

BOARD OF COMMISSIONERS

MONROE COUNTY, MICHIGAN



September 13, 1982

Handwritten signature: J. B. Rogers

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Handwritten signature: J. B. Rogers*

Mr. Richard C. DeYoung, Director
Office of Inspection and Enforcement
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. DeYoung:

Thank you for your letter of August 23, 1982. The Board of Commissioners appreciates your support in helping us attempt to have comments that were made at certain public meetings on offsite emergency plans made a part of the official record.

Respectfully,

Arden T. Westover, Sr.

Arden T. Westover, Sr., Chairman
MONROE COUNTY BOARD OF COMMISSIONERS

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Pacific Northwest Laboratories
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Richland, Washington U.S.A. 99352
Telephone (509) 375-2132
Telex 15-2874

October 5, 1982

F. G. Pagano, Chief
Emergency Preparedness and Licensing Branch
Division of Emergency Preparedness
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Frank:

REVIEW OF EMERGENCY ACTION LEVELS (EALs) FOR THE ENRICO FERMI NUCLEAR POWER STATION

PNL's review of the EALs for the Enrico Fermi Nuclear Power Station is as follows:

General Comment

The Emergency Action Level information presented in Table D-1 of the Enrico Fermi Emergency Response Plan is confusing and EAL identification is incorrect. The licensee either misunderstands the intent of the term "Emergency Action Level" or has chosen to use his own version. If the latter is correct the licensee should be required to justify it. The licensee has divided Table D-1 into 10 Sections with each section representing a particular area of EAL response. For example, Section 1 concerns "Fuel Damage/High Radiation" and Section 2 "Degraded Safety/Protection System." The licensee's use of this method of grouping like events is acceptable. The licensee has, however, either abstracted or paraphrased the NUREG-0654 initiating conditions associated with each section and has identified them as emergency action levels (Column 1 in Table D-1). The activity(s) or event(s) (EALs) that occur as a result of a NUREG-0654 initiating condition are listed in Column 2, Table D-1 as "initiating conditions." Column 3 in Table D-1 titled "Indication/Information" contains backup information for the material listed in Column 2, except that in several instances this "information" is also an EAL (e.g., the material in Column 3 on page D-53). The licensee should be encouraged to revise Table D-1 to show the NUREG-0654 initiating condition in Column 1, the pertinent EALs in Column 2 and the backup information in Column 3 (e.g., indicators, meters' annunciators, trip points, etc.). Comments on EAL sets that are in error or are deficient are addressed below by classification.

82 10/50165 XA

10150165 821005
APACK 03000341
CP

X003

NRP

Unusual Event

Initiating Condition 1: (ECCs initiated with discharge to vessel.) The licensees EALs are overly conservative in that they require so many confirmatory response (ands) that the accident could progress to the next class identification level before declaration of an Unusual Event could be made. All that is required is evidence of high pressure core spray flow to the reactor or low pressure core spray flow to the reactor or low pressure coolant injection flow to the reactor or actuation of a depressurization system and the nuclear shift supervisor's (NSS) opinion.

Initiating Condition 2: (Radiological effluent technical specification limits exceeded.) The effluent monitors and alarm trip points should be listed.

Initiating Condition 3: (Fuel damage indication.) The EAL set is adequate assuming that the "gas treatment monitor alarm high" does effectively and continuously monitor for the 100,000 $\mu\text{Ci/sec}$ increase within 30 minutes.

Initiating Condition 4: (Abnormal coolant temperature or pressure or abnormal fuel temperature.) An EAL for coolant level should be added to the EAL set.

Initiating Condition 6: (Failure of safety relief valves to close.) Safety relief valve discharge (licensee's SRV tail pipe) temperature, increased suppression pool temperature and unbalanced MSF flow should be quantified.

Initiating Condition 11: (Indications or alarms on process or effluent parameters not functional in the control room.) The word "significant" should be deleted from the licensee's X.B.1c and 1d, page D-65. Any loss of communication or meteorological data capability is cause for declaring an Unusual Event.

Initiating Condition 12: (Security threat or attempted entry or sabotage.) It is not clear what the licensee means by the statement "Security force declares a security contingency event," (VI.A.1a, page D-46). The judgment of the NSS that a security threat or illegal entry or sabotage has been attempted is sufficient reason for declaring an Unusual Event.

Initiating Condition 16: (Transportation of contaminated or injured person to hospital.) An EAL for "NSS opinion" should be "ored" into the EAL set to allow for supervisory judgment for those cases which do not meet the criteria expressed in the present EALs.

Alert

Initiating Condition 4: (Steam line break or MSIV malfunction.) The EAL set is adequate if the word "abnormal" is changed to "high" in EAL VIII.C.1, page 54.

Initiating Condition 5: (Primary coolant leak rate greater than 50 gpm.) Annunciator trip points should be listed for the drywell floor drain sump effluent flow, building floor drain equipment sump leakage, and reactor water cleanup system leakage.

