DD-84-11

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
Harold R. Denton, Director

In the Matter of	)	
	)	
THE DETROIT EDISON COMPANY	)	Docket No. 50-341
(Enrico Fermi Atomic Power)	)	(10 CFR 2.206)
Plant, Unit 2)	)	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

INTRODUCTION

Monroe County, Michigan (hereinafter referred to as the County), filed a petition to intervene and reopen the record in the operating license proceeding for the Enrico Fermi Atomic Power Plant, Unit 2 (hereinafter referred to as Fermi-2). Fermi-2 is located on the western shore of Lake Erie in Frenchtown Township in Monroe County. The County, through its Board of Commissioners, sought to intervene in the proceeding to obtain appropriate resolution of certain specific issues, each of which was deemed to be beyond the power of the County Commissioners to resolve, in order to carry out the statutory responsibility to prepare an adequate emergency plan for Monroe County for the Fermi-2 plant. The County filed its petition on August 27, 1982, nearly four years after the opportunity for timely intervention had expired and after the close of the evidentiary hearings. The Atomic Safety and Licensing Board denied the

County's petition in a decision dated October 29, 1982. [1] The County appealed the decision to the Atomic Safety and Licensing Appeal Board which, in a decision dated December 21, 1982, affirmed the denial. However, the Appeal Board noted in its decision that Monroe County's emergency planning concerns were real and should be addressed. The Appeal Board forwarded the petition, together with the transcript of a June 16, 1982 public meeting, to the Nuclear Regulatory Commission (NRC) staff with the request that the papers be treated under 10 CFR 2.206 of the Commission's regulations. [2]

Notice of the NRC's intent to treat the County's concerns as a petition under 10 CFR 2.206 of the Commission's regulations was published in the Federal Register on February 1, 1983 (48 FR 4589). Following that notice, two groups expressed an interest in submitting information in support of the issues raised by Monroe County. By letter dated February 10, 1983, Ms. Joan Mumaw and Mr. Michael Barrett, and by letter dated April 1, 1983, Mr. John Minock on

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[1] Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2), LPB-82-96, 16 NRC 1408, 1437 (1982).

[2] Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760 (1982). The County's petition does not fit squarely within the class of requests for relief provided for under 10 CFR 2.206. The County raises matters pertaining to the initial licensing of the plant, rather than a request for enforcement action. Nonetheless, the staff has treated this request in accordance with §2.206.

behalf of Citizens for Employment and Energy, a group from Michigan, submitted additional information in support of the County's petition. [3/] Because of the division of responsibilities for evaluation of emergency preparedness for nuclear power plants described more fully below, the NRC requested the assistance of the Federal Emergency Management Agency (FEMA) in responding to the County's concerns. In addition, Detroit Edison submitted comments on the issues in the County's petition by letter dated July 27, 1983.

For the reasons set forth below, I have determined that the concerns of Monroe County have been satisfactorily resolved and are adequately addressed in the emergency plans for the Fermi-2 facility. Therefore, no further action is required to resolve the County's concerns.

[3/] Both groups submitted documents which had been prepared for other purposes and which encompassed a broader range of subjects concerning offsite emergency preparedness than those raised by Monroe County. In our request to the Federal Emergency Management Agency for assistance, we requested that to the extent any issues raised by the two groups went beyond the scope of those raised by Monroe County, those issues be considered by FEMA in its overall assessment of the State and local emergency plans for the Fermi-2 facility. Both FEMA and the NRC considered this additional information in their evaluation of the Monroe County Petition. See Memorandum for Richard W. Krimm from Edward L. Jordan, dated June 16, 1983.

Background

As summarized by the Appeal Board, the County asserted that it (1) lacks the bus capacity to evacuate people who are without transportation, (2) doubts the willingness and training of volunteer emergency workers to carry out all of their tasks, (3) lacks sufficient funds or expertise to undertake recovery and reentry operations, (4) questions whether an evacuation can be successfully accomplished, given the length of time needed to mobilize command officials, the inadequacy of existing roads and the frequent impassability of the roads in winter, (5) lacks sufficient personnel to staff decontamination/reception centers, (6) questions whether potassium iodide supplies can be made available quickly, (7) believes the monitoring systems now in place to detect radiological releases are inadequate, and (8) doubts that the method chosen for decontamination of cars and trucks is adequate. With the exception of issue number 7 concerning monitoring systems to detect radiological releases, all of the County's concerns involve offsite emergency planning issues. Accordingly, the NRC requested the assistance of the Federal Emergency Management Agency (FEMA) in responding to the County's concerns.

