

RAS 6182

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam

DOCKETED
USNRC

March 28, 2003 (8:07AM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

SERVED March 28, 2003

In the Matter of

PACIFIC GAS AND ELECTRIC CO.

(Diablo Canyon Power Plant Independent
Spent Fuel Storage Installation)

Docket No. 72-26-ISFSI

ASLBP No. 02-801-01-ISFSI

March 28, 2003

MEMORANDUM

(Submitting Document for Docketing)

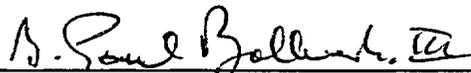
During the 10 C.F.R. § 2.715(a) oral limited appearance session conducted during the afternoon of Monday, May 24, 2003, a representative of the Port San Luis Harbor District submitted a January 28, 2003 draft Diablo Canyon Power Plant emergency response planning

Template = SECY-048

SECY-02

evaluation report to the Licensing Board for inclusion in the docket of this proceeding. A copy of that draft report is included as Attachment A to this memorandum.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD



G. Paul Bollwerk, III
ADMINISTRATIVE JUDGE

Rockville, Maryland

March 28, 2003

* Copies of this memorandum, without the accompanying attachment, were sent this date by Internet e-mail transmission to counsel for (1) applicant Pacific Gas and Electric Co.; (2) petitioners San Luis Obispo Mother For Peace, et al.; (3) San Luis Obispo County, California, the California Public Utilities Commission, the California Energy Commission, the Avila Beach Community Services District, and the Diablo Canyon Independent Safety Committee; and (4) the NRC staff.

ATTACHMENT A

**DIABLO CANYON NUCLEAR
POWER PLANT**

**Evaluation of the
San Luis Obispo County
Emergency Response Plan**

**January 28, 2003
Hearing Draft**

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SECTION 1.0 EXECUTIVE SUMMARY

The purpose of this report is to evaluate San Luis Obispo County's Emergency Response Plan for Diablo Canyon Nuclear Power Plant in terms of its effectiveness relative to the needs and operations of the Port San Luis Harbor District. This evaluation analyzes a number of documents to determine the adequacy of the Emergency Response Plan in the event of an emergency at Diablo Canyon. In addition, this evaluation incorporates some of the Port San Luis Harbor District's local observations of the Emergency Preparedness Exercise conducted by the San Luis Obispo County Office of Emergency Services on October 23, 2002. This evaluation of the County Emergency Response Plan is intended to provide a full and fair discussion of the adequacy and reliability of this plan. This document will inform the Port San Luis Harbor District as well as the County Office of Emergency Services as to the needs and operations of the Port in relation to this Plan. The recommendations contained in this document are intended to maximize the ability of the Emergency Response Plan to respond to these needs.

Several recent events have caused the Port to more closely examine San Luis Obispo County's Emergency Response Plan and the Harbor's ability to fulfill their assigned duties as outlined in the Plan. These events include: the application by Pacific Gas & Electric Company (PG&E) for the issuance of a license to store spent fuel and other radioactive material at Diablo Canyon, heightened awareness as a result of recent terrorist attacks and the Federal review of PG&E's bankruptcy in relation to their ability to build and maintain new storage facilities and operate the power plant.

This report begins with an Executive Summary which provides an overview of the intent and context of the evaluation performed. Section 2.0, Background provides pertinent background concerning the Port San Luis Harbor District in relation to the Diablo Canyon Nuclear Power Plant and the Emergency Response Plan. Section 3.0, Analysis evaluates and analyzes several pertinent documents which comprise, directly relate to or support the Diablo Canyon Nuclear Power Plant Emergency Response Plan. In addition, this analysis summarizes the issues identified by the Port San Luis Harbor District during the Emergency Preparedness Exercise conducted by the San Luis Obispo County, Office of Emergency Services on October 23, 2002. The four documents and the summary of issues identified in the October, 2002 emergency preparedness exercise and their review provide an evaluation of policies (Section 3.1) as outlined in the County Emergency Response Plan, procedures (Section 3.2) as contained in the Emergency Response Plan Standard Operating Procedures and in the Summary of Issues Identified During the Emergency Preparedness Exercise and analyses (Section 3.3) as contained in the Federal Criteria and in the Evaluation Time Assessment. The analysis of each document begins with a brief overview discussion of the pertinent aspects of each document followed by recommendations for policy and procedural changes and/or additional analysis requirements. It should be noted that the magnitude of the data and various sources involved with this subject are complex and sometimes inconsistent. While an overview of

each source is provided, further detail beyond that contained herein can be obtained through an individual review of each document. Such a review may provide a more complete understanding of the subject matter. Section 4.0, Summary of Recommendations provides a separate listing of all proposed recommendations resulting from this evaluation.

SECTION 2.0 BACKGROUND

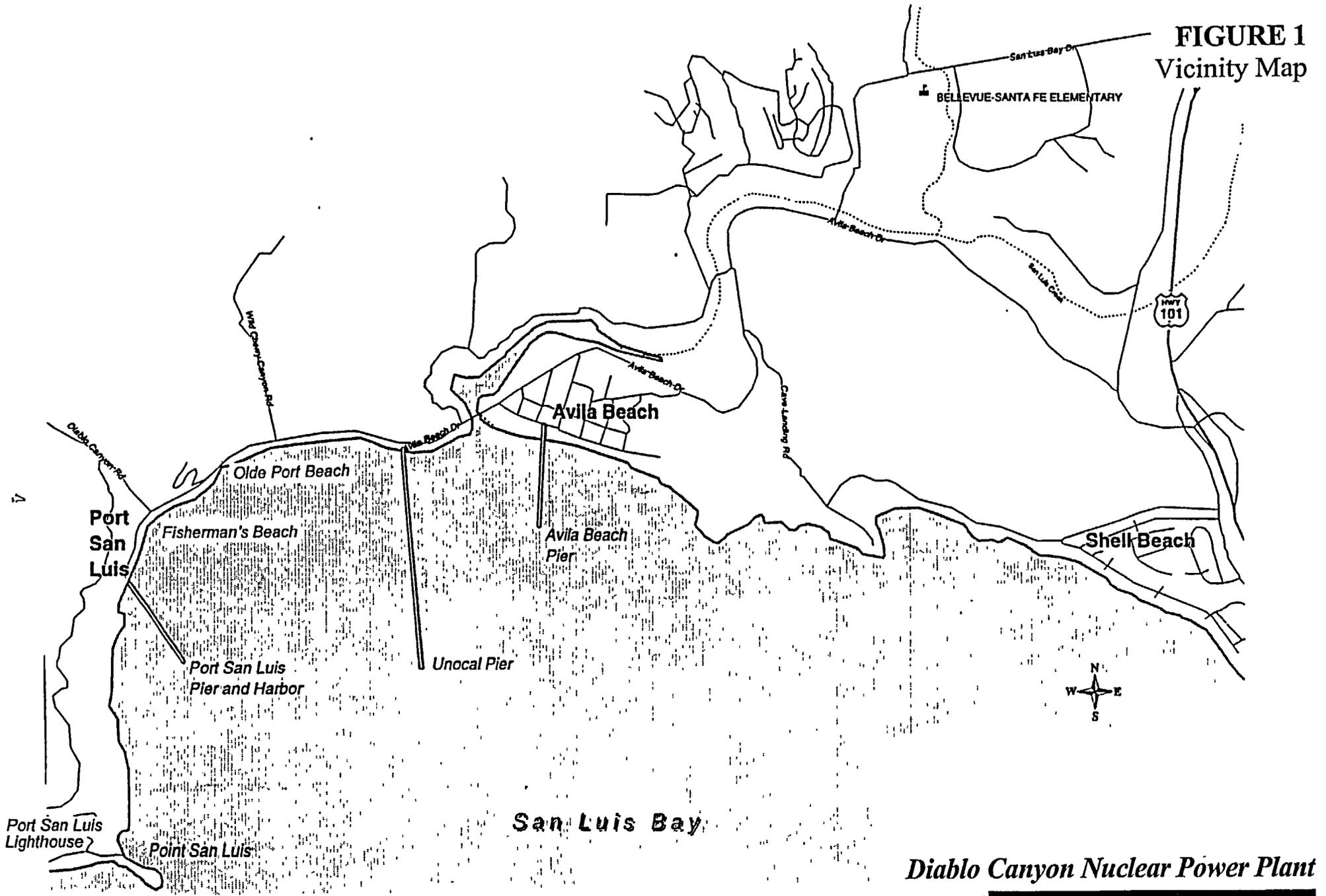
The Port San Luis Harbor District owns and/or controls real properties immediately adjacent to the eastern boundary of the Diablo Canyon property. As such, the Harbor District has jurisdiction over lands closest to and most directly impacted by the operations and the events of the Diablo Canyon Nuclear Power Plant. The Harbor District is responsible for maintaining and operating Harford Pier, Port San Luis, Olde Port Beach, Harbor Terrace, Avila Beach and Avila Beach Pier (see Figure 1, Vicinity Map). Within the Harford (or Port San Luis) Pier and the Port San Luis area, restaurants, boat launching areas, sport fishing, tours and other recreation opportunities are available to the public. Restrooms and beach access (via stairway and road) are provided at Fisherman's, Olde Port and Avila Beach. An inland trail (Pecho Coast Trail) currently leads to the Port San Luis Lighthouse. Avila Beach contains several visitor-serving facilities (restaurants, beach-oriented retail commercial uses, playground and sidewalks) and is also a popular location for surfing, sightseeing, pier fishing and sun bathing. The Avila Beach area is also used by local organizations for events including concerts, 10K runs, beach volleyball tournaments and picnics.

The Harbor District is mandated by the State of California to maintain and operate the facilities of the Port San Luis/ Avila Beach area in order to attract a high number of recreational users. As such, it is the responsibility and goal of the Harbor District to attract daily visitors from nearby local communities as well as longer-term visitors from further points of origin. The Port San Luis Lighthouse/ Pecho Coast Feasibility Study states that the Port San Luis/ Avila Beach area attracts approximately 850,000 day-use visitors each year. In addition, the Port San Luis/ Avila Beach area supports full-time daily employees involved with retail, fishing, restaurants and recreation activities as well as the administrative and patrol operations of the Harbor District. These visitor and support personnel are the direct responsibility of the Port San Luis Harbor District.

Avila Beach Drive provides the sole vehicular access to Diablo Canyon Nuclear Power Plant as well as to Port San Luis and Avila Beach (see Figure 1, Vicinity Map). The Port has a unique relationship with Diablo Canyon in that both are located at the terminus of this roadway. This winding two-lane roadway provides a direct link from U.S. Highway 101 to Avila Beach, Port San Luis and Diablo Canyon. This roadway, particularly the section west of San Luis Bay Drive, has been identified as a "critical roadway constraint" by the County of San Luis Obispo.