Initiating Condition 7: (Loss of offsite and onsite AC power.) The licensee's EAL set is nonconservative in that both offsite and onsite AC power could be lost for as long as 15 minutes before an Alert is declared. Loss of all AC power for any period of time is a serious event requiring immediate declaration of an Alert. The licensee should consider the EALs suggested in NUREG-0818 in preparing an acceptable EAL set.

Initiating Condition 8: (Loss of all onsite DC power.) The licensee's EAL set is nonconservative in that DC power could be lost for as long as 15 minutes before an Alert is declared. Loss of DC power for any period of time is a very serious event requiring immediate declaration of an Alert. The licensee should consider the EALs suggested in NUREG-0818 in preparing an acceptable EAL set.

Initiating Condition 9: (Coolant pump seizure leading to fuel failure.) The licensee failed to address this initiating condition.

Initiating Condition 10: (Complete loss of function needed for cold shutdown.) The licensee established only one EAL for this initiating condition (i.e., loss of both RHR cooling loops). This is nonconservative as there are other functions whose loss may prohibit a plant cold shutdown. An EAL for loss of both essential service water loops and loss of relief valve capability as discussed in NUREG-0818 should be considered by the licensee.

Initiating Condition 12: (Fuel damage accident.) The "NSS/ED Judgment" EAL (III.C.1c, page D-38) should be "anded" instead of "ored."

Initiating Condition 15: (Radiological effluent greater than 10 times technical specifications.) The licensee's EAL appears adequate. However, the indicators (monitors) used should be listed (e.g., main stack, liquid waste discharge, service water discharge, etc.)

Initiating Condition 17: (Severe natural phenomena.) The licensee's EAL set is deficient. A minimum lake level should be included in the EAL (VII.B.1b, page D-49).

Site Area Emergency

Initiating Condition 1: (Loss of coolant accident.) The licensee's EAL set is adequate providing the term "(level 2)" in VIII.G.1, page D-59 does not mean "low-low-low" water level. If it does, the word "and" between VIII.G.1 and G.2a should be changed to "or" as either high drywell pressure or temperature or radiation indicates a reactor coolant leak. If the term "(level 2)" does not signify "low-low-low" water level, the "and" between EAL VIII.G.1 and G.2a is correct.

Initiating Condition 4: (Steam line break outside of containment.) The licensee's EAL set is adequate if annunciator temperature and pressure high trip points and the term "high mainsteam line flow" is quantified.

Initiating Condition 6: (Loss of offsite and onsite AC power.) The licensee's EAL set is adequate. However, consideration should be given for an EAL based on the paragraphs in NUREG-0818, page 115, concerning attendance of the shift supervisor, (or a senior operator) in the control room at all times during the power failure.

Initiating Condition 7: (Loss of all vital onsite DC power.) The licensee's EAL set is adequate. However, consideration should be given for an EAL based on the paragraphs in NUREG-0818, pages 115 and 116, concerning attendance of the shift supervisor (or a senior operator) in the control room at all times during the power failure.

Initiating Condition 8: (Complete loss of any function essential for hot shutdown.) The licensee's EAL sets will be acceptable if the word "inoperable" is added after the word "valves" in II.L.1a, page D-24. In addition, the "ored" NSS/ED Judgment EAL (II.L.5, page D-25) is nonconservative and should be deleted. Activation of any two of the three licensee's EAL sets, is enough to require declaration of a site emergency.

Initiating Condition 10: (Major damage to spent fuel.) The licensee's EALs appear to cover accidents only in the fuel storage area. An EAL applicable to the reactor area such as a high refuel floor alarm should be added. The "ored" EALs for ambient, airborne and surface contamination should be deleted (III.D.2b,c,d, page D-39). Upscale alarms from area radiation monitors or the fuel pool vent exhaust monitor are sufficient indication of fuel damage. High alarm trip points should also be added.

Initiating Condition 13: (Projected dose rates.) The licensee has not supplied the information necessary to permit evaluation. The EALs in NUREG-0818 should be considered for preparation of an acceptable EAL set.

Initiating Condition 15: (Severe natural phenomena.) The licensee's EAL for water level (VII.C.1b, page D-49 does not include low level.

Initiating Condition 17: (Other plant conditions.) The licensee did not address this initiating condition.

General Emergency

Initiating Condition 1: (Dose rates at site boundary.) The licensee has not supplied the information necessary for evaluation. The EALs in NUREG-0818 should be considered in preparation of an acceptable EAL set.

Initiating Condition 2: (Loss of 2 out of 3 fission product barriers.) The licensee's EAL for sampling of primary containment atmosphere (II.0.1.2d, page D-27) is valid only if results can be obtained with 15 minutes after onset of the accident. The EAL does not indicate this. Also an "or" was omitted between EALs II.0.3.1a and 0.3.1b (page D-31). The "or" between II.3.3b and P.1 page D-32 should be deleted. Section P EALs are associated with Initiating Condition 6a.

