

V.L.C.

BOSTON EDISON COMPANY
800 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02199

M. J. FELDMANN
VICE PRESIDENT
OPERATIONS AND ENGINEERING

June 13, 1974



Director
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Docket No. 50-293
License No. DPR-35
Amendment No. 2

Dear Sir:

We are hereby advising you that we have suspended further work on the Containment Atmospheric Dilution (CAD) System described in Amendment 35 to the Single I FRAR. This action is taken pending the revision to Regulatory Guide 1.7, Control of Combustible Gas Concentrations in Containment Following a Loss of Coolant Accident, which is now under consideration by the AEC staff. After issuance of the revised Regulatory Guide, the proposed CAD system will be reevaluated and modified as appropriate.

Should you have further questions regarding this matter, please contact us.

Very truly yours,

cc: E. F. Kearney
G. D. Baston
D. G. Stoodley
QA&R

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FROM: PATRICK J KENNY GENERAL COUNSEL EXECUTIVE OFFICE OF ENERGY
RESOURCES COMMONWEALTH OF MASSACHUSETTS 73 TREMONT STREET BOSTON
MASSACHUSETTS 02108

REASON: PROPOSED CIVIL PENALTY BOSTON EDISON COMPANY, PILGRIM I
NUCLEAR GENERATING STATION: EA NUMBER 01-83 DOCKET NUMBER 80-293;
LICENSE NUMBER DTR-35

THE MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY RESOURCES (EOER) A
PETITION TO INTERVENTE IN THE ABOVE REFERENCED PROCEEDING, REQUESTING
INTER ALIA THE PAYMENT OF THE \$550,000 PROPOSED CIVIL PENALTY BY
BOSTON EDISON COMPANY BE STAYED UNTIL NRC DEPOSITION OF EOER'S
PETITION FOR ALTERNATIVE USE OF THE PROCEEDS OF PENALTY PAYMENTS OR
PAYMENTS MADE IN LIEU OF THIS PENALTY. EOER STILL PRESSES THAT
PETITION, HOWEVER EOER IS AWARE THAT PAYMENT OF THE PROPOSED PENALTY
MAY BE IN PROGRESS. EOER HEREBY REQUESTS THAT FURTHER PROCEEDINGS OF
PAYMENT OF SAID PENALTY BY BOSTON EDISON COMPANY AND THE NRC AND
DEPOSIT OF SAID PAYMENTS IN THE U.S. TREASURY BE STAYED UNTIL
DEPOSITION OF EOER'S PETITION. RECEIPT OF FUNDS IN THE U.S. TREASURY
MAY OPERATE TO RESTRAIN NRC DISCRETION AS TO USE OF PENALTY PAYMENT
OR PAYMENTS IN LIEU OF THE PENALTY AS REQUESTED IN EOER'S PETITION.

CC: SECRETARY U.S. NUCLEAR REGULATORY COMMISSION
JOHN DESMUND ESQ BOSTON EDISON COMPANY

SINCERELY
PAT KENNY GENERAL COUNSEL EXECUTIVE OFFICE OF ENERGY RESOURCES
COMMONWEALTH OF MASSACHUSETTS
73 TREMONT ST ROOM 703
BOSTON MA 02108
1147 EST

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C112

BOSTON EDISON COMPANY
GENERAL OFFICES 800 BRISTOL STREET
BOSTON, MASSACHUSETTS 02192

October 19, 1979

BECO Ltr. 79-207

G. CARL ANDOGNINI
SUPERINTENDENT
NUCLEAR OPERATIONS DEPARTMENT

Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

License No. DPR-35
Docket No. 50-293

Containment Atmospheric Control System

- Ref: (a) NRC Letter T.A. Ippolito to G.C. Andognini
dated 3/14/79.
(b) BECO Letter G.C. Andognini to T.A. Ippolito
dated 6/6/79.

Dear Sir:

In Reference (a) you requested that we submit a schedule for the installation and the testing of a CAD System at Pilgrim Station Unit #1. Your inquiry also requested a detailed description of any design changes that we propose to make in our original system description (FSAR submittal, Amendment 35). In Reference (b), we informed you that our current plans do not call for the installation of CAD System and that we were evaluating a system that incorporates hydrogen recombination capability. Therefore, we request that you delete FSAR Amendment 35 from our docket.

To determine what changes are currently required for post LOCA containment combustible gas control, we have evaluated the present station design with respect to 10CFR50.44. Based upon our analysis, we comply with 10CFR50.44 with existing equipment. However, we recognize that additional system modifications may be appropriate once the TMI-2 Lessons Learned Task Force has completed its long term recommendations.

