio interface tests.