FEMA, by Presidential directive, has been assigned the responsibility for assessing the adequacy of offsite emergency preparedness for nuclear power plants. The cooperative relationship between NRC and FEMA is described in a "Memorandum of Understanding Between NRC and FEMA Relating to Radiological Emergency Planning

and Preparedness" dated November 4, 1980. Under the Memorandum of Understanding, FEMA takes the lead in offsite emergency planning and reviews and assesses State and local emergency plans for adequacy. The NRC assesses onsite emergency plans for adequacy and makes decisions with regard to the overall state of emergency preparedness.

In accordance with the respective requirements of the agencies, onsite and offsite emergency preparedness for the Fermi-2 facility has been under active review by the NRC and FEMA. The NRC final rule on emergency planning (45 FR 55402) became effective on November 3, 1980. The FEMA final rule on the review and approval of State and local radiological emergency plans and preparedness became effective on October 28, 1983 (48 FR 44332). [4/] FEMA and the NRC have jointly developed criteria for implementing these regulations. Specifically, the agencies have developed a guidance document entitled, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, dated November 1980.

[4/] The FEMA rule was promulgated in proposed form on June 24, 1980 (45 FR 42321) and August 19, 1982 (47 FR 36386) for public comment and interim use.

The findings of the ongoing review of the applicant's emergency plan [5/] by the NRC staff were documented in NUREG-0798, Supplement 3, "Safety Evaluation Report Related to the Operation of Enrico Fermi Atomic Power Plant Unit No. 2," January 1983. Another supplement to the safety evaluation report will be published reporting on the status of the completion of the unresolved issues regarding onsite emergency planning identified in Supplement 3. A special preoperational appraisal of the applicant's capability to implement the emergency plan was conducted at the Fermi-2 site by the NRC during the period October 11-21, 1983. The findings of this appraisal are contained in Inspection Report No. 50-341/83-24 dated November 28, 1983. The NRC along with FEMA also observed the full-scale exercise conducted at Fermi-2 on February 1-3, 1982. The results of this phase of the emergency preparedness program are presented in Inspection Report No. 50-341/82-02 dated March 3, 1982.

FEMA has been actively involved in the development and review of offsite emergency plans for Fermi-2. FEMA's findings and determinations have been provided to the NRC by letters dated January 26, 1982, "Interim Findings on the Offsite Emergency Preparedness for Fermi-2;" March 22, 1982, "Supplemental Finding on Fermi-2;" April 30, 1982, "Interim Finding on Fermi-2;" February 28, 1983,

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5/ Enrico Fermi Atomic Power Plant, Unit 2, Radiological Emergency Response Preparedness Plan, Revision 2, September 1983.

"Supplemental Interim Finding on the Status of Offsite Radiological Plans and Preparedness at Fermi-2;" and July 18, 1983, "Supplemental Interim Finding on Offsite Radiological Emergency Planning and Preparedness at Fermi-2." FEMA's responses to the specific concerns raised in the Monroe County petition were provided in a letter to the NRC dated July 18, 1983. The FEMA review of the petition issues included the minutes of the transcript of the June 16, 1982 public meeting (which were forwarded along with the County petition to the NRC staff by the Atomic Safety and Licensing Appeal Board), the two documents submitted as supplemental information for staff consideration in support of the County petition (see footnote on p. 3) and other information developed by FEMA in the course of their review of offsite preparedness for Fermi-2.

Role of Monroe County in Emergency Preparedness

In 1980 Monroe County embarked on a planning process in a cooperative effort with Detroit Edison (the applicant) and with the knowledge of the Emergency Management Division of the Michigan State Police, the lead agency for emergency preparedness in the State of Michigan. [6/] A committee was established representing

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[6/] Background information on the development of the Monroe County radiological emergency plan is included in a letter to H. R. Denton, Director, NRR from A. T. Westover, Sr., Chairman, Monroe County Board of Commissioners, dated March 2, 1983.

the various agencies and units of local government. One of the objectives of the committee was to obtain local input into the planning process. In October 1981, representatives of the Michigan Emergency Management Division came to Monroe County and held an emergency plan writing workshop which included the County department heads. Out of this effort, the Monore County emergency plan entitled "Appendix 1, Nuclear Facility Procedures to the Monroe County Emergency Operations Plan" dated November 1981, was developed. Four drills and a full-scale exercise on February 2, 1981, were conducted to test the Monroe County plan. A public meeting was held on February 3, 1982, to critique the exercise and additional public meetings were held on April 28 and June 16, 1982. In the interim, the State formally initiated a request to FEMA in March 1982 to review the Monroe County plan. Notice of receipt of this plan was published in the Federal Register on October 25, 1982 (47 FR 47321). Monroe County contends that the County emergency plan was not approved by the Board of Commissioners and the County was unaware of its formal submittal to FEMA by the State.