Initiating Condition 4: (Other plant conditions.) In order to avoid confusion and misinterpretation, and assure that all criteria in the initiating condition are met, the licensee should consider preparing EAL sets that specifically address the conditions and actions given in each of the initiating condition sequences (i.e., A, B and C). (See "Protective Action Decision-Making EALs.")

Initiating Condition 6: (BWR Sequences)

Sequence 6a. The licensee's EALs are satisfactory.

Sequence 6b. The EALs are adequate if the following are either corrected or explained.

- 1) The indicators for the primary containment system should be listed (II.0.1a, page D-33).
- 2) The licensee should indicate the "low-low-low" water level in the EAL for reactor water level. For example is "less than Level 1 (13.94 in.)" a "low-low-low" level.
- 3) The "or" between the primary containment atmosphere sample and NSS/ED Judgment EALs (II.0.2c and 2d) should be changed to "and." Loss of ECCS : alone as implied by an "or" does not necessarily mean that there will be a core melt.

F. G. Pagano
October 5, 1982
Page 6

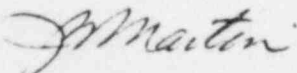
Sequence 6c and d. The words "or longer" should be deleted from the Drywell Temperature EAL. II.R.2.b, page D-35, and II.S.4, page D-36 as they imply that no time limit has been set for declaration of an emergency.

Protective Action Decision-Making EALs

General Emergency Initiating Condition 4: (Other plant conditions.) The licensee attempts to address the initiating condition and its three specific sequences in Table J-1 "Guidelines for Recommended Offsite Protective Actions for Gaseous Plume Exposure" (page J-8 of the Emergency Plan). However, the "Condition" and associated "Recommended Action" criteria in Table J-1 do not specifically address the criteria contained in the three initiating condition sequences. The first two sections of Table J-1 (i.e., no major releases occurring or imminent and major releases occurring or judged imminent) can be broadly interpreted as satisfying some portions of the initiating condition sequences. For example the "condition" and "associated recommended actions" in Part 1 of Table J-1 (i.e., no releases and precautionary 2 mile evacuation) could be interpreted as satisfying the criteria in sentence 1 of sequence A and the recommended action in part 2 of Table J-1 (i.e., a 5 mile downwind evacuation) could be interpreted as satisfying the criteria in the last sentence in sequence A and/or a portion of sequence B. In order to avoid confusion and misinterpretation, and assure that all criteria in the initiating condition are met, the licensee should consider preparing EAL sets that specifically address the conditions and actions given in each of the initiating condition sequences (i.e., A, B and C).

Please do not hesitate to call if I may provide additional information. A copy of NUREG-0654 Initiating Conditions is attached for reference.

Very truly yours,



J. B. Martin
Technical Leader
Health Physics Technology Section

JBm:mae

cc: BK Grimes, NRC
SL Ramos, NRC
TJ McKenna, NRC
J Simonds, NRC
Site File
LB

EXAMPLE INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

1. Emergency Core Cooling System (ECCS) initiated and discharge to vessel
2. Radiological effluent technical specification limits exceeded
3. Fuel damage indication. Examples:
 - a. High offgas at BWR air ejector monitor (greater than 500,000 uci/sec; corresponding to 16 isotopes decayed to 30 minutes; or an increase of 100,000 uci/sec within a 30 minute time period)
 - b. High coolant activity sample (e.g., exceeding coolant technical specifications for iodine spike)
 - c. Failed fuel monitor (PWR) indicates increase greater than 0.1% equivalent fuel failures within 30 minutes
4. Abnormal coolant temperature and/or pressure or abnormal fuel temperatures outside of technical specification limits
5. Exceeding either primary/secondary leak rate technical specification or primary system leak rate technical specification
6. Failure of a safety or relief valve in a safety related system to close following reduction of applicable pressure
7. Loss of offsite power or loss of onsite AC power capability
8. Loss of containment integrity requiring shutdown by technical specifications
9. Loss of engineered safety feature or fire protection system function requiring shutdown by technical specifications (e.g., because of malfunction, personnel error or procedural inadequacy)
10. Fire within the plant lasting more than 10 minutes
11. Indications or alarms on process or effluent parameters not functional in control room to an extent requiring plant shutdown or other significant loss of assessment or communication capability (e.g., plant computer, Safety Parameter Display System, all meteorological instrumentation)
12. Security threat or attempted entry or attempted sabotage
13. Natural phenomenon being experienced or projected beyond usual levels
 - a. Any earthquake felt in-plant or detected on station seismic instrumentation
 - b. 50 year flood or low water, tsunami, hurricane surge, seiche
 - c. Any tornado on site
 - d. Any hurricane

14. Other hazards being experienced or projected
 - a. Aircraft crash on-site or unusual aircraft activity over facility
 - b. Train derailment on-site
 - c. Near or onsite explosion
 - d. Near or onsite toxic or flammable gas release
 - e. Turbine rotating component failure causing rapid plant shutdown
15. Other plant conditions exist that warrant increased awareness on the part of a plant operating staff or State and/or local offsite authorities or require plant shutdown under technical specification requirements or involve other than normal controlled shutdown (e.g., cooldown rate exceeding technical specification limits, pipe cracking found during operation)
16. Transportation of contaminated injured individual from site to offsite hospital
17. Rapid depressurization of PWR secondary side.