The County of San Luis Obispo conducted the Avila Beach Resource Capacity Study which concluded that if the Avila Beach area builds out as planned, Avila Beach Drive will operate at Level of Service (LOS) F for approximately 345 hours per year (14.38 days) and that these peak hours would primarily occur during summer weekends. By way of background, San Luis Obispo County considers LOS A, B, and C as acceptable levels of service for the Avila Beach area. Future traffic congestion on Avila Beach Drive has

FIGURE 1
Vicinity Map



Diablo Canyon Nuclear Power Plant

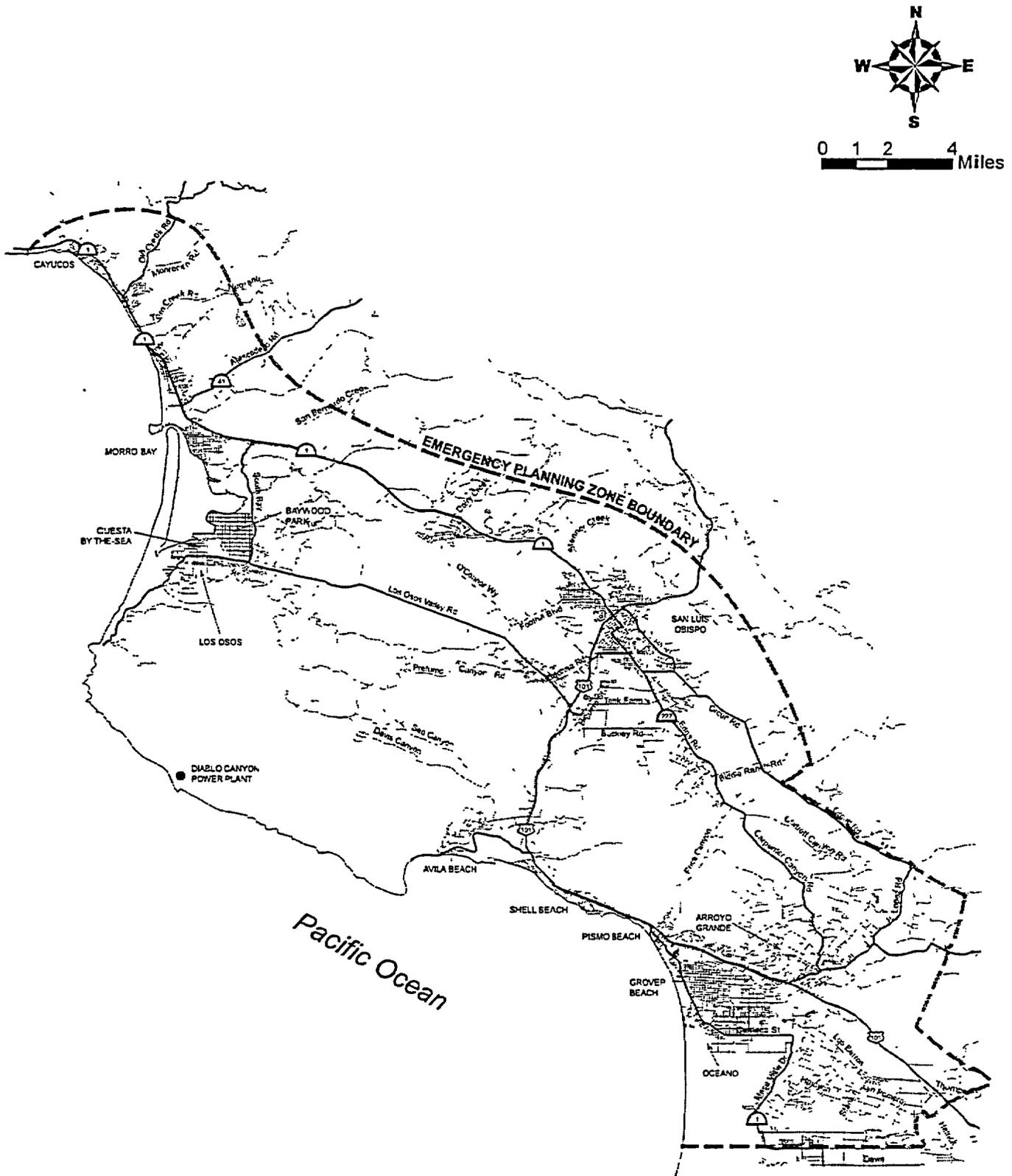
the potential to interfere with emergency response to and evacuation from the Port San Luis/Avila Valley area.

The Port San Luis Harbor District is located southeast of and within a ten-mile radius of Diablo Canyon Nuclear Power Plant (DCNPP). The Port lies within the plume exposure pathway emergency planning zone (EPZ) established by the U.S. Nuclear Regulatory Commission (NRC)/Federal Emergency Management Agency (FEMA), the State of California, Office of Emergency Services (OES) and by the County of San Luis Obispo (see Figure 2, Emergency Planning Zone). More specifically, the Port lies within Protective Action Zone (PAZ) 3 of the County's Emergency Response Plan, which includes Avila Beach, Port San Luis, Pirate's Cove, San Luis Bay Estates, Avila Road, San Luis Bay Drive, See Canyon Road, all of which are outside a six-mile radius of the DCNPP, as well as Squire and Gragg Canyons, and Sunset Palisades, which extend to the east and south to about 9 or 10 miles from the DCNPP (see Figure 3, Protective Action Zones).

The Port San Luis Harbor District is not only located within the EPZ and PAZ 3, it is also a governmental agency with assigned responsibilities in the event of an emergency at Diablo Canyon. These responsibilities are outlined in the County's "Standard Operating Procedure 111.44, Port San Luis Harbor District" as discussed below. The Harbor District has jurisdiction over land, state tidelands and waters adjacent to and near Diablo Canyon property. The County of San Luis Obispo, Office of Emergency Services has the authority to prepare and update an Emergency Response Plan (ERP) pursuant to State and Federal regulations. The ERP defines the scope of various emergency scenarios, assigns responsibilities to various emergency response organizations and provides concepts of operation for mobilization of emergency workers, notification of the general public and protective actions for both emergency workers and the general public.

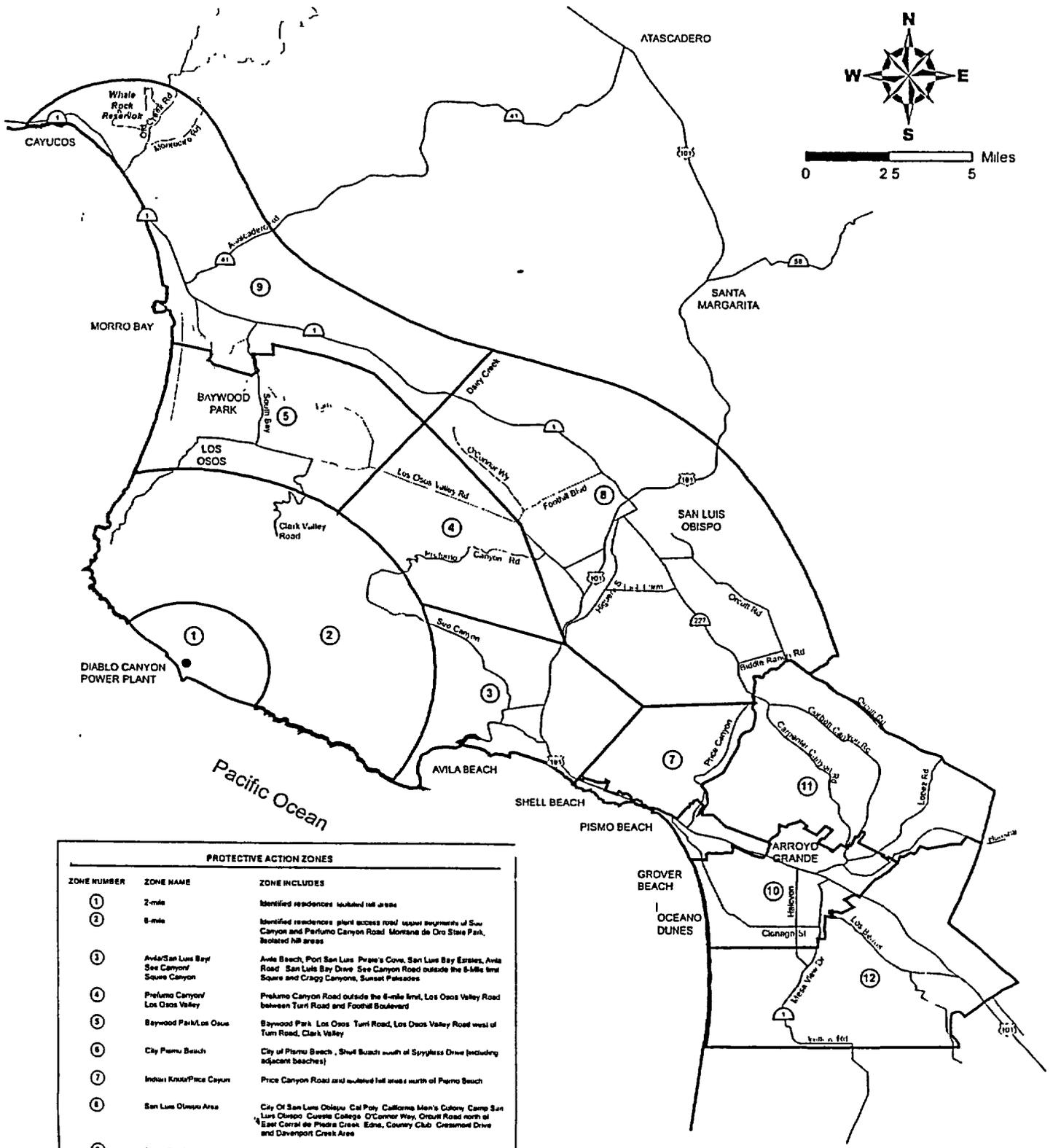
Several recent events have caused the Port to more closely examine the County Emergency Response Plan and the Harbor District's ability to fulfill their duties as outlined in this Plan. These events include Pacific Gas & Electric Company's (PG&E) application for the issuance of a license to store spent fuel and other radioactive material in an Independent Spent Fuel Storage Installation (ISFSI) to be constructed and operated on the site of the existing Diablo Canyon Nuclear Power Plant. According to the PG&E website, this proposed facility would store depleted but still highly radioactive fuel assemblies from the plant's two reactors in a series of 140 dry storage casks. It is estimated that this project would ultimately result in approximately nine times more high level radioactive waste ("spent fuel") being stored on-site than the plant was originally licensed, designed, and constructed for. According to an article titled "NRC Study Warns of 500-Mile Radiation Spread" by Roger Whitherspoon in The Journal News (November 10, 2002), a catastrophic meltdown in the spent fuel pool of a nuclear power plant could cause fatal, radiation-induced cancer in thousands of people as far as 500 miles from the site. Due to its immediate proximity, the Port San Luis Harbor District is one of the most directly impacted entities in the event of an unexpected emergency at Diablo Canyon.

FIGURE 2
Emergency Planning Zone



Diablo Canyon Nuclear Power Plant

FIGURE 3
Protective Action Zones



PROTECTIVE ACTION ZONES		
ZONE NUMBER	ZONE NAME	ZONE INCLUDES
①	2-mile	Identified residences isolated hill areas
②	8-mile	Identified residences plus access road, upper segments of Saw Canyon and Perfumo Canyon Road, Montana de Oro State Park, isolated hill areas
③	Avila/San Luis Bay/ See Canyon/ Square Canyon	Avila Beach, Port San Luis, Price's Cove, San Luis Bay Estates, Avila Road, San Luis Bay Drive. See Canyon Road outside the 8-mile limit Square and Craggy Canyons, Sunset Palisades
④	Perfumo Canyon/ Los Osos Valley	Perfumo Canyon Road outside the 8-mile limit, Los Osos Valley Road between Turri Road and Foothill Boulevard
⑤	Baywood Park/Los Osos	Baywood Park, Los Osos, Turri Road, Los Osos Valley Road west of Turri Road, Clark Valley
⑥	City Pismo Beach	City of Pismo Beach, Shell Beach south of Spryless Drive (including adjacent beaches)
⑦	Indian Knolls/Price Canyon	Price Canyon Road and isolated hill areas north of Pismo Beach
⑧	San Luis Obispo Area	City of San Luis Obispo, Cal Poly California Men's Colony, Camp San Luis Obispo, Cuesta College, O'Connor Way, Orcutt Road north of East Canal de Piedra Creek, Edna, Country Club, Casmont Drive and Davenport Creek Area
⑨	Morro Bay/Cayucos	Route 1 west of Cuesta College, Morro Bay, Cayucos, Whale Rock Reservoir area
⑩	Five Cities (Southern Portion)	City of Arroyo Grande, City of Grover Beach, Oceano, Helicon and Pismo State Beach
⑪	Orcutt Road/Lopez Drive/Route 227	Canyon area south of Five Cities (bounded by Price Canyon, Orcutt Road, Huasna Creek and northern limits of Arroyo Grande and Pismo Beach)
⑫	Nipomo (North of Willow Road)	Nipomo Mesa north of Willow Road, Casmont Valley, Oceano Dunes State Vehicle Recreation Area

Diablo Canyon Nuclear Power Plant

Given this proximity, the Harbor District is concerned about the potential adverse consequences of additional storage of nuclear wastes at Diablo Canyon upon Port operations and facilities. In addition to Port concerns about the ISFSI, recent terrorist attacks have heightened awareness of the potential vulnerability of our country's nuclear power plants. Additional on-site storage may increase risks to the Harbor District and creates a larger target for terrorism or sabotage. Nuclear power plants represent a potentially attractive and vulnerable target for terrorists. On-site storage of increased quantities of radioactive nuclear waste also increases the potential impacts to surrounding areas due to a seismic event or human error. Finally, a Federal review panel is conducting a formal inquiry into whether bankrupt Pacific Gas and Electric Company can afford to build and maintain a new storage facility. For these reasons, the Harbor District is concerned that the current Emergency Response Plan may be inadequate and that the public's safety requires a re-examination of the Plan.