Monroe County was concerned that the plan committed the County to certain responsibilities which were beyond the expertise and resources of the County. This, in addition to other emergency planning concerns raised by the County and its citizens, prompted the County Commissioners to petition the NRC to intervene and reopen the record in order to resolve the issues. At about the same time, as noted in a letter to FEMA Region V from Monroe County dated January 11, 1983, the County solicited the applicant's assistance in addressing the County's concerns and upgrading its response capabilities. In December 1983, a draft

"Appendix 1, Nuclear Facility Procedures to the Monroe County Emergency Operations Plan" which, as stated in the draft plan, was substantially revised and expanded to reflect the specific needs of Monroe County and to define the use of the County's resources, was completed under the guidance of the Monroe City-County Office of Civil Preparedness. The plan has been reviewed by the Michigan Emergency Management Division and the applicant. It is anticipated that following consideration of the comments from these two organizations, the plan will be submitted through the State to FEMA for review. 7/ Upon completion of this process, the plan is expected to be presented to the County Board of Commissioners for acceptance. It is clear that since the time the Monroe County petition was submitted to the NRC, positive steps have been taken to revise the County emergency plan to clarify responsibilities for emergency response actions and to resolve the concerns of the County Commissioners. I believe the emergency planning process for Fermi-2 has evolved sufficiently at this time to allow for a comprehensive response to the emergency planning concerns raised in the Monroe County petition.

7/ The NRC in accordance with the Memorandum of Understanding between the two agencies has formally requested FEMA to provide findings and determinations to the NRC on the revised Monroe County plan including their assessment of the revised plan regarding the previously provided FEMA findings on the adequacy of offsite preparedness and the specific concerns raised in the Monroe County petition.

A discussion of the emergency planning concerns identified in the Monroe County petition based on an NRC staff review of the responses from FEMA and the applicant's comments is presented below.

Discussion of Issues Raised by Monroe County

I. Bus Availability

The County is concerned that there is inadequate bus and other capacity to transport persons without automobiles out of the Emergency Planning Zone (EPZ) [8/] and that to transport school children and others without automobiles out of the EPZ would take three runs over a six-hour period, a period of time the County contends does not provide assurance of safe evacuation. The County cites in its petition that the available bus capacity is 9,685 persons.

[8/] The Emergency Planning Zone referred to in the County's petition is known as the plume exposure pathway Emergency Planning Zone (EPZ) and encompasses the area surrounding the plant out to a radius of about 10 miles. For Fermi-2, approximately 50% of the EPZ extends over Lake Erie while approximately 6% of the EPZ lies in Wayne County, Michigan. Monroe County makes up the remainder of the EPZ.

The County's concern appears to be predicated on the assumption that the entire 10-mile radius EPZ would be evacuated at the same time. It would be an extremely unlikely event for the simultaneous evacuation of the entire EPZ to be ordered as a protective measure. Emergency planning guidance stresses a graduated response within the EPZ in the event of a severe accident requiring evacuation. As stated in NUREG-0654 (Section I.D, Planning Basis), "When evacuation is chosen as the preferred protective measure, initial evacuation of a 360° area around the facility is desirable out to a distance of about two to five miles although initial efforts would, of course, be in the general downwind direction." This approach is known as the "key-hole" concept.

FEMA has evaluated the available bus capacity for Monroe County school districts based on information obtained from the Michigan Emergency Management Division (EMD) and the Monroe County emergency plan dated November 1981. These data indicate that 297 public and 8 private school buses with a total capacity of 18,685 are available. FEMA notes that this capacity represents approximately 29% of the total Monroe County EPZ population of 64,546 (Monroe County emergency plan, November 1981, Page BP-1-23). FEMA also notes that 15 of the public school buses, with a total capacity of 650, are equipped with lifts and that additional transportation resources are available from the Monroe Rapid Transit System. Based on information in the County plan which indicates that the transportation dependent population is less than 29% of the total County EPZ

population, FEMA concludes that there appears to be sufficient bus capacity to accomodate all transportation-dependent individuals within the Monroe County EPZ. Information provided by the applicant in its submittal dated July 27, 1983, supports the conclusion of FEMA. The applicant's data indicate that there are 335 school buses with a capacity of 20,600 in the Monroe County school districts plus an additional 25 public transit buses with a capacity of 1,200 available for evacuation of the Monroe County EPZ. 9/ This represents a total bus capacity of 21,800. The applicant has developed estimates of the population without automobile transportation for the maximum population area within the 10-mile radius (the west-southwest, west and west-northwest sectors) and the entire Monroe County EPZ. These data show that the transportation-dependent population in the maximum population area is 3,280 within 5 miles and 16,930 within 10 miles. Within the entire Monroe County EPZ, the applicant estimates there is total population of 25,200 without automobiles.