As described in its short term recommendations (NUREG-0578), the TMI-2 Lessons Learned Task Force majority view was that the existing design basis for combustible gas control systems needs re-evaluation. We are therefore, unable to commit to any system design changes for combustible gas control at Pilgrim, until a final resolution is issued by the Commission on the system design bases.

However, we have revised our operating procedures, as necessary to mitigate the consequences of a TMI type incident in the unlikely event that it occurred and as stated in Reference (b), we will continue to operate with an inerted containment.

If you have any questions on this subject, please feel free to contact us at your convenience.

Very truly yours,

*re iterates Jan 6
written on CAD mp,
re: compliance w/
10 CFR 50.44 which was
revised NOV 78*

7910260276-4A

*As of 2/10
210*



ANALYSIS OF EMERGENCY PREPAREDNESS ISSUES
AT PILGRIM NUCLEAR POWER STATION RAISED
IN A PETITION TO THE NRC
DATED JULY 15, 1986

JULY 29, 1987

FEDERAL EMERGENCY MANAGEMENT AGENCY
JOHN W. McCORMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109-4595

~~8708130010~~ 51 pp.

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2. ANALYSIS REPORT ON ISSUES RELATED TO THE PILGRIM EVACUATION TIME ESTIMATE FOR PILGRIM NUCLEAR POWER STATION, PLYMOUTH, MASSACHUSETTS, FEMA, MAY 1, 1984.
3. MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDA) ANALYSIS TO THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP (MASSPIRG) REPORT "BLUEPRINT FOR CHAOS II", JULY 20, 1983.
4. 1986 EMERGENCY PUBLIC INFORMATION (EPI) BROCHURE FOR PILGRIM EPZ
5. BOSTON EDISON'S RESPONSE ON THE PETITION DATED OCTOBER 29, 1986
6. COMMONWEALTH OF MASSACHUSETTS POLICY ON DISTRIBUTION OF POTASSIUM IODIDE (KI)
7. SEPTEMBER 5, 1986 FEMA LETTER TO COMMONWEALTH OF MASSACHUSETTS REQUESTING ITS VIEWS CONCERNING THE ALLEGATIONS IN THE PETITION; AND INDICATING THAT FEMA WAS UNDERTAKING A SELF-INITIATED REVIEW OF THE ABILITY OF THE STATE TO PROTECT THE PUBLIC IN THE EVENT OF AN ACCIDENT AT PILGRIM

1. INTRODUCTION

ON JULY 15, 1986, MASSACHUSETTS STATE SENATOR GOLDEN, STATE REPRESENTATIVES HYNES AND HILDT, THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP (MASSPIRG), THE PLYMOUTH COUNTY NUCLEAR INFORMATION COMMITTEE, INC. (PCNIC), THE PLYMOUTH ALLIANCE AND ATTORNEYS JO ANN SHOTWELL AND JAMES SHANNON FILED A PETITION WITH THE NUCLEAR REGULATORY COMMISSION (NRC). THIS PETITION REQUESTED THAT THE NRC ISSUE AN ORDER TO THE BOSTON EDISON COMPANY,

...TO SHOW CAUSE AS TO WHY THE PILGRIM I NUCLEAR POWER STATION ("PILGRIM") SHOULD NOT REMAIN CLOSED AND/OR HAVE ITS OPERATING LICENSE SUSPENDED BY THE NRC UNLESS AND UNTIL THAT TIME AT WHICH THE LICENSEE DEMONSTRATES CONCLUSIVELY TO THE NRC AND THE PUBLIC: (1) THAT ITS MANAGEMENT IS NO LONGER HAMPERED BY THE DEFICIENCIES NOTED BY THE PETITIONERS, (2) THAT THE RADIOLOGICAL EMERGENCY RESPONSE PLAN FULLY COMPLIES WITH 10 CFR 50.47 AND 10 CFR 50.57, IS GIVEN HIGH ORGANIZATIONAL PRIORITY AND SUFFICIENT FUNDING BY THE LICENSEE, THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), THE MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDA) AND LOCAL GOVERNMENTS; AND (3) THAT THE INHERENT DESIGN FLAWS NOTED BY THE PETITIONERS WHICH RENDER PILGRIM I'S CONTAINMENT STRUCTURE EXTREMELY VULNERABLE IN MOST ACCIDENT SCENARIOS HAVE BEEN OVERCOME TO THE EXTENT THAT THE PUBLIC HEALTH AND SAFETY WILL BE ASSURED.