EXAMPLE INITIATING CONDITIONS: ALERT

1. Severe loss of fuel cladding
 - a. High offgas at BWR air ejector monitor (greater than 5 ci/sec; corresponding to 16 isotopes decayed 30 minutes)
 - b. Very high coolant activity sample (e.g., 300 uci/cc equivalent of I-131)
 - c. Failed fuel monitor (PWR) indicates increase greater than 1% fuel failures within 30 minutes or 5% total fuel failures.
2. Rapid gross failure of one steam generator tube with loss of offsite power
3. Rapid failure of steam generator tubes (e.g., several hundred gpm primary to secondary leak rate)
4. Steam line break with significant (e.g., greater than 10 gpm) primary to secondary leak rate (PWR) or MSIV malfunction causing leakage (BWR)
5. Primary coolant leak rate greater than 50 gpm
6. Radiation levels or airborne contamination which indicate a severe degradation in the control of radioactive materials (e.g., increase of factor of 1000 in direct radiation readings within facility)
7. Loss of offsite power and loss of all onsite AC power (see Site Area Emergency for extended loss)
8. Loss of all onsite DC power (See Site Area Emergency for extended loss)
9. Coolant pump seizure leading to fuel failure
10. Complete loss of any function needed for plant cold shutdown
11. Failure of the reactor protection system to initiate and complete a scram which brings the reactor subcritical
12. Fuel damage accident with release of radioactivity to containment or fuel handling building
13. Fire potentially affecting safety systems
14. Most or all alarms (annunciators) lost
15. Radiological effluents greater than 10 times technical specification instantaneous limits (an instantaneous rate which, if continued over 2 hours, would result in about 1 mr at the site boundary under average meteorological conditions)
16. Ongoing security compromise

17. Severe natural phenomena being experienced or projected
 - a. Earthquake greater than OBE levels
 - b. Flood, low water, tsunami, hurricane surge, seiche near design levels
 - c. Any tornado striking facility
 - d. Hurricane winds near design basis level
18. Other hazards being experienced or projected
 - a. Aircraft crash on facility
 - b. Missile impacts from whatever source on facility
 - c. Known explosion damage to facility affecting plant operation
 - d. Entry into facility environs of uncontrolled toxic or flammable gases
 - e. Turbine failure causing casing penetration
19. Other plant conditions exist that warrant precautionary activation of technical support center and placing near-site Emergency Operations Facility and other key emergency personnel on standby
20. Evacuation of control room anticipated or required with control of shutdown systems established from local stations

EXAMPLE INITIATING CONDITIONS: SITE AREA EMERGENCY

1. Known loss of coolant accident greater than makeup pump capacity
2. Degraded core with possible loss of coolable geometry (indicators should include instrumentation to detect inadequate core cooling, coolant activity and/or containment radioactivity levels)
3. Rapid failure of steam generator tubes (several hundred gpm leakage) with loss of offsite power
4. BWR steam line break outside containment without isolation
5. PWR steam line break with greater than 50 gpm primary to secondary leakage and indication of fuel damage
6. Loss of offsite power and loss of onsite AC power for more than 15 minutes
7. Loss of all vital onsite DC power for more than 15 minutes
8. Complete loss of any function needed for plant hot shutdown
9. Transient requiring operation of shutdown systems with failure to scram (continued power generation but no core damage immediately evident)
10. Major damage to spent fuel in containment or fuel handling building (e.g., large object damages fuel or water loss below fuel level)
11. Fire compromising the functions of safety systems
12. Most or all alarms (annunciators) lost and plant transient initiated or in progress
13.
 - a. Effluent monitors detect levels corresponding to greater than 50 mr/hr for 1/2 hour or greater than 500 mr/hr W.B. for two minutes (or five times these levels to the thyroid) at the site boundary for adverse meteorology
 - b. These dose rates are projected based on other plant parameters (e.g., radiation level in containment with leak rate appropriate for existing containment pressure) or are measured in the environs
 - c. EPA Protective Action Guidelines are projected to be exceeded outside the site boundary
14. Imminent loss of physical control of the plant
15. Severe natural phenomena being experienced or projected with plant not in cold shutdown
 - a. Earthquake greater than SSE levels