9/ The applicant states that the information concerning bus availability, bus capacity and population without auto transportation is current as of August 1981. The population data is based on the 1980 Census. The applicant has developed an evacuation time estimate study for Fermi-2 titled, "Estimate of Evacuation Times, Enrico Fermi Atomic Power Plant Unit 2 Evacuation Analysis," prepared by PRC Voorhees, dated October 1980, Revised March 1982.

These figures include school students, population in institutions, residents of non-auto-owning households, and residents of auto-owning households where automobiles are not available. Using postulated combinations of bus availability and numbers of persons without automobile transportation, the applicant developed a range of evacuation time estimates for evacuating areas up to and including the entire portion of the EPZ within Monroe County. The maximum evacuation times for the more extensive evacuation scenarios were determined to be 2 hours 55 minutes to transport the school population and 3 hours 25 minutes to transport the non-school transportation-dependent population out of the EPZ. These evacuation time estimates are reasonable in comparison to the estimates developed for other nuclear power plant sites which have been reviewed by the NRC staff.

Based on information provided by FEMA and the applicant, the NRC staff concludes that sufficient bus capacity is available to accomodate the Monroe County transportation-dependent population within a reasonable period of time even assuming the unlikely event that the entire 10-mile radius EPZ within Monroe County would be simultaneously involved in an evacuation.

II. Dependence on Volunteer Firefighters; Inadequate Personnel Training and Coordination; Conflicting Priorities of Emergency Personnel

The County is concerned that volunteer firefighters may not be willing or able to perform their emergency duties and that local emergency response personnel including the firefighters have not been adequately trained in radiological response functions. The County is also concerned that an evacuation of the EPZ will be impeded because a mobilization of several thousand emergency personnel will be required to carry out a successful evacuation and many of these personnel have families residing within the affected area whose safety would be their first priority.

The County's statements regarding the unwillingness of volunteer firefighters in Monroe County to perform their emergency tasks are unsupported. While a survey of emergency workers in Monroe County has not been conducted, it is the experience of FEMA and the NRC in evaluating well over 100 full-scale emergency preparedness exercises at nuclear power plants across the country, that volunteer emergency workers willingly participate in and respond to simulated radiological emergencies, as they do to actual emergencies involving toxic and hazardous materials.

An essential element in the participation and effectiveness of emergency workers is the adequacy of the training they have received. FEMA reports

that the training of emergency workers has been a concern of the Michigan Emergency Management Division (EMD) and that as a result the EMD has developed a comprehensive radiological emergency preparedness training program. The program is described in more detail in a letter from the Michigan EMD to the Monroe City-County Office of Civil Preparedness dated January 31, 1984. The training program has been developed in accordance with the guidance provided in NUREG-0654. A key aspect of the program is the joint participation of the State, the applicant and Monroe County. The training program provides general training in basic nuclear physics, plant operations, biological effects of radiation, radiological emergency preparedness at the State and local level, and the responsibilities and procedures of the support organizations. In addition, specialized training is provided to certain groups of emergency workers in specific areas such as radiological monitoring and decontamination procedures.

The training program is directed toward all of the emergency workers who would be involved in a response to an incident at Fermi-2. These workers fall into two general categories: those who would be within the plume exposure EPZ or who would be assigned to decontamination/reception facilities; and those who would have responsibilities outside the plume exposure EPZ. The Michigan EMD states that most emergency workers know what to do in an emergency be it nuclear or non-nuclear as their functions in either case do not vary greatly. It has been the experience of the

Michigan EMD that the differences in functions and procedures for emergency workers between their daily duties and their emergency duties are minimal and that once these differences are covered, most emergency workers feel comfortable with radiological emergency response. The most common concerns of emergency workers are notification procedures, response functions, and radiation dosimetry and exposure control, all subjects which are included in the radiological emergency training program. The training program will be given on an annual basis and will include participation in drills and exercises. The Michigan EMD has found that its radiological emergency training program has been successful in other parts of the State where operating nuclear power plants are located. FEMA concludes that implementation of the Michigan EMD training program will alleviate the concerns of the County regarding the participation of local emergency response personnel.

The applicant has stated in its July 27, 1983 response that all emergency workers, volunteers as well as full-time personnel, will be instructed in their emergency response duties. The NRC staff has requested that the applicant continue to coordinate planning efforts with State and local officials with the objective of ensuring that offsite emergency workers receive appropriate training prior to operation of the Fermi-2 plant. The training program for Fermi-2 was initiated on March 15, 1984.

A radiological exposure control program under the direction of the County Radiological Defense Officer will be in effect to protect local emergency workers in the event of a radiation incident. Emergency workers will be provided with appropriate dosimetry and exposure records will be maintained. (Monroe County emergency plan, Annex G, Radiological Defense, draft dated December 1983.)