SECTION 3.0 ANALYSIS

This analysis evaluates four documents and evaluates the Emergency Preparedness Exercise conducted by the San Luis Obispo County Office of Emergency Services on October 23, 2002 relative to the needs and operations of the Port San Luis Harbor District.

1) San Luis Obispo County/Cities, Nuclear Power Plant Emergency Response Plan; Issue date: August 1994 (Revision 10), San Luis Obispo County Office of Emergency Services.

2) San Luis Obispo County Nuclear Power Plant Emergency Response Plan, Standard Operating Procedure 111.44, Port San Luis Harbor District; revised: September 2002, San Luis Obispo County, Office of Emergency Services.

3) Summary of Issues Identified by The Port San Luis Harbor District During the Emergency Preparedness Exercise on October 23, 2002.

4) Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants; November 1980, Federal Emergency Management Agency.

5) Final Report – Evacuation Time Assessment for Transient and Permanent Population from Various Areas Within the Plume Exposure Pathway Emergency Planning Zone, Diablo Canyon Power Plant, 2002 Update; Wilbur Smith Associates, September 2002.

In order to facilitate the review of this information, this analysis is divided into three subsections: Policies, Procedures and Analysis. The following analysis begins with an overview discussion of the pertinent aspects of each document or event followed by recommendations for policy changes, procedural improvements or revised analyses. These recommendations, to be implemented by the County Office of Emergency Services in cooperation with the Port San Luis Harbor District, are intended to insure the adequacy and reliability of the Emergency Response Plan.

3.1 POLICIES

- *San Luis Obispo County/Cities Nuclear Power Plant Emergency Response Plan*

As required by Federal regulations, San Luis Obispo County has developed a comprehensive plan for emergencies at the Diablo Canyon Power Plant. This plan, the San Luis Obispo County/Cities Nuclear Power Plant Emergency Response Plan, is maintained by the County Office of Emergency Services. For the purposes of this analysis, this Plan will be referred to as the “ERP”. The County Office of Emergency Services (OES) is responsible for coordinating the ERP with other emergency response organizations such as the State of California, Pacific Gas and Electric Company, and various Federal and local agencies. As previously stated, the ERP is intended to establish County policies, assign responsibilities to emergency response organizations, and define the scope of emergencies that would require activation of the plan. The County ERP is also intended to describe the concepts of operation for mobilizing emergency workers, methods for notification of the general public, and the process of implementing decisions for protective action recommendations for emergency workers and the general public.

There are several reasons why the Port San Luis Harbor District is especially interested in events at Diablo Canyon Nuclear Power Plant in relation to the Emergency Response Plan. The first is the close proximity of the Port to the nuclear facility, which places it within several Federal, State and County Emergency Planning Zones. The second is assignment of Harbor District employees to the role of “emergency workers.” The third is the meteorological conditions in the area, which increase the possibility that any plume of radioactive material from Diablo Canyon will travel in the direction of the Port. This unique combination of factors makes the Port San Luis Harbor District particularly susceptible to the hazards associated with the nuclear power plant.

The NRC/FEMA have established a 10-mile radius limit for the plume exposure pathway emergency planning zone (EPZ), as well as a 50-mile radius limit for the ingestion pathway emergency planning zone (IPZ). The Harbor District is located within and is affected by both of these zones. In addition, the State of California has designated two zones associated with the Diablo Canyon Power Plant: the Basic Emergency Planning Zone (BEPZ) and the Public Education Zone (PEZ). Again, the Port falls within both of these zones. The County has established twelve Protective Action Zones (PAZ’s), arranged into five groups of generally increasing distance from the plant. PAZ 1 encompasses a two-mile radius around Diablo Canyon Nuclear Power Plant; PAZ 2 encompasses a six mile radius, while PAZ’s 3, 4 and 5 encompass a ten-mile radius. The Port is within PAZ 3. (See Figure 3, Protective Action Zones.) Based upon the above information, it can be concluded that the Port is situated in close enough proximity to the Nuclear Power Plant to be significantly impacted by any potential radioactive release or emergency event at the facility.

In addition, the Port San Luis Harbor District is one of the local agencies that County OES has assigned tasks in the event of an emergency at the Diablo Canyon Power Plant. As such, some employees of the Port San Luis Harbor District are considered "emergency workers". According to the County ERP, "any person engaged in operations required to mitigate the effects of an accident is an emergency worker" for the purpose of this Plan. All possible measures will be taken to limit radiation exposure of emergency workers to an initial exposure guideline of 1.0 Rem, which is also the recommended limit of projected Total Effective Dose Equivalent (TEDE) for the population at large. Although emergency workers will have their exposures limited through the exposure control procedures contained within the Plan, "it is possible that emergency workers who are involved may be exposed to radiation and contaminated while carrying out their duties." This potential risk to the employees of the Port San Luis Harbor District serves to underscore the need for an ERP which responds to the needs, abilities and concerns of the Port in the event of an emergency event at Diablo Canyon Nuclear Power Plant.

Extensive meteorological studies of the area surrounding Diablo Canyon Nuclear Power Plant were performed to identify wind direction, percent of time, and average speed. These wind characteristics determine the potential dispersion of any radiological release from the Diablo Canyon Nuclear Power Plant. These studies determined that 40.4% of the time, the winds travel SE (southeast) from Diablo Canyon at a speed of 15.5 miles per hour (mph). As such, 40.4% of the time, a radioactive release would travel past the Port approximately 1-1/2 mile off-shore. An estimated 9.3% of the time, the wind would travel ESE (east southeast) from Diablo Canyon at a speed of 11.3 mph. This wind direction would carry a radioactive plume from the Diablo Canyon Nuclear Power Plant directly into the Port San Luis Harbor. Therefore, 51.7% of the time a radioactive plume released from Diablo Canyon would either travel directly to the Port or pass by very close off-shore.

As subsequently discussed in this analysis, the Standard Operating Procedures for the ERP directs Harbor District employees to evacuate the public at Port facilities, including boats in the Mooring Area off-shore, thereby increasing the possibility that Harbor District personnel will be exposed to and affected by any radioactive release from Diablo Canyon. Since the Port is located approximately six miles from Diablo Canyon and using the estimated wind speeds of 15.5 mph and 11.3 mph, a radioactive plume could potentially reach Port San Luis within 27 to 37 minutes. This extremely short time-frame increases the urgency of creating an effective and reliable Emergency Response Plan which reflects the needs, abilities and concerns of the Port San Luis Harbor District.

According to the County ERP, the two basic protective actions for the public which may be taken immediately to reduce doses caused by exposure to a gaseous plume are evacuation and sheltering. Evacuation is a major countermeasure to prevent or reduce exposure and contamination of the general public. It is a complex operation involving several governmental jurisdictions. Its effectiveness is considerably enhanced by detailed planning. Sheltering involves staying inside with all doors, windows, and ventilation systems closed. Sheltering reduces exposure to radiation due to the reduced chances of

breathing in or receiving body surface contamination from radioactive materials. If the projected radioactive dose (Rem) to the population is a Total Effective Dose Equivalent (TEDE) of less than 1.0 and a Thyroid Committed Dose Equivalent (CDE) of less than 5.0 Rem, then no planned protective actions are recommended. If the projected TEDE dose is greater than 1.0 Rem or the Thyroid CDE is greater than 5.0 Rem, a decision must be made whether to evacuate or shelter. Reliance upon sheltering for large dose reduction also risks various potential failure mechanisms. Except in very unusual circumstances, sheltering should never be relied upon at projected doses greater than 10.0 Rem TEDE. The amount of time following the declaration of a general emergency and the actual radiation release or arrival of the radioactive plume will be key in the selection of the most effective protective response. In the event that this lead time is relatively short and the release is not of long duration, the most effective protection may be afforded by in-place sheltering with doors and windows tightly closed. Under such circumstances evacuation may not be effectively completed prior to the passage of the radioactive plume, resulting in less protection than that afforded by sheltering.

In regards to protective response measures for the Port San Luis Harbor District, the County ERP recommends that with an estimated time of 0 to 3 hours prior to plume arrival, that all affected areas of the County shelter, though in some instances an evacuation could be called for Avila Beach with less time available. Evacuation is also recommended for Avila Beach with estimated times of 3 to 5 hours and 5 to 8 hours prior to plume arrival. However, as mentioned above, sheltering should never be relied upon at projected doses greater than 10.0 Rem TEDE. The decision to shelter or evacuate is made at the time of the emergency and is based on additional factors, such as current meteorological conditions, magnitude and composition of potential release and other offsite conditions. Wind velocity, specifically the time necessary for a release plume to travel through or over a PAZ will be a prime determinant upon the decision to evacuate.

Federal regulations and guidelines classify radiological emergency conditions into one of the following four categories:

- Notification of Unusual Event – abnormal events that have occurred or are occurring which indicate a potential degradation of the level of safety of the plant, or which could attract significant public interest. No release requiring environmental monitoring or implementation of offsite protective actions is expected, unless further degradation of facility safety should occur.

Upon notification of an “Unusual Event” at the Diablo Canyon Power Plant, required actions include notification of San Luis Obispo County Sheriff’s Office Watch Commander, the NRC and the State Office of Emergency Services. The Watch Commander notifies the jurisdictions listed below to stand by: the County Sheriff, County Emergency Services Coordinator, CDF/ County Fire Department and cities and organizations on the ring down (Arroyo Grande, Atascadero Police, Cal Poly, Grover Beach, Morro Bay, Paso Robles, Pismo Beach and San Luis

Obispo). The Port San Luis Harbor District is currently not notified of Unusual Events.

- Alert – characterized by events which are occurring or have occurred that involve actual or potential substantial degradation of the level of plant safety. It constitutes the lowest level where offsite emergency response exceeding the provision of medical, fire or law enforcement assistance to the Diablo Canyon Nuclear Power Plant may be anticipated.

Upon notification of an Alert at the Diablo Canyon Power Plant, required actions will include: activation of the San Luis Obispo County Emergency Operations Center (EOC), placing key emergency response resources and personnel on standby, provision of confirmatory monitoring, notification of all involved governmental officials designated in this Plan, and dissemination of information. Montana De Oro State Park will be closed at the Alert level, due to the potentially long time required to close this area. Also, buses are dispatched to Bellevue-Santa Fe School to facilitate possible evacuation. At the Alert level, closure of the Port and surrounding areas may be directed by the County Sheriff or OES Director evacuation or sheltering of the Port and surrounding areas may also be directed at this level.