- b. Flood, low water, tsunami, hurricane surge, seiche greater than design levels or failure of protection of vital equipment at lower levels
 - c. Sustained winds or tornadoes in excess of design levels
16. Other hazards being experienced or projected with plant not in cold shutdown
- a. Aircraft crash affecting vital structures by impact or fire
 - b. Severe damage to safe shutdown equipment from missiles or explosion
 - c. Entry of uncontrolled flammable gases into vital areas. Entry of uncontrolled toxic gases into vital areas where lack of access to the area constitutes a safety problem
17. Other plant conditions exist that warrant activation of emergency centers and monitoring teams or a precautionary notification to the public near the site
18. Evacuation of control room and control of shutdown systems not established from local stations in 15 minutes

EXAMPLE INITIATING CONDITIONS: GENERAL EMERGENCY

1. a. Effluent monitors detect levels corresponding to 1 rem/hr W.B. or 5 rem/hr thyroid at the site boundary under actual meteorological conditions
- b. These dose rates are projected based on other plant parameters (e.g., radiation levels in containment with leak rate appropriate for existing containment pressure with some confirmation from effluent monitors) or are measured in the environs

Note: Consider evacuation only within about 2 miles of the site boundary unless these site boundary levels are exceeded by a factor of 10 or projected to continue for 10 hours or EPA Protective Action Guideline exposure levels are predicted to be exceeded at longer distances

2. Loss of 2 of 3 fission product barriers with a potential loss of 3rd barrier, (e.g., loss of primary coolant boundary, clad failure, and high potential for loss of containment)

3. Loss of physical control of the facility

Note: Consider 2 mile precautionary evacuation

4. Other plant conditions exist, from whatever source, that make release of large amounts of radioactivity in a short time period possible, e.g., any core melt situation. See the specific PWR and BWR sequences below.

Notes: a. For core melt sequences where significant releases from containment are not yet taking place and large amounts of fission products are not yet in the containment atmosphere, consider 2 mile precautionary evacuation. Consider 5 mile downwind evacuation (45° to 90° sector) if large amounts of fission products (greater than gap activity) are in the containment atmosphere. Recommend sheltering in other parts of the plume exposure Emergency Planning Zone under this circumstance.

- b. For core melt sequences where significant releases from containment are not yet taking place and containment failure leading to a direct atmospheric release is likely in the sequence but not imminent and large amounts of fission products in addition to noble gases are in the containment atmosphere, consider precautionary evacuation to 5 miles and 10 mile downwind evacuation (45° to 90° sector).

- c. For core melt sequences where large amounts of fission products other than noble gases are in the containment atmosphere and containment failure is judged imminent, recommend shelter for those areas where evacuation cannot be completed before transport of activity to that location.

- d. As release information becomes available adjust these actions in accordance with dose projections, time available to evacuate and estimated evacuation times given current conditions.

5. Example PWR Sequences

- a. Small and large LOCA's with failure of ECCS to perform leading to severe core degradation or melt in from minutes to hours. Ultimate failure of containment likely for melt sequences. (Several hours likely to be available to complete protective actions unless containment is not isolated)
- b. Transient initiated by loss of feedwater and condensate systems (principal heat removal system) followed by failure of emergency feedwater system for extended period. Core melting possible in several hours. Ultimate failure of containment likely if core melts.
- c. Transient requiring operation of shutdown systems with failure to scram which results in core damage or additional failure of core cooling and makeup systems (which could lead to core melt)
- d. Failure of offsite and onsite power along with total loss of emergency feedwater makeup capability for several hours. Would lead to eventual core melt and likely failure of containment.
- e. Small LOCA and initially successful ECCS. Subsequent failure of containment heat removal systems over several hours could lead to core melt and likely failure of containment.

NOTE: Most likely containment failure mode is melt-through with release of gases only for dry containment; quicker and larger releases likely for ice condenser containment for melt sequences. Quicker releases expected for failure of containment isolation system for any PWR.

6. Example BWR Sequences

- a. Transient (e.g., loss of offsite power) plus failure of requisite core shut down systems (e.g., scram). Could lead to core melt in several hours with containment failure likely. More severe consequences if pumps trip does not function.
- b. Small or large LOCA's with failure of ECCS to perform leading to core melt degradation or melt in minutes to hours. Loss of containment integrity may be imminent.
- c. Small or large LOCA occurs and containment performance is unsuccessful affecting longer term success of the ECCS. Could lead to core degradation or melt in several hours without containment boundary.

- d. Shutdown occurs but requisite decay heat removal systems (e.g., RHR) or non-safety systems heat removal means are rendered unavailable. Core degradation or melt could occur in about ten hours with subsequent containment failure.
- 7. Any major internal or external events (e.g., fires, earthquakes, substantially beyond design basis) which could cause massive common damage to plant systems resulting in any of the above.