Information provided by the applicant in its July 27, 1983 response indicates that the majority of local emergency workers have assignment locations outside of the EPZ. Of 1,120 emergency workers, only 344 (or 31%) have full-time emergency assignments inside the EPZ and most of these are public safety workers. Firefighters, police officers and radiological defense personnel account for 85% of all emergency workers assigned full-time within the EPZ. A review of the literature by the NRC staff indicates that conflicting priorities regarding family safety has not been an inhibiting factor in the response of emergency personnel to actual emergencies, including the Three Mile Island accident. 10/ Public safety officers, in particular those whose normal duties involve emergency response, typically have advance arrangements made for the welfare of their families in an emergency.

10/ See, for example, "Organized Behavior in Disaster,", R. R. Dynes, Disaster Research Center, Department of Sociology, Ohio State University, 1974.

Based on the information provided by FEMA and the applicant on the joint Michigan EMD radiological emergency preparedness training program, the NRC staff concludes that offsite emergency workers for Fermi-2 will receive appropriate training. Further, based on experience in emergency preparedness gained at other operating nuclear power plants, the staff concludes that the willingness and ability of local offsite emergency workers to participate in an emergency is not a significant factor which would adversely affect the development of the County emergency plan.

III. County Responsibilities For Recovery and Reentry

The County expressed the concern that it did not have the expertise, equipment, sophistication or funds to carry out its responsibilities for the recovery and reentry period. These responsibilities, according to the County emergency plan dated November 1981, included decontaminating people, property and food; providing health and medical services; providing mass care and welfare for evacuees; and disposing of radioactive waste. The County's concern derived from a statement in the County plan which stated that "Local government is responsible for the recovery of and reentry into areas evacuated and/or contaminated due to an offsite release. They will receive advice and assistance from the Michigan Department of Public Health."

FEMA's response of July 18, 1983 to the NRC identified this issue as the subject of a meeting on March 1, 1983, between representatives of Monroe County, the Michigan Emergency Management Division and FEMA Region V. FEMA stated that the County emergency plan, as written, made Monroe County solely responsible for the accomplishment of tasks far beyond the County's financial capability. FEMA reported that the State representatives agreed that the County plan should be revised to better define the extent of the County's responsibilities, identify assistance available from and through the State, and generally clarify the role of County, State and Federal governments. FEMA reported that the County, State and FEMA representatives mutually agreed that additional clarification and definition of responsibilities during recovery and reentry must be included in the Monroe County plan. FEMA stated that action was being taken by Monroe County and the State of Michigan to accomplish the revision to the County emergency plan. Subsequent to this meeting, a revised County emergency plan, dated December 1983, was developed.

A preliminary review of the draft revised County emergency plan indicates that the responsibilities of State and County governments for recovery and reentry operations have been clarified. The revised County plan states that when it is determined by the Chairperson, Monroe County Board of Commissioners that County resources (personnel and equipment) are inadequate for reentry/recovery activities, the State and/or Federal governments are responsible for providing assistance in certain specific areas

including decontamination, long-term health and medical services, and extended social services. The revised County plan also states that off-site radioactive waste disposal and long-term monitoring are the responsibilities of the Michigan Department of Public Health (Basic Plan, Section VII.O, Page BP-31,32.)

Based on a review of the information provided by FEMA, and a preliminary review of the draft revised County plan, the NRC staff concludes that the County's concern regarding recovery and reentry responsibilities has been satisfactorily resolved in that State and Federal governments are identified as being responsible to assist the County in certain specific recovery and reentry areas which are beyond the resources and capabilities of the County.

IV. Mobilization Time; Geography of Beach Areas

The County is concerned that there are no provisions available for the timely response to an immediate threat of a radiological emergency and questions whether an evacuation can be successfully accomplished given the length of time needed to mobilize command officials to an Emergency Operation Center (EOC), the inadequacy of existing roads in the beach areas in the vicinity of the site, and the frequent impassability of the roads due to adverse weather conditions. The County is also concerned that the proximity of the Davis Besse plant in Ohio will increase the

probability of an evacuation occurring in the Fermi-2 area. If a nuclear incident occurs at Fermi-2, the plant operator is required by NRC regulations (10 CFR Part 50, Appendix E, Section IV.D.3) to promptly notify (within 15 minutes after declaring an emergency) responsible State and local governmental agencies. Dedicated communication links exist between the plant and the Michigan State Police post at Flat Rock and the Monroe City/County Joint Communications Center, all of which are operational 24 hours per day. NRC regulations and guidance (see NUREG-0654, Appendix 1) emphasize declaring an emergency based on plant conditions before there is a release of radioactive material. The NRC regulations also include a design objective for offsite authorities to have the capability to promptly alert and notify the public following the occurrence of an emergency requiring offsite protective measures.