The Port San Luis Harbor District is notified of Alerts as well as Site Area Emergencies and General Emergencies.

- Site Area Emergency - characterized by events involving actual or likely failures of plant functions needed for the protection of the public. Although emergency actions for public protection may not be necessary, offsite emergency response organizations should be mobilized and ready to implement protective measures. Most events within the Site Area Emergency classification constitute actual or probable releases of radioactive material to the environment.

Upon notification of a Site Area Emergency at the Diablo Canyon Power Plant, the San Luis Obispo County EOC will be activated. Other required actions may include mobilization of emergency response personnel, public warning, assessment and/or implementation of precautionary protective actions, continued monitoring, and continued assessment. Closure of parks and beaches (including beach areas at Port San Luis and Avila Beach) may be advised.

- General Emergency – characterized by events that are occurring or have occurred which involve actual or imminent substantial core degradation or melting, with potential for loss of containment integrity, and subsequent release of radioactivity to the environment. Projected offsite doses could be 1.0 Rem or greater to the whole body and 5.0 Rem or greater to the thyroid. (Underlining added for emphasis.)

Upon notification of a General Emergency at the Diablo Canyon Power Plant, required actions will include activation of the San Luis Obispo County EOC, mobilization of emergency response personnel, public warning, implementation of protective actions, continued monitoring, and continued assessment. The most likely immediate protective action to be taken would be an evacuation of the six-mile Low Population Zone (LPZ) surrounding the plant and consideration of evacuation and/or sheltering in areas further downwind.

The Port San Luis Harbor District is located just outside the LPZ and would not be evacuated until further consideration of factors such as wind direction, content of release, etc.

As previously noted, based upon prevailing wind direction, 51.7% of the time a radioactive plume released from Diablo Canyon Nuclear Power Plant would travel either directly to Port San Luis or pass by very close off-shore. Using average wind speeds, a radioactive plume could potentially reach Port San Luis with 27 to 37 minutes. This extremely short time frame must be considered in conjunction with the notification and mobilization processes discussed below, most of which will occur well beyond the 27 to 37 minute safety "deadline."

The process for notification and mobilization in the event of an emergency at Diablo Canyon Nuclear Power Plant involves the Port San Luis Harbor District in the event of an "Alert", "Site Area Emergency" or "General Emergency". The Port San Luis Harbor District is not notified of an "Unusual Event" at the Plant. Primary notification and confirmation is made by telephone in a "cascade" fashion. A radio notification process would provide a backup to the telephone system. In order to minimize the time required to mobilize key personnel, call lists are prioritized. The notification/mobilization process as it affects Port San Luis Harbor District is as follows: PG&E notifies several agencies, including the San Luis Obispo County Sheriff's Office Watch Commander, of the status of the emergency. The Watch Commander then notifies several agencies, the third of which is the CDF/County Fire Department. The CDF/County Fire Department is responsible for then notifying the Port San Luis Harbor District, at the same time contacting 23 other Fire Departments/CDF/Forest Service offices.

At Alert stage or greater, the County continuously assesses the offsite consequences caused by the possible release of an airborne radioactive plume and recommends the implementation of measures to protect the general public. In any situation where there is a potential for an off-site release (outside the Diablo, Canyon Power Plant site), the County would take steps to independently confirm PG&E's assessment of the extent of the emergency. Field Monitoring Teams will be dispatched to the field and may also work in the PG&E mobile lab, which provides more sophisticated instrumentation than hand-held devices. This effort would be rapidly expanded if measurements or projections indicate the possibility of a release of significance in off-site areas. Augmentation for the Field Monitoring Teams will primarily come from the U.S. Department of Energy, which

coordinates Federal radiological assistance. Arrival of outside resources will be in a three-to-five hour time frame. It should be noted that the time frame for arrival of federal radiological assistance exceeds the radioactive plume's travel time of 0.5 to 4 hours after release for areas within ten miles of Diablo Canyon including Port San Luis.

Primary responsibility for notification of the public lies with the County Office of Emergency Services. Notification of the public involves both alerting that an emergency condition exists and the issuance of instructions to the public so that protective actions may be implemented. An area-wide siren system designated as the Early Warning System (EWS) would alert the general public to tune their radios to the Emergency Broadcast Systems (EBS) stations to receive emergency instructions. However, certain areas surrounding and including Port San Luis have difficulties receiving strong signals from the EBS stations due to topographic interference. Sounding the sirens is not a signal to evacuate, but an alert for the public to turn to the emergency broadcast stations for specific information and guidance. This specific information includes the nature of the emergency, protective actions recommendations for persons in the impact areas and other information as necessary.

Population in parks and on beaches would be notified by mobile vehicle public address and hand-held public address units in the more accessible areas. Ships at sea would be notified by marine radio and through direct interception by the U.S. Coast Guard.

During an emergency, non-local travelers can be diverted from entering the planning area. Roadblocks outside the perimeter of the planning area may be established at the Declaration of Local Emergency. In the event that the emergency occurs outside regular business hours, officials at Port San Luis would be contacted at their homes and many may have difficulty returning to the Port to carry out the tasks assigned them as "emergency workers" due to roadblocks and outgoing traffic.

Various protective actions may be implemented during an emergency including actions to shield people from radioactive material (sheltering) or actions to remove people from the area where a health hazard exists (evacuation). In regards to Port San Luis Harbor District, precautionary actions would include closure of beaches. Sheltering of the non-institutionalized population in the Port area occurs by following emergency instructions received over radios and television. As previously noted, radios receive weak signals of the EBS in some areas in and surrounding the Port. Should releases occur which would deposit sufficient quantities of radioactive materials in populated areas, sheltered populations would be relocated (evacuated after plume passage). Evacuees would be monitored and decontaminated as necessary. In regards to Evacuation, its sole purpose is to remove the population from the affected areas as rapidly as possible to locations beyond the health hazard limits.

A critical component of any ERP is the available evacuation routes. While this topic is discussed in the County ERP (dated August 1994), a more recent study has been prepared titled Final Report – Evacuation Time Assessment for Transient and Permanent

Population from Various Areas Within the Plume Exposure Pathway Emergency Planning Zone, Diablo Canyon Power Plant, 2002 Update (September 2002) prepared by Wilbur Smith Associates. This report is described in detail and subsequently evaluated in this analysis. Therefore, all discussion of traffic management during an evacuation connected with the Diablo Canyon Power Plant will be based on the 2002 Wilbur Smith Update rather than the 1994 data presented in the County ERP.

In the event of evacuation of Diablo Canyon Power Plant personnel, such evacuation would occur in stages, with non-essential personnel exiting first. Evacuees are to assemble at designated points to be monitored for contamination prior to being released by the PG&E Site Emergency Coordinator. Designated evacuation assembly points to the south include the Port San Luis Harbor District parking lot adjacent to the plant gate at Avila Beach, the Avila Beach parking lot and the PG&E Community Center. There are approximately 900 personal vehicles at the plant and 1,500 onsite personnel at a given time. Should evacuation of the Nuclear Power Plant personnel be necessary, the County will notify the Unified Dose Assessment Center (UDAC), City of Morro Bay, State Parks and Recreation, Avila Fire Department and South Bay Fire Department. The Port San Luis Harbor District is not on the list of agencies to be notified.

As previously discussed in the "Background" section of this analysis, an "emergency worker" is any person engaged in operations required to mitigate the effects of an accident. This includes key employees of the Port, as discussed under Document 2, San Luis Obispo County Nuclear Power Plant Emergency Response Plan Standard Operating Procedures, Port San Luis Harbor District. Each county agency or other organization involved in field emergency response will have the means to monitor and minimize radiation exposure to its personnel. Equipment such as protective clothing and dosimeters is provided to certain emergency workers at their respective dispatch locations. It should be noted that the Port San Luis Harbor District does not have protective clothing issued to the designated emergency workers. In addition, the dosimeter provided to the Port is more than thirty years old.

The County ERP also calls for testing and calibration for all equipment required for the implementation of this Plan. All instruments and equipment which are in regular non-emergency use by public or private agencies which would be required during an actual nuclear power plant emergency are to be tested as recommended by the manufacturer. In addition, equipment used only during emergencies should be inspected and inventoried annually and after each use. The dosimeters are usually tested annually by the County OES.

Finally, the County is responsible for conducting exercises and drills in accordance with Federal standards and criteria. The Radiological Emergency Preparedness Exercise manual (FEMA-RE-14) is used as the guidance for preparing and administering the exercise and drill program. Self (Player) critiques and controller critiques are conducted immediately after each drill or exercise and a formal evaluation report is generated. Full scale exercises of this plan and its procedures are to be conducted during odd-numbered

years. The County Administrator is responsible for ensuring that all drills and exercises required by Federal standards (NUREG 0654) are scheduled and carried out as appropriate and for ensuring that the results of all exercises and drills are incorporated into the plan documents prior to the next scheduled exercise or drill. As previously discussed, Port San Luis participated in an Emergency Preparedness Exercise on October 23, 2002. The results of the Port's participation in and some observations about this Exercise are subsequently discussed in this analysis. In accordance with the County ERP as quoted above, these results and observations should be evaluated and incorporated into the ERP as necessary.

POLICY RECOMMENDATIONS

1. The County Office of Emergency Services should consider revisions to the Protective Action Zone boundaries within the Emergency Response Plan. It is recommended that the Port San Luis/Avila Valley area be moved from Protective Action Zone 3 to Protective Action Zone 2. This proposed PAZ boundary revision would result in improved communications with and involvement by the Port San Luis Harbor District and the CDF/County Fire Station in Avila Beach by being informed at earlier stages of an emergency event. The Port would also be notified of an Unusual Event if it were located within PAZ 2. Although PAZs 1 and 2 lie within a six-mile circular radius of the Diablo Canyon Nuclear Power Plant, Federal Criteria (the third document analyzed in this analysis) states that the actual shape of an emergency planning zone should be based upon the particular characteristics of a site. There are several unique aspects associated with the Port San Luis/Avila Valley area which justify this recommended PAZ boundary revision:
 - a) Port San Luis and Avila Valley are situated in close enough proximity (just beyond the six-mile radius which defines the boundary to PAZ 2) to the Diablo Canyon Nuclear Power Plant to be significantly impacted by any radiological release or emergency event at the facility.
 - b) Based upon meteorological data, the prevailing wind direction (over 50% of the time) would disperse any radiological release from the Diablo Canyon Nuclear Power Plant either directly to or near the Port.
 - c) A radiological release from the Diablo Canyon Nuclear Power Plant could reach the Port San Luis/Avila beach area within an extremely short time frame, as little as 27 to 37 minutes, depending on wind speed and direction.
 - d) The utilization of Port employees as "emergency workers" during any emergency event creates potential health risks for these individuals. In order to maximize their effectiveness as emergency workers an earlier notification of emergency events is also needed.
 - e) As discussed in the evaluation of the Evacuation Time Assessment, there are a limited number of available evacuation routes from the Port San Luis/Avila Valley area. In particular, Port San Luis is located at the end of

Avila Beach Drive, the primary access roadway to Highway 101. Earlier notification would enhance any required evacuation efforts from this area.

- f) The Port San Luis/Avila Valley area accommodates a large number of transient visitors particularly during the summer, on weekends and during holidays. Earlier and improved notification of and involvement by the Port San Luis Harbor District would assist in the potential closure of facilities and evacuation efforts during these peak public use periods.