Harry Tauber

Detroit
Edison

January 10, 1983
EF2 - 61,089

Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Youngblood:

Reference: Enrico Fermi Atomic Power Plant, Unit 2
NRC Docket No. 50-341

Subject: Radiological Emergency Response Plan
Estimate of Evacuation Times
October 1980, Revised March 1982
PRC Voorhees

Enclosed are ten (10) copies each of the following:

Addendum 1: Enumeration of Special Population Groups
and Specialized Transportation Requirements

Addendum 2: Adjustment to Vehicular Flow Rates During
Adverse Weather Conditions

These two addenda further amplify the above-referenced
study as stated in NUREG-0654/FEMA-REP-1, Revision 1,
November 1980.

Further, in March, 1982 the Emergency Services
Division of the Michigan State Police submitted the
Monroe and Wayne County Nuclear Facility Procedures to
the basic County Emergency Operation Plans to FEMA for
review. Both county documents contain evacuation stu-
dies, times, routes, road capacities, and traffic
control points for the 10-mile EPZ that are consistent
with the PRC Voorhees study submitted by Detroit
Edison. These estimates were, in fact, prepared by
PRC Voorhees at the request of the State Planners and
were closely coordinated with the planning groups.

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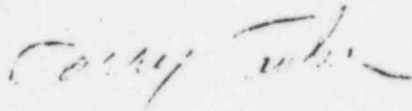
*J. Kantor
from E. Madsen*

EFM

Mr. B. J. Youngblood
January 10, 1983
EF2 - 61,089
Page 2

Should you have any further questions, please contact
Mr. Larry E. Schuerman, (313) 649-7562.

Sincerely,



Enclosure

cc: Mr. R. G. Keppler (w/3 copies of enclosure)
Mr. B. Little (w/1 copy of enclosure)

**ADDENDUM #1
TO THE REPORT ON
ESTIMATE OF EVACUATION TIMES**

**ENRICO FERMI ATOMIC POWER PLANT
UNIT #2**

**RE: Enumeration of Special Population Groups
and Specialized Transportation Requirements**

November 30, 1982

83020/0440

SPECIAL POPULATION GROUPS

The special population group in the Fermi #2 EPZ population is identified in Table 4 of the report.¹ This summary table has been reproduced below and identifies the following major categories: school population, non-auto-owning population, and population in institutions.

TABLE 4. FERMI #2 EPZ POPULATION BY SEGMENTS

<u>Population Segment</u>	<u>Population</u>	<u>Percent of Total EPZ Population</u>
Auto-Owning Population	65,800	73
School Population	19,800	22
Non-Auto-Owning Population	3,600	4
Population in Institutions	<u>900</u>	<u>1</u>
	90,100	100

Included in this addendum to the report are detailed listings that identify this special population group within each category, and listings that identify the resources available to effect the evacuation of this population.

POPULATION IN INSTITUTIONS

Within the EPZ area the following institutionalized population segments were reviewed:

¹ Enrico Fermi Atomic Power Plant Unit #2 Evacuation Analysis, "Estimates of Evacuation Times" prepared for Detroit Edison Company by PRC Voorhees, October 1980, revised March 1982.

- Nursing homes and convalescent centers
- Hospitals
- Jails

The school population has been dealt with separately. Populations in senior citizen's apartments are dealt with as non-auto-owning populations in an evacuation if they have no private cars or are unable to drive, and are therefore, not included as part of the institutionalized population.

The magnitude of the special population in institutions is as follows:

<u>Category</u>	<u>Number of Institutions</u>	<u>Number of Patients</u>
Nursing Homes	6	567 ¹
Hospitals	2	239 ²
Jails	1	120
Total	9	926

1. Number of patients in 1980.

2. Number of beds

The resources required to effect the evacuation of the institutionalized population include the following:

- Standard buses
- Buses with wheelchair capacity
- Ambulances

The estimated vehicle requirements are based on the following assumptions:

- Ninety percent of the nursing home patients are ambulatory and can be transported by bus. The remainder are assumed to require ambulance transport.

- Fifty percent of the hospital patients can be discharged for evacuation with family members. The remainder are assumed to require ambulance transport.
- All prisoners in the county jail can be transported by bus.

The estimated resource requirements are summarized below, by institution:

<u>Facility</u>	<u>Bus Transport Patients</u>	<u>Ambulance Transport Patients</u>	<u>Buses Required</u>	<u>Ambulance Trips Required</u>
<u>Nursing Homes</u>				
Beach Nursing Home	173	19	5	9
French Town Convalescent Center	206	23	5	11
Luthran Home	91	10	3	5
Monroe Convalescent Center	18	2	1	1
Fairview Apartments	23	2	1	1
<u>Hospitals</u>				
Memorial Unit	(39) ¹	39	--	20
Mercy Unit	(80) ¹	80	--	40
<u>Jails</u>				
Monroe County Jail	120	--	4	--
TOTAL	631 (119) ¹	175	19	88

1. Discharged to evacuate with family.

The number of buses available (buses not required for school evacuation service) within the EPZ and immediate environs is estimated to be as follows:

<u>Vehicle Type (adult capacity)</u>	<u>Number of Vehicles</u>
45-Passenger Bus	35
36-Passenger Bus	9
16-Passenger Bus	3
24-Passenger Bus	1
10-Passenger Bus	10
Ambulances	15
Rescue Vehicles	15

Nineteen, 45-passenger buses can be assigned to the evacuation of the institutionalized population.