The County emergency plan, FEMA reports, provides for the mobilization of the County's Emergency Operations Center (EOC) at the Alert [11/] level.

11/ Nuclear power plant emergencies are classified according to a graduated severity scale into one of four emergency classes: Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency. 10 CFR Part 50, Appendix E.IV.C. See also NUREG-0654, Rev. 1, Appendix 1.

Thus, the EOC should be staffed and operational before any protective action decision needs to be made (i.e., at the Site Area or General Emergency level) for the most probable type of severe accident sequences (i.e., an accident which develops over a period of one to several hours). In this situation, protective action decisions would be made by the Governor based on recommendations from the plant operator and the Michigan Department of Public Health and the Department of State Police. The Chairperson of the Monroe County Board of Commissioners would be responsible for implementing the protective actions and coordinating the County's response organizations.

In the event of a rapidly escalating accident situation requiring urgent action before the State or County emergency organizations are fully activated, the Monroe County Chairperson, upon being contacted by the Monroe City/County Joint Communications Center, can declare a state of emergency thereby activating the County emergency plan. This action would be similar to the response taken for other types of rapidly occurring emergencies such as tornadoes or hazardous material spills. Based upon recommendations from the plant operator, the Chairperson in consultation with the Director, Monroe City-County Office of Civil Preparedness, can recommend (only the Governor can order) protective measures for the public including evacuation. As noted by FEMA, the protective action decision making process is a separate function which, if necessary, could be accomplished without the Monroe County EOC being operational. Thus,

provisions exist within the offsite emergency plans to notify the public and initiate protective actions without the need to wait for State action or until the County EOC is fully mobilized (County Plan, Section V.A, pp BP-11-14). Evacuation, if recommended, would be expected to involve, at least initially, only a part of the EPZ such as out to a radius of two miles in all sectors and perhaps to a radius of five miles in the downwind direction (i.e., the "key-hole" concept). This protective action could be initiated with only a minimal number of emergency response personnel.

The applicant has evaluated the road network, population distribution, and transportation resources within the EPZ and developed evacuation time estimates for various scenarios including the effects of adverse weather. 12/ While adverse weather may require longer evacuation times, there is no indication that the times are unreasonable to the extent that evacuation would be ineffective as a protective measure.

12/ See Note 9, supra

The adequacy of beach roads, e.g., Point Aux Peaux Road, as evacuation routes was the subject of hearings before the Atomic Safety & Licensing Board (ASLB) in early 1982. Point Aux Peaux Road is the evacuation route from Stoney Point, the beach area community just south of the Fermi-2 site. After hearing evidence from the concerned parties, including the potential impact of severe winter weather and flooding, the ASLB found in its initial decision dated October 29, 1982, "that the evidence of record shows that Point Aux Peaux Road is feasible for evacuating persons from Stoney Point...." 13/

Regarding the alleged frequent impassability of the roads in winter, FEMA states in their response that this situation may occur as a result of normal scheduling and utilization of snow removal equipment serving the County. However, priorities for snow removal during normal times would not be applicable in an emergency situation. The Monroe County plan provides for keeping evacuation routes open to be a top priority of the County Road Commission and local police agencies. The Law Enforcement Annex to the County Plan provides for removal of traffic impediments on the evacuation routes during an emergency. The same annex provides for manning of traffic control points to expedite the exiting of traffic. FEMA believes that the present evacuation routes in the Monroe County EPZ are adequate.

13/ Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2), LBP-82-96, 16 NRC 1408, 1437 (1982), aff'd, ALAB-730, 17 NRC 1057 (1983).

The Davis Besse plant is located approximately 25 miles south-southeast of the Fermi-2 plant. While Fermi-2 lies within the 50-mile radius ingestion exposure pathway EPZ of Davis Besse, it is considered extremely unlikely that protective actions such as sheltering or evacuation would be required in the vicinity of Fermi-2 due to an emergency at Davis Besse considering the distance between the sites and the prevailing wind patterns in the region.

FEMA finds that the concerns regarding the length of time to mobilize command officials, the adequacy of evacuation routes, and the effects of adverse weather have been recognized in the planning process and that adequate responses have been developed. The NRC staff supports FEMA's conclusion.

V. Decontamination/Reception Centers

The County is concerned that there is an inadequate number of employees to staff the five decontamination/reception centers and, as a substantial number of employees reside outside the County, they may be delayed by the necessity of passing through numerous checkpoints. In addition, the County asserts that some employees may not be willing to drive into an area affected by high radiation levels.