3.2 PROCEDURES

- *San Luis Obispo County Nuclear Power Plant Emergency Response Plan, Standard Operating Procedures 111.44, Port San Luis Harbor District*

These Standard Operating Procedures (SOP) are part of the San Luis Obispo County Cities Power Plant Emergency Response Plan and contain detailed preparedness measures and emergency procedures, many of which recommend reliance upon the personnel and operations of the Port San Luis Harbor District. It contains implementing instructions to be used by the County Command Group and other key officials and the County Emergency Operations Center (EOC) in directing the emergency response activities. This document was originally published on June 6, 1992 and was last updated in September 2002. There is some incorrect data in the SOP regarding Harbor District personnel, equipment, etc. In these instances, the correct data will be provided in brackets and italicized.

According to the SOP, the Port San Luis Harbor District is assumed to have two groups of District staff which would provide support in the event of an emergency. The Harbor Patrol which is staffed with a Senior Harbor Patrol Officer [*Marine Safety Officer*] and four [*five*] full-time Harbor Patrol Officers would actually conduct the evacuation process. The Harbor District Manager and members of the Port administrative staff, which is comprised of several employees, would be in charge of securing the functions of the Harbor District. The Harbor Manager or the on duty Harbor Patrol Officer would act as the lead person for the District. According to the SOP, in the event of radiological emergencies affecting the areas of the Port San Luis Harbor District land area and surrounding harbor, the Harbor District would:

- 1) Provide fire and rescue services to the Port San Luis Harbor and surrounding land areas and support the CDF/County Fire Department as requested.
- 2) Provide assistance to the Sheriff's Office in the notification of the public as a supplement to the Early Warning System.
- 3) Provide information to the public concerning protective actions as directed by the County Emergency Services Director.
- 4) Provide assistance in traffic control as directed by the County Sheriff's Office or the California Highway Patrol.
- 5) Provide assistance to the County in the evacuation of the careless [*and skiffless*] population.

- 6) Provide assistance in the confirmation of the evacuation and/or sheltering as directed by the County Sheriff's Office.
- 7) Provide assistance to the County in reentry and recovery operations.
- 8) Monitor and control radiation exposure received by Harbor District personnel.
- 9) Provide assistance in earthquake response to the Sheriff's Office.

Communications to the District from the County regarding protective action recommendations would be via commercial phone. Emergency status updates would be from the CDF/County Fire Department via County Fire radio or commercial phone. As previously discussed in the analysis of the County ERP (Document 1), the Port San Luis Harbor District will be initially notified of Alert or higher emergencies at the Diablo Canyon Power Plant. The Harbor District administrative representative answering the call would record information about the situation and notify the Harbor District responsible staff person on duty. It should be noted, however, that the Port Administrative Office is closed on weekends, holidays and from 4:30 PM to 8:00AM and one hour for lunch Monday through Friday.

When directed by the County Emergency Services Director, the Harbor District staff would implement emergency or protective actions. These actions are not recommended to be automatically performed at Alert or higher emergencies. Harbor District staff may be directed to do the following.

- a) Route Alerting – notify the public at the Port and surrounding areas in the event of siren failures by using mobile “public address (PA)” systems. The public would be instructed to tune their radios to the local Emergency Alert System (EAS) radio stations for the actions they should take.
- b) Precautionary closure of Port and surrounding area – in the early stages of an emergency, the County Emergency Service Director may recommend closure of the Port area in order to allow Port visitors to be evacuated out of the Port area. Once this evacuation is complete, Port personnel can secure the facility and relocate to an unaffected area if the emergency worsens. The Harbor Manager will assign staff to inform the public to leave and to listen to the EAS. Areas to be closed would include: the Port Boat Storage Area [*Dry Dock*], Mooring Area, Business Office, Parking Area, Lighthouse, Harford Pier, and Olde Port Beach.
- c) Evacuation of the Port and surrounding area - The County Emergency Services Director may recommend evacuation of the Harbor District as part of Protective Action Zone 3. The recommendation to evacuate would be accompanied by a directive for District personnel to evacuate all members of the public in areas mentioned in item b) above, as well as Harbor Terrace. Once the public has

evacuated the area, District personnel will move to a location outside the affected area.

- d) **Sheltering** – The County Emergency Services Director may recommend sheltering, which means that all members of the public in the area should go to any well-built structure, close all doors and windows and await further instructions over the EAS radio station. District personnel will assist persons who may not have a place to shelter.
- e) **Emergency Worker Protective Actions** - District personnel may be instructed to follow emergency worker protective actions, including use of EWEC instruments, taking potassium iodide tablets, relocating to areas having lower exposure levels, and reporting to an Emergency Worker Monitoring and Decontamination Center.

San Luis Obispo County's SOP provides a description of the Port San Luis Harbor District and Facilities, including the Harford Pier, a Diesel fuel facility, moorings, administration office, boatyard, boat trailer and gear storage yard, trailer park, Olde Port Beach and Avila Pier (the CDF/County Fire Department from their Avila Beach Station takes care of emergency response activities at the Avila Pier as well as in the town of Avila Beach and the beach area from the UNOCAL Pier to Pirates Cove). The SOP also describes transportation, rescue vehicles and equipment available for use at the Port to assist in the evacuation of individuals from both landside and seaside areas of Port San Luis, including:

1. 25 foot Farallon [*26 foot Radon*], fiberglass patrol boat
2. 5 meter rigid hull inflatable
3. 7 meter rigid hull inflatable
4. 14 foot aluminum skiff
5. 50 foot converted Navy LCM (with fire apparatus)
6. Various types of trucks which could provide transportation. The Harbor Patrol's truck is also equipped with a PA system, VHF/UHF radios, fire equipment and basic life support medical equipment.

According to the SOP, communications equipment at the Harbor District includes:

7. Telephones located throughout the land area of the Port, including the main office bank of four lines which can be rolled over through one telephone number.
8. Various types of radios which are capable of communicating between vessels in the area and the Harbor District in the VHF marine band. The LCM, Harbor Patrol Vehicle and two Harbor Patrol boats have permanently mounted marine VHF radios. In addition, the Harbor Office has a radio capable of receiving transmissions from CDF/County Fire Departments. All handheld radios, the Patrol Boat, LCM and the Harbor Patrol truck also have this capability.

9. The Harbor Patrol also has four UHF radios (two handheld, two mobile) for communications with various emergency agencies [*Harbor Patrol has a limited number of radios*].

The SOP also contains seven checklists to be used by Harbor District staff after the initial notification of a radiological emergency by the CDF/County Fire Department via radio or telephone. These checklists are:

Checklist 1 – Initial Notification, Mobilization and Response

The CDF/County Fire Department will initially notify Port San Luis Harbor District by radio or telephone. The person receiving the initial call of a radiological emergency will notify the Harbor Manager who will implement various listed notification and mobilization tasks.

Checklist 2 – Exposure Control

Dosimetry and potassium iodide will be made available to workers at Alert or higher emergency classifications. Steps in the use of exposure control equipment and supplies are listed.

Checklist 3 – Precautionary Actions

As a precautionary measure, the County Emergency Services Director may recommend closure of the Port areas in early stages of an emergency. This will allow Port visitors to be moved out of the Port area so that if the situation worsens, Port personnel can secure the facility and relocate to an unaffected area. When directed by the County Emergency Services Director, the Harbor Manager will coordinate the closure of Port areas using the provided checklist.

Checklist 4 – Port San Luis Area Evacuation/Sheltering

Upon direction of the County Emergency Services Director, sheltering or evacuation may be ordered for the Port San Luis Area. Areas to be evacuated and evacuation instructions are listed.

Checklist 5 – Carless/Skifflless Population/Evacuation

The carless and skifflless population may require transportation out of the area in response to the direction of the County Emergency Services Director. Port San Luis Harbor District staff will provide assistance to skifflless persons who will be directed to the Harbor District Office where transportation assistance out of the area can be provided. Instructions for this evacuation are listed.

Checklist 6 – Route Alerting

Upon direction of the County Emergency Services Director, evacuation may be ordered. Port employees, visitors to the area and residents will be alerted. Port employees will follow the provided checklist in there alerting efforts.

Checklist 7 – Demobilization

Besides the Checklists, Form 8 of the SOP is a “Cities Liaison/PIO Form” which is the form to be faxed to affected agencies during a radiological emergency from the County Emergency Operations Center. This form describes plant conditions, meteorology, radiological status, dose assessment, protective action recommendations, Siren Activation/Emergency Declarations/Congregate Care, Schools, Traffic and Other

Information. It includes a "Check-in Roll Call" and a "Closing Roll Call" which ensures communication with the cities of San Luis Obispo, Morro Bay, Paso Robles, Atascadero, Arroyo Grande, Grover Beach, Pismo Beach and Cal Poly. The Port San Luis Harbor District is not included on this "Roll Call".

It should be noted that carrying out the duties noted on Checklists 1 – 7 requires that the Port San Luis Harbor District have access to the boats, radios, vehicles and other equipment noted above. In addition, Attachment 2 - Emergency Organization Chart lists the hierarchal functions of Harbor District personnel. Under the Harbor Manager, a total of twenty employees are assumed to be available for use as "emergency workers."

- ***Summary of Issues Identified by The Port San Luis Harbor District During the Emergency Preparedness Exercise on October 23, 2002***

The Port San Luis Harbor District participated in the County's Emergency Preparedness Exercise conducted on October 23, 2002. Their experiences in this Exercise provided valuable insight into areas of the County SOP which need to be improved in order to allow the Port to perform their assigned tasks in the event of an emergency at the Diablo Canyon Nuclear Power Plant. The primary deficiencies have to do with communication and lack of adequate equipment (radios, direct phone lines, adequate FAX system), as noted below.

1. Initial notification of the Port at 8:36 a.m. via County Fire Radio was faintly overheard and provided very little information about status of emergency. There was no verification or roll call to insure that the Port received the initial message.
2. No additional information was provided to the Port until County Fire Radio reports that a Site Area Emergency had been declared (10:35 a.m.).
3. In the event of a real emergency, Port officials would find it difficult to access the EBS because reception of AM radio signals at the main office is poor due to topographical interference.
4. Follow-up faxes were unreliable, unreadable and were at least 25 minutes old when received. The first fax was never received. The second fax was received at the office at 9:59 but was not seen by Port management until 10:50. All subsequent faxes were received 25 – 48 minutes after written. Fax 7, declaring a General Emergency, was received 44 minutes after it was declared and written. The handwriting on the faxes was difficult to read and significant information was missing.

5. Port staff were unable to reach the Cities Liaison Desk located at the EOC because the phone was continuously busy or, later in the day, was not answered.
6. The County's SOP states that the Harbor District staff shall only evacuate the Port and surrounding area if directed by the County Sheriff or Emergency Services Director. Although the CDF/County Fire Department had evacuated Avila Beach and Pirates Cove by 9:50 a.m., the Port never received orders to evacuate their area during the entire Emergency Preparedness Exercise even though the exercise assumed the release of radioactive material and a General Emergency (highest level of emergency event) was declared.
7. Though no order to evacuate was received by the Port, Port staff independently attempted to do so. It should be noted that the Port has been provided no additional barricades, signs or other means of blocking the roadways to prevent persons from re-entering the Port area after evacuation.
8. There is no set location for Harbor District managers and staff to meet outside the "hot zone" to plan future actions.
9. The Harbor District was never informed that the exercise was over.