With significant ambulance service support from the Cities of Toledo and Detroit to the thirty vehicles within or adjacent to the EPZ, a sufficient fleet of ambulances and rescue vehicles is estimated to be capable to transport the non-ambulatory patients in two trips per vehicle or less.

The transport of the county jail prisoners is estimated to require 4 buses based on a reduced load factor of 30 prisoners per vehicle.

SCHOOL AND NON-AUTO-OWNING POPULATION

Both the school and non-auto-owning population segments that place significant demands on public transport resources have been described in detail in the Evacuation Time Estimates Report.

**ADDENDUM #2
TO THE REPORT ON
ESTIMATE OF EVACUATION TIMES**

ENRICO FERMI ATOMIC POWER PLANT
UNIT #2

RE: Adjustment in Vehicular Flow Rates
During Adverse Weather Conditions

November 30, 1982

VEHICLE FLOW RATES DURING ADVERSE WEATHER

The Estimate of Evacuation Times Report describes briefly the adjustment made in vehicular flow rates when weather circumstances, such as ice or snow storms, impact normal driving conditions within the EPZ. The adverse weather impact on vehicle flow rates is determined as follows:

1. During normal weather conditions the time spacing between vehicles traveling along a route is assumed to be 3 seconds. This spacing is compatible with the assumed operating capacity of 1,200 vehicles per hour on rural arterial routes. The possible capacity of such a route is 1,800 vehicles per hour, reflecting a 2-second headway between vehicles. The latter is frequently observed on expressways or other facilities with little or no traffic interference from sidestreets.
2. As weather conditions become progressively worse, from wet pavement to limited visibility during snowstorms, to icy road conditions, drivers compensate in two ways, a) reduce operating speed and, b) increase the distance between vehicles.
3. During an evacuation, even with advantageous weather conditions, the traffic volumes are expected to allow only low average operating speeds. Thus, with traffic flowing at a low rate of speed, the significant factor controlling the rate at which vehicles can leave the EPZ during adverse weather conditions is the time spacing (headway) between vehicles.
4. For purposes of estimating the evacuation time during adverse weather conditions it was assumed that vehicle headways would increase from 3 seconds to 5 seconds, i.e., a forty percent increase in vehicle spacing. This has the effect of reducing the operating capacity of the evacuation routes by forty percent.

The following table lists the effective capacities of the evacuation routes during both normal and adverse weather conditions.

CAPACITY OF EVACUATION ROUTES

<u>Evacuation Route</u>	<u>Number of Lanes (Total, Both Directions)</u>	<u>Type of Road</u>	<u>Normal Weather Outbound Capacity¹</u>	<u>Adverse Weather Outbound Capacity</u>
1. U.S. Turnpike	2	Rural Arterial	1,200	720
2. Route 85	4	Rural Arterial	2,400	1,440
3. Allen Road	2	Rural Arterial	1,200	720
4. I-75 North	6	Expressway	5,400	3,240
5. U.S.24 North (Telegraph)	4	Rural Arterial	2,400	1,440
6. I-275 North	4*	Expressway	3,600	2,160
7. West Road	2	Rural Secondary	1,200	720
8. Scofield-Carlton Road	2	Rural Secondary	1,200	720
9. Stony Creek Road	2	Rural Secondary	1,200	720
10. Blue Bush Road	2	Rural Secondary	1,200	720
11. Stewart Road	2	Rural Secondary	1,200	720
12. North Custer Road	2	Rural Arterial	1,200	720
13. South Custer Road	2**	Rural Arterial	1,200	720
14. Dunbar Road	2	Rural Secondary	1,200	720
15. Albain Road	2	Rural Secondary	1,200	720
16. U.S.24 South (Telegraph)	2	Urban Arterial	1,200	720
17. Route 125 South	2	Urban Arterial	1,200	720
18. I-75 South	6	Expressway	5,400	3,240

* Note: Route is 4 lanes and 6 lanes in sections; minimum (4 lanes) is used for analysis.

** Note: Route is 4 lanes to EPZ boundary where it narrows to 2 lanes.

1. Hourly vehicles outbound only. Obtained from Highway Capacity Manual, 1965, Highway Research Board Special Report, Number 87.