FEMA reports that the Monroe County Department of Social Services is the lead agency for the staffing of the reception centers. The County Health Department is responsible for the decontamination function at each of the centers. The County plan also indicates that personnel from the police, fire and school departments have assigned functions in the reception centers. The County plan identifies five schools that may be used for decontamination/reception centers; selection of the centers to be activated would be dependent upon the situation. In addition, five other schools have been identified for potential use as congregate care shelters. FEMA notes that none of these facilities would be activated unless evacuation is directed to the southwest of the Fermi-2 plant. An evacuation to the north would be provided for in the Wayne County emergency plan, the other County within the plume exposure EPZ.

During the public meeting of June 16, 1982, FEMA reports that the Monroe County Director of Social Services stated that his staff consists of 120 full-time professionals who have received training in operating reception centers during radiological incidents. The Director further noted that his staff would be augmented by volunteers from the American Red Cross and referred to the experience obtained in manning the reception centers during natural disasters. The Director expressed his belief that the Department of Social Services could carry out its assigned responsibilities.

The County decontamination/reception centers are all located outside of the 10-mile radius plume exposure EPZ. These centers should be well removed from any radiation areas and, to serve their purpose, would not be utilized if they were within an evacuation zone. Thus, there should be no need for the center staff to pass through numerous checkpoints or drive into an area affected by radiation when reporting to a center.

FEMA concludes that based on documentation in the Monroe County plan and in the minutes of the June 16, 1982 public meeting, the County can staff the decontamination/reception centers at least during the initial period following a nuclear incident. FEMA notes that in a continuing situation, if County resources become taxed, additional manpower resources would be provided through coordination with the State. The NRC staff concurs with the FEMA assessment.

VI. Potassium Iodide Distribution

The County questions whether supplies of potassium iodide (KI) can be made available in a timely and effective manner for EPZ residents and emergency workers. The County's petition states that supplies of KI are to be warehoused at a central location under the control of the Michigan Department of Public Health (DPH) and would be distributed only after a radiological emergency was underway.

In its July 18, 1983 response, FEMA reported that the procedures for KI distribution in the Michigan and Monroe County emergency plans were confusing and potentially in conflict. Decisions regarding the distribution and stockpiling of KI are a State responsibility. FEMA noted that in an earlier review of the offsite plans by the Regional Assistance Committee, the recommendation was made that if KI is to be distributed to the public, supplies should be stored locally. FEMA indicated that the State plan was being revised regarding the distribution of KI. Subsequent to the FEMA response, both the State of Michigan and Monroe County emergency plans were revised.

The Michigan Emergency Preparedness Plan dated September 1983 states that "Local health departments that have a nuclear power plant in their service area have a supply (of KI) for distribution to local emergency workers and others." (Department of Public Health, Annex S, page S9.) The plan further states that, "Local health officers and medical directors are responsible to develop and implement plans for the storage, distribution and record keeping of potassium iodide to emergency workers and the general public based upon guidance from the department (of Public Health)". The revised Monroe County emergency plan, draft dated December 1983, states (page J-1-7) that "The Monroe County Department of Health maintains a quantity of potassium iodide at a secure location within the County for emergency workers. The MDPH (Michigan Department of Public Health) also has additional supplies and contacts from which additional

radioprotective drugs can be obtained for distribution to the general public. The Director of the Monroe County Health Department will coordinate distribution." Based upon a preliminary review of the information in the revised State and County emergency plans, the NRC staff finds that the State and County plans are compatible regarding the storage of a supply of KI in the local area, and that this issue has been satisfactorily resolved. This information will be confirmed by FEMA as part of their review of the revised emergency plan for Monroe County.

VII. Emergency Detection

The County is concerned that the mechanisms in place are inadequate to detect unusual releases of radiation into the environment, the applicant's detection system is backed up only by that of the State DPH which is monitored too infrequently to provide adequate warning of serious problems, and no provision is made for any ambient water or air testing or for a backup alarm system.

The applicant's radiation and environmental monitoring systems have been established in accordance with NRC requirements (10 CFR Part 20 and 10 CFR Part 50, Appendix I). During normal operations, gaseous and liquid effluents from the vents and discharge points are continuously monitored by radiation detectors installed in the plant to measure the radioactive content of the effluent streams. As a backup to the plant effluent

monitors, an environmental monitoring program has been established to monitor the levels of radiation and radioactive materials in the air and water environment outside of th plant boundaries. The program includes a number of thermoluminescent dosimeters and continuously recording dose rate meters, air samplers, and continuous water samplers located at the Fermi potable water intake on Lake Erie and at the water intake for the City of Monroe. Any increases in radiation levels in the plant monitoring systems above predetermined trip points, which are set at very low levels, would alert plant operators to a potential problem situation and may result in a declaration of an emergency. The applicant is required to notify offsite authorities within 15 minutes following the declaration of an emergency (10 CFR Part 50, Appendix E, Section IV.D.3).