PROCEDURAL RECOMMENDATIONS

The following specific procedural recommendations and infrastructure improvements are recommended in order to maximize the effectiveness and reliability of the procedures to be implemented during an emergency event:

1. The Emergency Alert System (EAS) radio system to which the public is instructed to tune in the event of an emergency must be upgraded to provide better transmission coverage throughout the Port San Luis/Avila Beach area. The Port San Luis Harbor District also depends upon this radio system to stay informed during an emergency event.
2. Port San Luis Harbor District must be moved up on the notification "ladder". Currently, the Port is at the third level of notification in the event of an "Alert," "Site Area Emergency" or "General Emergency" (PG&E notifies the County Sheriff's office who notifies the CDF/County Fire Department who notifies the Port along with 23 other agencies). Under this process, the Port would be informed of an emergency at or about the same time as the Cayucos Volunteer Fire Department.
3. Port San Luis Harbor District needs to be informed if an "Unusual Event" occurs at Diablo Canyon. By relocating the Port San Luis/Avila Beach area into Protective Action Zone 2 (as recommended in the evaluation of the

Emergency Response Plan), the Port would be informed of such circumstances.

4. Given that any evacuation would take at least one hour and 45 minutes, Port San Luis must be placed in a higher priority relative to roll calls and other methods of notification throughout any emergency event.
5. Dedicated telephone lines linking the Port San Luis Harbor District with the County Office of Emergency Services Emergency Operations Center should be dedicated in order to insure continual communications during an emergency event.
6. The notification system via fax must be clear in its content and more prompt in its execution. New forms that are more clearly readable must be prepared. Handwritten communications must be replaced with a more readable format. The separate phone lines recommended above could be utilized for electronic mail communications to all involved agencies, including the Port. In so doing, the clarity and promptness of these communications would be improved. Power back up is needed for fax communications in the event of a power failure.
7. Port San Luis should be provided with all required barricades, temporary signs or other equipment necessary to prevent persons from re-entering the Port area after evacuation.
8. A location for Port San Luis Harbor District managers and staff to meet outside the "hot zone" should be designated.
9. Upgraded communication equipment should be provided to the Port to insure emergency communications are received quickly and accurately.
10. Additional training of the Port San Luis Harbor District staff should be provided in the areas of large-scale evacuation planning and terrorism threat planning. The County of San Luis Obispo Office of Emergency Services should provide specific training in evacuation procedures in order to insure that Port staff in their capacity as "emergency workers" are most capable of directing the public to the safest locations in the event of sheltering or evacuation.
11. The Port San Luis Harbor District should be issued protective clothing and technically-current electronic dosimeters and other monitoring equipment.

3.3 ANALYSES

- *Criteria For Preparation And Evaluation Of Radiological Emergency Response Plans And Preparedness In Support Of Nuclear Power Plants*

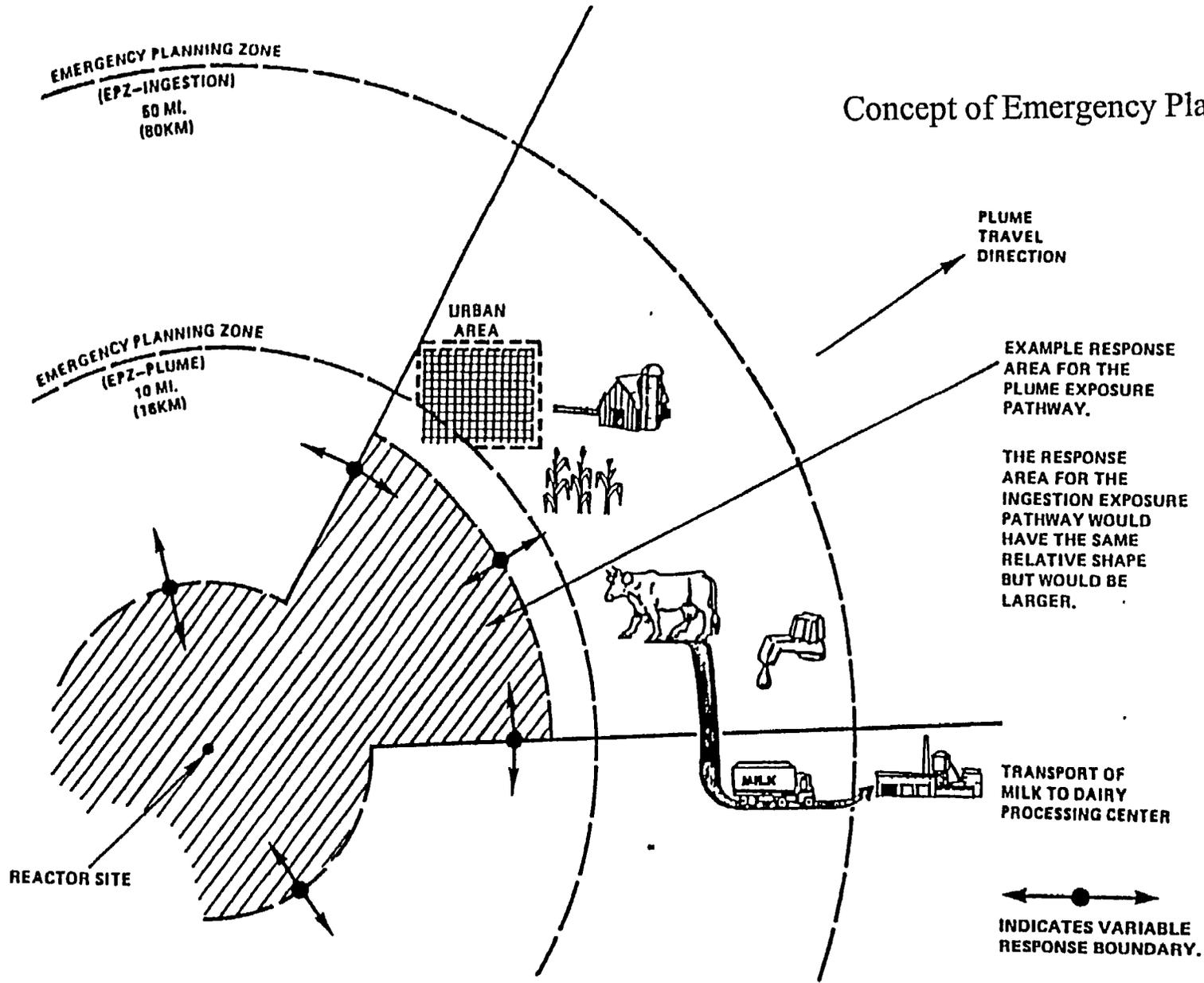
The third document analyzed is the Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants; November 1980, Federal Emergency Management Agency (FEMA). It is also referred to as NUREG-0654 FEMA-REP-1, Rev. 1. For the purposes of this evaluation, only those portions of NUREG-0654 which have a bearing on the adequacy of the County's Emergency Response Plan for the Port are noted here.

The purpose of Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants is to provide a common reference and guidance source for State and local governments and nuclear facility operators in the development of radiological Emergency Response Plans and preparedness in support of nuclear power plants. It is concerned with accidents at fixed commercial nuclear power reactors which might have impact on public health and safety. This document also reflects lessons learned by FEMA during and after the accident at Three Mile Island. The Criteria put added emphasis on the following elements: Notification Methods and Procedures, Emergency Communications, Public Education and Information, Emergency Facilities and Equipment, Accident Assessment, and Exercises and Drills. FEMA and NRC regard all of the planning standards identified and contained in this document as essential for an adequate radiological Emergency Response Plan. The overall objective of Emergency Response Plans is to reduce potential radiological exposure from a spectrum of accidents that could produce offsite doses in excess of Protection Action Guides (PAG's). This document is used by reviewers in determining the adequacy of State, local and nuclear power plant licensee Emergency Response Plans and preparedness.

- For the plume exposure pathway, shelter and/or evacuation would likely be the principal immediate protective actions to be recommended for the general public. When evacuation is chosen as the preferred protective measure, initial evacuation of a 360 degree area around the facility is desirable out to a distance of about two to five miles although initial efforts would be in the general downwind direction.
- A radius of about 10 miles from the nuclear power plant for the plume exposure pathway and a radius of about 50 miles from the plant for the ingestion exposure pathway was selected. Although the idea of radius implies a circular area, the actual shape of an emergency planning zone should be based upon the particular characteristics of a site (see Figure 4, Concept of Emergency Planning Zones.)
- The size (about 10 miles radius) of the plume exposure EPZ was based primarily on the following considerations: a) projected doses from the traditional design basis accidents would not exceed Protective Action Guide levels outside the zone;

FIGURE 4

Concept of Emergency Planning Zones



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Diablo Canyon Nuclear Power Plant

b) projected doses from most core melt sequences would not exceed Protective Action Guide levels outside the zone; c) for the worst case core melt sequences, immediately life threatening doses would generally not occur outside the zone; d) detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.

- The range of times between the onset of accident conditions and the start of a major release is on the order of one-half hour to several hours. The subsequent time period over which radioactive material may be expected to be released is of the order of one-half hour (short-term release) to a few days (continuous release). The table below titled, "Guidance on Initiation and Duration of Release" summarizes the time of release which has been used in developing the criteria for notification capabilities.

Table 1	
Guidance on Initiation and Duration of Release	
Time from the initiating event to start of atmospheric release	0.5 hours to one day
Time period over which radioactive material may be continuously released	0.5 hours to several days
Time at which major portion of release may occur	0.5 hours to 1 day after start of release
Travel time for release to exposure point (time after release)	5 miles – 0.5 to 2 hours 10 miles – 1 to 4 hours

- Local Government plans and response mechanisms are particularly important for the 10-mile EPZ. This is because relatively shorter times may be available to implement immediate protective measures associated with the plume exposure pathway (sheltering, thyroid blocking, evacuation) as opposed to the generally longer times available for implementing protective measures for the ingestion exposure pathway.
- While funding and technical assistance are not addressed in this document, it is a subject which must be discussed between the individual nuclear utilities and the involved State and local governments who must prepare emergency plans to support the nuclear facilities. The nuclear utility may have an incentive based on its own self-interest, as well as its responsibility to provide electric power, to assist in providing manpower, items of equipment, or other resources that the State and local governments may need, but are themselves unable to provide. The Federal Regional Assistance Committees, now under the chairmanship of FEMA, will play an increasing role in the development of these plans.
- Findings by FEMA and NRC with regard to the adequacy of emergency preparedness will be related to the capability of the facility licensee, State and local response organizations to respond in a coordinated manner to emergencies at

or related to particular nuclear facilities. A continued state of readiness must be maintained by all organizations.

- Each State and local response organization shall establish procedures which describe mutually agreeable bases for notification of response organizations consistent with the emergency classification and action level scheme. These procedures shall include means for verification of messages.
- State and local government organizations shall establish a system for disseminating to the public appropriate information contained in initial and follow up messages received from the licensee including the appropriate notification to appropriate broadcast media, e.g., the Emergency Broadcast System (EBS).
- Each organization shall establish administrative and physical means, and the time required for notifying and providing prompt instructions to the public within the plume exposure pathway EPZ. It shall be the licensee's responsibility to demonstrate that such means exist, regardless of who implements this requirement. It shall be the responsibility of the State and local governments to activate such a system.
- Within the plume exposure EPZ, the system shall provide an alert signal and notification by commercial broadcast (e.g., EBS) plus special system such as NOAA radio. The minimum acceptable design objectives for coverage by the system are: a) capability for providing 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. b) The initial notification system will assure direct coverage of essentially 100% of the population within 5 miles of the site. c) Special arrangements will be made to assure 100% coverage within 45 minutes of the population who may not have received the initial notification within the entire plume exposure EPZ. Every year, or in conjunction with an exercise of the facility, FEMA, in cooperation with the utility operator, and/or the State and local governments will take a statistical sample of the residents of all areas within about ten miles to assess the public's ability to hear the alerting signal and their awareness of the meaning of the prompt notification message as well as the availability of information of what to do in an emergency.
- Incident Alert Notification – All stations/points on the network and the communications linkage must provide a capability for immediate dissemination, receipt and acknowledgment of alert and warning messages on a 24-hour basis. The system should be able to function notwithstanding adverse environmental conditions, such as floods and power outages. It should not be subject to pre-emption for lower priority purposes nor to failure due to traffic (subscriber overloading). Dissemination should be rapid and reliable and provide acknowledgment and verification of message content. It is desirable for voice traffic to be supported by hard copy verification.
- Notification of Response Organizations – Warning points cannot be encumbered by sequential call down processes nor can response organizations accept the time lost by such processes. This second level notification by warning points should be a one call process to all assigned organizations to be notified.