Mr. B. J. Youngblood
January 10, 1983
EF2 - 61,089
Page 2

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FOIA 84-552

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 20 1984

Docket No.: 50-341

Mr. Paul E. Braunlich, Legal Advisor
Board of Commissioners
19 East First Street
Monroe, Michigan 48161

Dear Mr. Braunlich:

In my letter to you dated January 24, 1983, I stated our intent to consider the issues raised in your August 27, 1982, Petition for Leave to Intervene and Reopen pursuant to the NRC's procedures in Section 2.206 of 10 CFR Part 2. Notice of our intent to treat Monroe County's concerns in this manner was published in the Federal Register on February 1, 1983 (48 FR 4589). In my letter, we requested you to supplement your original petition with any additional information you might wish to bring to our attention. We have not received any further comment nor additional information from you on this matter.

In response to the cited Federal Register notice, two groups submitted information in support of the issues raised by Monroe County. Ms. Joan Mumaw and Mr. Michael Barrett submitted their comments in a letter dated February 10, 1983. Mr. John Minock on behalf of Citizens for Employment and Energy, submitted additional information in support of Monroe County's petition in a letter dated April 1, 1983. We have considered this additional information in evaluating your petition.

Because of the division of responsibilities for evaluating emergency preparedness for nuclear power plants, we requested the Federal Emergency Management Agency (FEMA) to assist us in responding to the issues raised in your petition and the issues raised by the other two groups referred to above. FEMA has reviewed these particular issues in the course of its evaluation of offsite emergency preparedness for the Fermi-2 facility and has addressed them in its most recent letter to us. Our response is based in part on FEMA's evaluation of the issues raised in your petition and also on our own evaluation of the issues.

8412260472

Doc # 11

Release JRR

Mr. Paul E. Braunlich

-2-

APR 20 1984

It is clear to both FEMA and the NRC that since the time the Monroe County petition was submitted, 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 that the emergency planning process for the Fermi-2 facility has now evolved sufficiently to allow for a comprehensive response to the emergency planning concerns raised in the Monroe County petition. In this regard, I have determined that the concerns of Monroe County have been satisfactorily resolved and are adequately addressed in the present emergency plans for the Fermi-2 facility. Therefore, no further action is required to resolve the County's concerns. A copy of the Director's Decision Under 10 CFR 2.206 and a notice which has been forwarded to the Office of the Federal Register for publication is enclosed.

Sincerely,



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Director's Decision
2. Federal Register Notice

cc: See next page

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSIONOFFICE OF NUCLEAR REACTOR REGULATION
Harold R. Denton, Director

In the Matter of

THE DETROIT EDISON COMPANY
(Enrico Fermi Atomic Power)
Plant, Unit 2)

}

Docket No. 50-341
(10 CFR 2.206)DIRECTOR'S DECISION UNDER 10 CFR 2.206INTRODUCTION

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

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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

^{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 off-site 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,

^{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

^{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 Monroe 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 accommodate 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.0, 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 the 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 Monroe 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

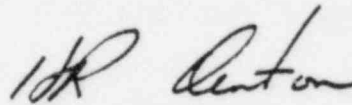
control of the radioactive material. Although sub-freezing weather is a factor, hosing down vehicles is usually the preferred method for decontamination. When this method is used care must be taken to assure collection and containment of the runoff water. Following the decontamination operation, residual 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.

A handwritten signature in dark ink, appearing to read "H. R. Denton". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

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

7590-01

NUCLEAR REGULATORY COMMISSION

DETROIT EDISON COMPANY

ENRICO FERMI ATOMIC POWER PLANT, UNIT 2

DOCKET NO. 50-341

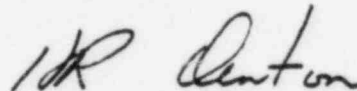
DIRECTOR'S DECISION UNDER 10 CFR 2.206

By a petition to intervene submitted to the Atomic Safety and Licensing Board in the Fermi-2 operating license proceeding, Monroe County, Michigan, raised a number of issues concerning the adequacy of offsite emergency planning for the Fermi-2 facility. Both the Licensing Board and the Atomic Safety and Licensing Appeal Board denied the County's untimely petition to intervene in the operating license proceedings. However, the Appeal Board forwarded the issues raised by the County to the Staff for its consideration in its decision (ALAB-707) dated December 21, 1982. The County's petition to intervene, therefore, has been treated pursuant to 10 CFR 2.206 of the Commission's regulations. In the intervening period, 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 have determined that

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the concerns of Monroe County have been satisfactorily resolved and are adequately addressed in the present emergency plans for the Fermi-2 facility. Therefore, no further action is required to resolve the County's concerns. Copies of this Decision are available for inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555 and in the local public document room for the Fermi-2 facility located at the Monroe County Library System Reference Department, 3700 S. Custer Road, Monroe, Michigan 48161.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "H R Denton". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

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