In addition to the effluent and environmental monitoring systems, radiation instrumentation is installed to monitor radiation levels within the plant. The plant also conducts an in-plant sampling program to monitor for excess radiation levels within plant systems and processes. Specific high range instrumentation and sampling systems have been installed in the plant to assess the radiation levels in the event of an accident. Trained field monitoring teams are also available to be dispatched both onsite and offsite in the event of a radioactive release. Predetermined values from the radiation monitors and other plant system indicators are used as emergency action levels in the plant's emergency classification scheme to classify emergencies. Emphasis is placed in

the applicant's emergency plan and procedures on classifying emergencies and initiating protective actions, if required, based on plant system indicators before there is a release of radiation.

The NRC staff has reviewed the radiation monitoring systems and sampling program provided for the Fermi-2 plant and has found that they meet regulatory criteria and guidance. We conclude that the radiation monitoring systems are adequate to detect any unusual releases to the site environs, that acceptable provisions have been made for environmental monitoring and sampling, and that the applicant's emergency plan is appropriately integrated with offsite plans so that offsite authorities would be notified in a timely manner of any radiological incident.

VIII. Vehicle Decontamination

On the one hand, the County is concerned that no provisions have been made for monitoring vehicles for contamination as they evacuate the EPZ. On the other hand, there is concern that making such provisions would create traffic tie-ups. The County is also concerned that the water-hosing method chosen to decontaminate vehicles is inadequate and that the water runoff would create additional contamination problems.

Radiological monitoring and decontamination of vehicles and people are addressed in the Monore County emergency plan. Monitoring will take

place at the decontamination/reception centers (Annex G, Radiological Defense, plan dated November 1981). As these centers are located outside of the EPZ, the monitoring activities will not impede traffic on the EPZ evacuation routes.

FEMA has reviewed the arrangements made for offsite decontamination in the County plan dated November 1981. The plan states (Annex I, Fire Annex, Appendix 1) that fire personnel will decontaminate vehicles, as necessary, at the decontamination/reception centers under the guidance of public health officials. The plan further states that decontamination of vehicles will be accomplished in a nearby field to allow for the containment of material in one area, and to facilitate removal of it at a later time, if necessary. County Radiological Defense personnel will be present to monitor for decontamination assisted by the Michigan Department of Public Health.

FEMA has provided the following discussion of radiological decontamination in an emergency: Such decontamination involves either fixation in place or removal of the radioactive particles. For vehicles, removal of the particles is the most expeditious and, therefore, preferable method. When the particles are removed, by whatever method, the problem of containment must be addressed. Washing the particles from a vehicle reduces the possibility of the particles becoming airborne, and through selection of the site at which the washing is accomplished, permits a greater degree of

control of the radioactive material. Although sub-freezing weather is a factor, hosing down vehicles is usually the preferred method for decontamination. When this method is used care must be taken to assure collection and containment of the runoff water. Following the decontamination operation, residual contaminated water can be collected and removed. Radioactive particles remaining on and in the soil could be removed, if necessary, by removing the soil itself. Removal of the soil is an extreme and improbable remedial action; isolation of the area for a period of time is a more likely option.

FEMA concludes that waterhosing is an adequate method for radiological decontamination of vehicles. Although water runoff is a factor for consideration, FEMA notes that the methodology exists for containment and, if necessary, eventual disposal of any collected radioactive materials. The NRC staff is in agreement with FEMA's conclusion. Waterhosing of vehicles for decontamination purposes is an adequate and common emergency planning procedure. It is used at other nuclear power plant sites.

Conclusion

In summary, both onsite and offsite emergency preparedness for the Fermi-2 facility has reached an advanced stage of completion sufficient to permit a comprehensive response to the Monroe County 2.206 petition. Our review indicates that there is reasonable assurance that the Fermi-2 facility will meet the applicable regulatory requirements and guidance of the NRC and FEMA for emergency preparedness prior to plant operation. With respect to the specific emergency planning concerns of Monroe County which were raised in the petition to the NRC, all of which except one were primarily offsite issues, the findings of FEMA and the NRC, described above, support the conclusion that these concerns have been satisfactorily resolved and are adequately addressed in the emergency plans for the Fermi-2 facility. I, therefore, conclude that none of the concerns regarding emergency planning identified in the Monroe County petition remain an impediment to the Monroe County Board of Commissioners in developing an adequate radiological emergency response plan for Monroe County for the Fermi-2 facility and no further action is required to resolve the County's concerns.

A copy of this decision will be filed with the Secretary of the Commission for review by the Commission in accordance with 10 CFR 2.206(c). As provided therein, this decision will constitute final action of the Commission twenty-five (25) days after the date of issuance, unless the Commission on its own motion institutes review of this decision within that time.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 20th day of April 1984