Acknowledgement and message verification is essential. Message content must be clear and brief. A preferred procedure is to communicate a posture code which calls for various predetermined responses for each organization based on its mission.

- ***Final Report – Evacuation Time Assessment For Transient And Permanent Population From Various Areas Within The Plume Exposure Pathway Emergency Planning Zone, Diablo Canyon Power Plant, 2002 Update.***

The 2002 Update of the Evacuation Time Assessment for the Diablo Canyon Power Plant (DCPP) (dated September, 2002) was prepared by the firm of Wilbur Smith Associates. This analysis was intended to update prior evacuation time assessments pursuant to the requirements of the Nuclear Regulatory Commission (NRC). The prior Evacuation Time Assessment was prepared in 1992 and reflected 1990 conditions within the Emergency Planning Zone (EPZ). The EPZ includes the twelve Protective Action Zones (PAZ) established by the County of San Luis Obispo (see Figure 3, Protective Action Zones). The 2002 Update of the Evacuation Time Assessment reflects year 2000 uses and population data, as well as current population distribution and traffic circulation conditions. In general, evacuation time assessments are intended “for use by those emergency response personnel responsible for recommending and deciding on protective actions in the event of nuclear power emergencies.”

The computer simulation model within the Evacuation Time Assessment examined four different evacuation conditions: a non-summer weekday condition, a non-summer weeknight condition, a summer weekday condition and a summer weekend day condition. For each condition, nine different evacuation scenarios of various Protective Action Zones were analyzed in order to simulate the evacuation of various portions of the entire Emergency Planning Zone. It was estimated that on a non-summer weekday, approximately 13 hours would be required to evacuate the entire EPZ. On a non-summer weeknight, approximately 11 hours would be required for full evacuation of the EPZ. On a summer weekday, 12 ½ hours are estimated to be required for full evacuation, while 12 hours is estimated to be required on a summer weekend day. Partial evacuations, which are considered to be the most likely evacuation scenario, would require less time.

The Evacuation Time Assessment provides updated totals of estimated resident and transient population and housing within the EPZ. For the entire twelve-zone EPZ, year 2000 non-transient population totals were estimated to be 142,427 persons, indicating an 8.7 percent increase over similar 1990 totals. The number of dwelling units within the EPZ was estimated to be 61,394, an increase of approximately 11.5 percent over 1990 totals.

A comparison of year 2000 and 1990 housing totals indicates that growth throughout the EPZ was not uniform. Within the two-mile ring extending around the Diablo Canyon

Power Plant, no new dwellings were recorded since 1990. Between two and six miles, two dwellings were built during that period. The highest amounts of residential growth were recorded in PAZ's 8 and 10 (City of San Luis Obispo and Nipomo Mesa), (2,100 and 1,700 homes, respectively) with significant housing increases also occurring in PAZ's 6 and 9 (between 400 and 800 homes) (see Figure 3, Protective Action Zones). The Evacuation Time Assessment assumes that during an emergency, residents of the EPZ will return home prior to an evacuation.

Transient populations consist of non-resident visitors to the EPZ area, such as tourists and beachgoers, as well as students and employees who reside outside the EPZ. Higher levels of transient population occur within the EPZ during the summer, on weekends and holidays. During these periods, a significant number of persons from outside the EPZ visit the beach recreation areas, including Port San Luis, Harford Pier, Olde Port Beach and Avila Beach. ("Beachgoers represent the largest proportion of the daytime transients within the EPZ") (page 31). All of these facilities, as well as the adjoining shorelines, beaches and harbor areas in the Avila area fall under the jurisdiction of the Port San Luis Harbor District.

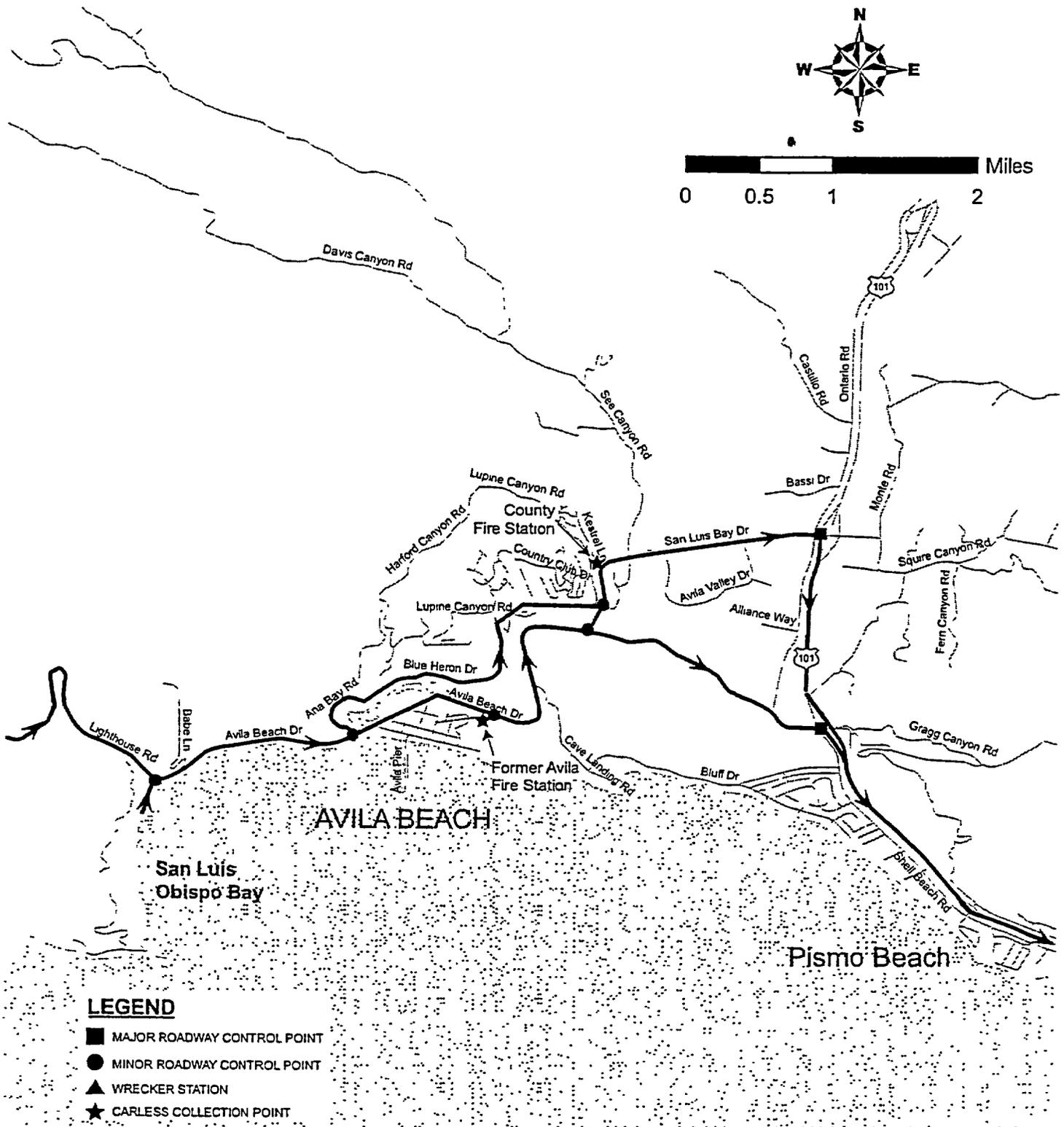
During a non-summer weekday, the transient population within the entire EPZ is estimated to be 30,544. For a non-summer weeknight, the transient population is estimated to be 15,919. On a summer weekday, the transient population is estimated to total 36,495 while on a summer weekend day the transient population is estimated to be 35,437. The Evacuation Time Assessment also indicates that on certain holidays, such as the Fourth of July, "these transient population numbers can be considerably higher."

The Evacuation Time Assessment updated the inventory of existing highway facilities within the EPZ including facility type, number of lanes, operating speeds and traffic controls in order to define the evacuation roadway network for use within the evacuation time assessment computerized transportation model. The primary evacuation route(s) from the Port San Luis/ Avila Beach area is Avila Beach Drive until it reaches San Luis Bay Drive both of which ultimately connect to Highway 101, a distance of approximately three to four miles (see Figure 5, Avila Beach Local Evacuation Routes).

The assumptions concerning traffic operations during an emergency evacuation include average speeds on local two-lane roadways of 10 to 25 miles per hour, assuming traffic levels are below capacity. Once traffic flows reach or exceed roadway capacity, the computer model simulates the formation of traffic queues (or congestion) resulting in reduced speeds and increased travel time estimates. Below-capacity roadway speeds have a relatively small effect upon evacuation time estimates since evacuation traffic begins to exceed roadway capacities within the first hour of the evacuation.

The Evacuation Time Assessment indicates that "because of the directional flow and controlled routings, lane capacities could be higher than those observed under normal circumstances" (page 48) and "Another factor which could contribute to smoother flow

FIGURE 5
Avila Beach Local Evacuation Routes



Diablo Canyon Nuclear Power Plant

and higher capacities is that the drivers involved in the evacuation would probably be the more seasoned, experienced driver(s) of each household” (page 48).

The four evacuation conditions noted above were assumed to occur during warm weather conditions in order to maximize the estimated transient population. A fifth scenario was also investigated which reflects evacuation during adverse weather conditions (heavy rainfall or during dense fog).

Persons or groups within the EPZ which may require transportation assistance would include households without vehicles, households where vehicles are not available at the time of evacuation, those transients without vehicles and persons in schools, hospitals or nursing/ convalescent hospitals. The County Emergency Response Plan provides for evacuation of those requiring transportation through the provision of designated collection points for evacuation by buses, provision of a designated telephone number for transportation assistance and the separate evacuation by bus of students in the EPZ by the respective School Districts. These bus trips and other methods of transportation assistance are reflected within the Evacuation Time Assessment.

The estimated 900 vehicles belonging to employees evacuating the Diablo Canyon Nuclear Power Plant are also discussed with the Evacuation Time Assessment, but do not appear to be reflected within estimates of the total numbers of departing vehicles (Table 6 and 7, pages 37 and 38).

Based upon the above data and assumptions, evacuation time estimates were computed for the four evacuation conditions (non-summer weekday, non-summer weeknight, summer weekday and summer weekend day). As previously noted, it was estimated that on a non-summer weekday, approximately 13 hours would be required to evacuate the entire EPZ. On a non-summer weeknight, approximately 11 hours would be required for full evacuation of the EPZ. On a summer weekday, 12 ½ hours are estimated to be required for full evacuation while 12 hours is estimated to be required on a summer weekend day. Partial evacuations, which are considered to be the most likely evacuation scenario, would require less time.

The Evacuation Time Assessment concludes by identifying several “bottleneck” locations within the EPZ where “traffic demand can be expected to significantly exceed available capacity during a general evacuation, resulting in lengthy vehicle queues and delays” (page 53). Bottleneck locations are identified at access points to Highway 101 in San Luis Obispo as well as along Highway 101 on the Cuesta Grade, along South Bay Boulevard, along Highway 1 in the Morro Bay/ Cayucos area and on both Highways 101 and 1 in the Five Cities area (Figures 10 and 11 on pages 66 and 67). No bottlenecks or areas of anticipated traffic congestion are identified on either Avila Beach Drive or San Luis Bay Drive west of Port San Luis and leading to Highway 101.

ANALYSIS RECOMMENDATIONS

The Evacuation Time Assessment is intended to provide an updated and accurate estimate of the time necessary for evacuation of the Emergency Planning Zone (EPZ).

According to the Federal Criteria for Preparation and Evaluation of Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, the Evacuation Time Assessment should provide an estimate of the number of persons to be evacuated analyze the travel times of persons involved in any evacuation and identify potential locations for serious traffic congestion. In addition, specific recommendations for actions that could be taken to significantly improve evacuation time shall be given. Finally, the Federal Criteria states that “a review of the draft submittal [of the Evacuation Time Assessment] by the principal organizations (State and local) involved in the emergency response for the site shall be solicited and comments resulting from such review included within the [final draft of the Evaluation Time Assessment].”

Given the information requirements noted above, the Evacuation Time Assessment Report should be updated to respond to the following concerns in order to produce a document that will be of greatest use “by those emergency response personnel charged with recommending and deciding on protective actions during an emergency.”

1. The Evacuation Time Assessment states that transient population numbers are considerably higher on certain holidays such as the Fourth of July. An analysis of evacuation times and resulting traffic impacts for this worst-case “summer, holiday” scenario should be performed and included within a revised Evacuation Time Assessment.
2. The Evacuation Time Assessment (page 4) assumes that residents of the Emergency Planning Zone will return home prior to evacuation. This assumption contradicts statements on page 48 of the Assessment which read: “once an evacuation is underway, most vehicles would be headed in the same direction.” While it is not likely that all residents would be able to return home in the event of an emergency, such attempts will likely clog traffic seeking to depart along the primary evacuation routes from the Port San Luis/ Avila Valley area. The Evacuation Time Assessment should either assume that roadways heading from Port San Luis maintain two-way traffic flows during an emergency event or assume provision of a separate, alternative means of access to and from the area, thereby allowing both travel lanes on these roadways to be devoted to traffic departing the area.
3. The Evacuation Time Assessment states that during an emergency event, smoother traffic flows and higher capacities may result due to the fact that “drivers involved in the evacuation would be the more seasoned, experienced drivers of each household.” It is optimistic to assume that all drivers of motor vehicles during any emergency evacuation would behave in a “seasoned” and

“experienced” manner in responding to a nuclear power plant emergency. Any advantages associated with driver experience and maturity will be likely offset by the expected sense of panic and poor judgment which should be anticipated in response to such an event. The Evacuation Time Assessment should include assumptions that motorists evacuating the Port San Luis/ Avila Valley area will not exert good judgment at all times. As a result, primary evacuation routes may be temporarily clogged or blocked due to collisions, accidents, etc.

4. Within the Evacuation Time Assessment, the estimated 900 vehicles belonging to the employees of the Diablo Canyon Nuclear Power Plant are not reflected within the estimates of total number of evacuating vehicles. The Assessment should be revised to reflect these total number of vehicles departing the Port San Luis/ Avila Valley area. The timing of their departure in relation to the departure of other persons in Emergency Planning Zone 3 should also be discussed.

5. The various evacuation scenarios within the Evacuation Time Assessment are limited in their scope in that they assume that the primary evacuation routes, those being Avila Beach Drive and San Luis Bay Drive, are fully operational. This assumption is based upon the hope that all departures occur without accident (see Recommendation #3 above), that all emergency workers are present and that the emergency (which could be initiated by an earthquake or attack) does not remove a bridge or other critical roadway link (due to flood or landslide). The Evacuation Time Assessment should address such scenarios with particular attention to the provision of alternative routes of egress from the otherwise land-locked Port San Luis/ Avila Valley area (see Recommendation #7 below).

6. The Evacuation Time Assessment estimates a full evacuation of the EPZ ranges from 11 to 12 ½ hours. These time frames must be related to Federal Standards for radiological exposure. If persons attempting to depart from the EPZ are going to be exposed to deleterious levels of radiation within these estimated time frames, the Evacuation Time Assessment must provide means of reducing these time frames. In so doing, the chances of a safe departure for all persons within the Port San Luis/ Avila Valley area in the event of a radiological emergency at the Diablo Canyon Nuclear Power Plant would be maximized.

7. The Evacuation Time Assessment concludes by identifying several “bottleneck” locations within the EPZ where “traffic demand can be expected to significantly exceed available capacity during a general evacuation resulting in lengthy vehicle queues and delays.” Bottleneck locations are identified at access points to Highway 101 in San Luis Obispo as well as along Highway 101 on the Cuesta Grade, along South Bay Boulevard, along Highway 1 in the Morro Bay/ Cayucos area and on both Highways 101 and 1 in the Five Cities area. No bottlenecks or areas of anticipated traffic congestion are identified on either Avila Beach Drive or San Luis Bay Drive west of Port San Luis and leading to Highway 101.

Based upon the experience of the Port San Luis Harbor District and residents of the area (particularly on holidays or during special events), such bottlenecks are highly likely to occur during an emergency event at the Diablo Canyon Nuclear Power Plant. According to Federal criteria, the Evaluation Time Assessment should contain specific recommendations for actions that would be taken to significantly improve evacuation times. Specific improvements to the roadway network in the area may include but are not limited to:

- a. Extension of Cave Landing Road past its current terminus at Pirate's Cove to ultimately connect to Highway 101 in Shell Beach. This roadway extension could be an emergency-only, all-weather paved roadway which would provide an alternate means of vehicular access for those departing Port San Luis and Avila Beach. Such traffic would not compete for roadway capacity with residents of the San Luis Bay Estates, Bassi Ranch and other residential areas closer to Highway 101.
- b. Provision of an emergency-only access roadway for workers from the Diablo Canyon Nuclear Power Plant through Montana del Oro State Park. This access alternative would remove approximately 900 vehicles from the existing primary access routes.

SECTION 4.0 SUMMARY OF RECOMMENDATIONS

POLICY RECOMMENDATIONS

1. The County Office of Emergency Services should consider revisions to the Protective Action Zone boundaries within the Emergency Response Plan. It is recommended that the Port San Luis/Avila Valley area be moved from Protective Action Zone 3 to Protective Action Zone 2. This proposed PAZ boundary revision would result in improved communications with and involvement by the Port San Luis Harbor District and the CDF/County Fire Station in Avila Beach by being informed at earlier stages of an emergency event. Although PAZs 1 and 2 lie within a six-mile radius of the Diablo Canyon Nuclear Power Plant, Federal criteria (the third document analyzed in this section) states that the actual shape of an emergency planning zone should be based upon the particular characteristics of a site. There are several unique aspects associated with the Port San Luis/Avila Valley area which justify this recommended PAZ boundary revision:
 - a) Port San Luis and Avila Valley are situated in close enough proximity (just beyond the six-mile radius which defines the boundary to PAZ 2) to the Diablo Canyon Nuclear Power Plant to be significantly impacted by any radiological release or emergency event at the facility.
 - b) Based upon meteorological data, the prevailing wind direction (over 50% of the time) would disperse any radiological release from the Diablo Canyon Nuclear Power Plant either directly to or near the Port.
 - c) A radiological release from the Diablo Canyon Nuclear Power Plant could reach the Port San Luis/Avila Valley area within an extremely short time frame, as little as 27 to 37 minutes, depending on wind speed and direction.
 - d) The utilization of Port employees as "emergency workers" during any emergency event creates potential health risks for these individuals. In order to maximize their effectiveness as emergency workers, an earlier notification of emergency events is also needed.
 - e) As discussed in the evaluation of the Evacuation Time Assessment, there are a limited number of available evacuation routes from the Port San Luis/Avila Valley area. In particular, Port San Luis is located at the end of Avila Beach Drive, the primary access roadway to Highway 101. Earlier notification would enhance any required evacuation efforts from this area.
 - f) The Port San Luis/Avila Valley area accommodates a large number of transient visitors particularly during the summer, on weekends and during holidays. Earlier and improved notification of and involvement by the Port San Luis Harbor District would assist in the potential closure of facilities and evacuation efforts during these peak public use periods.

PROCEDURAL RECOMMENDATIONS

The following specific procedural recommendations and infrastructure improvements are recommended in order to maximize the effectiveness and reliability of the procedures to be implemented during an emergency event:

1. The Emergency Alert System (EAS) radio system to which the public is instructed to tune in the event of an emergency must be upgraded to provide better transmission coverage throughout the Port San Luis/Avila Beach area. The Port San Luis Harbor District also depends upon this radio system to stay informed during an emergency event.
2. Port San Luis Harbor District must be moved up on the notification "ladder". Currently, the Port is at the third level of notification in the event of an "Alert," "Site Area Emergency" or "General Emergency" (PG&E notifies the County Sheriff's office who notifies the CDF/County Fire Department who notifies the Port along with 23 other agencies). Under this process, the Port would be informed of an emergency at or about the same time as the Cayucos Volunteer Fire Department.
3. Port San Luis Harbor District needs to be informed if an "Unusual Event" occurs at Diablo Canyon. By relocating the Port San Luis/Avila Beach area into Protective Action Zone 2 (as recommended in the evaluation of the Emergency Response Plan), the Port would be informed of such circumstances.
4. Given that any evacuation would take at least one hour and 45 minutes, Port San Luis must be placed in a higher priority relative to roll calls and other methods of notification throughout any emergency event.
5. Dedicated telephone lines linking the Port San Luis Harbor District with the County Office of Emergency Services Emergency Operations Center should be dedicated in order to insure continual communications during an emergency event.
6. The notification system via fax must be clear in its content and more prompt in its execution. New forms that are more clearly readable must be prepared. Handwritten communications must be replaced with a more readable format. The separate phone lines recommended above could be utilized for electronic mail communications to all involved agencies, including the Port. In so doing, the clarity and promptness of these communications would be improved. Power back up is needed for fax communications in the event of a power failure.

7. Port San Luis should be provided with all required barricades, temporary signs or other equipment necessary to prevent persons from re-entering the Port area after evacuation.
8. A location for Port San Luis Harbor District managers and staff to meet outside the “hot zone” should be designated.
9. Upgraded communications equipment should be provided to the Port to insure emergency communications are received quickly and accurately.
10. Additional training of the Port San Luis Harbor District staff should be provided in the areas of large-scale evacuation planning and terrorism threat planning. The County of San Luis Obispo Office of Emergency Services should provide specific training in evacuation procedures in order to insure that Port staff in their capacity as “emergency workers” are most capable of directing the public to the safest locations in the event of sheltering or evacuation.
11. The Port San Luis Harbor District should be issued protective clothing and technically-current electronic dosimeters and other monitoring equipment.

ANALYSIS RECOMMENDATIONS

Given the information requirements noted previously, the Evacuation Time Assessment Report should be updated to respond to the following concerns in order to produce a document that will be of greatest use “by those emergency response personnel charged with recommending and deciding on protective actions during an emergency.”

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b. Provision of an emergency-only access roadway for workers from the Diablo Canyon Nuclear Power Plant through Montana del Oro State Park. This access alternative would remove approximately 900 vehicles from the existing primary access routes.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
PACIFIC GAS AND ELECTRIC CO.) Docket No. 72-26-ISFSI
DIABLO CANYON POWER PLANT)
)
(Independent Spent Fuel Storage)
Installation))

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM (SUBMITTING DOCUMENT FOR DOCKETING) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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Docket No. 72-26-ISFSI
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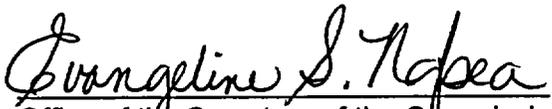
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Docket No. 72-26-ISFSI
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Dated at Rockville, Maryland,
this 28th day of March 2003