ON AUGUST 11, 1986, NRC FORWARDED A COPY OF THE PETITION TO FEMA FOR INFORMATION AND INITIAL REVIEW. THEN, ON OCTOBER 16, 1986, NRC FORMALLY REQUESTED THAT FEMA EVALUATE THE OFF-SITE EMERGENCY PLANNING AND PREPAREDNESS ISSUES RAISED IN THE PETITION. THIS IS A REPORT OF THAT EVALUATION.

THE PETITION IDENTIFIED SEVEN ALLEGED DEFICIENCIES IN EMERGENCY PLANNING (LISTED AS NUMBERS 14 THROUGH 20 IN THE PETITION) AS FOLLOWS:

14. DEFICIENCIES IN THE RADIOLOGICAL EMERGENCY RESPONSE PLAN (KERP)
15. DEFICIENCIES IN ADVANCE INFORMATION
16. DEFICIENCIES IN NOTIFICATION DURING AN ACCIDENT
17. DEFICIENCIES IN EVACUATION PLANS
18. DEFICIENCIES IN MEDICAL FACILITIES
19. THE EMERGENCY PLANNING ZONE IS TOO SMALL
20. LACK OF COORDINATION AND PRIORITIZATION OF THE KERP

ON SEPTEMBER 5, 1986, FEMA SENT A LETTER (SEE APPENDIX 7) TO ROBERT BOULAY, DIRECTOR, MASSACHUSETTS CIVIL DEFENSE AGENCY WITH A COPY TO BOSTON EDISON REQUESTING THEIR VIEWS CONCERNING THE ALLEGATIONS IN THE PETITION AND FURTHER DEVELOPMENT OF PROCEDURES FOR CORRECTING ANY PLAN DEFICIENCIES WHICH MAY EXIST. FEMA ALSO SENT A LETTER TO SENATOR GOLDEN REQUESTING A TRANSCRIPT OR DETAILED NOTES OF A JUNE 18, 1986 MEETING AT THE STATE HOUSE CONCERNING THE EMERGENCY RESPONSE PLANS FOR THE PILGRIM PLUME EXPOSURE EMERGENCY PLANNING ZONE, WHICH WOULD HELP US IN OUR REVIEW OF THE PETITION.

THE BOSTON EDISON COMPANY PROVIDED INFORMATION USED IN REVIEWING THIS PETITION. BOSTON EDISON'S WRITTEN RESPONSE IS ATTACHED AS APPENDIX 5. THE STATE INDICATED THAT IT HAD NO

COMMENTS ON THE PETITION. WE UNDERSTAND THAT NO TRANSCRIPT WAS MADE OF THE MEETING AT THE STATE HOUSE, AND FEMA HAS, THEREFORE, RELIED ON ITS OWN NOTES AND RECOLLECTIONS OF THE MEETING.

THE ANALYSIS OF THESE ISSUES WAS PREPARED BY FEMA REGION I WITH THE ASSISTANCE OF THE ARGONNE NATIONAL LABORATORY, BASED UPON ORAL INPUT FROM MASSACHUSETTS CONCERNING THE CONTENTS OF THE PETITION; PREVIOUS WRITTEN AND ORAL INPUT FROM MASSACHUSETTS CONCERNING THE ISSUES COVERED BY THE PETITION; RESPONSES PREPARED BY FEMA TO A PREVIOUS MASSPIRG PETITION; FEMA REVIEWS OF THE MASSACHUSETTS REKP; AND OF EXERCISE REPORTS FOR THE EXERCISE OF THE RADIOLOGICAL EMERGENCY RESPONSE PLANS FOR THE PILGRIM NUCLEAR POWER STATION IN 1982, 1983, AND 1985. ON DECEMBER 30, 1986, FEMA WAS PROVIDED A COPY OF A REPORT CONCERNING THE MASSACHUSETTS PLANS TO PROTECT THE PUBLIC IN THE PILGRIM EPZ. THE REPORT WAS PREPARED BY THE SECRETARY OF PUBLIC SAFETY AND ENDORSED BY MASSACHUSETTS GOVERNOR DUKAKIS (HEREINAFTER CALLED THE BARRY REPORT). THE BARRY REPORT AND ALL OTHER RELEVANT FACTORS, INCLUDING INPUT FROM PUBLIC MEETINGS IN BOSTON, DUXBURY, AND PLYMOUTH, A MEETING WITH A REPRESENTATIVE OF THE PLYMOUTH COUNTY NUCLEAR INFORMATION COMMITTEE, INC., AS WELL AS ADDITIONAL ANALYSIS BY FEMA STAFF AND CONSULTANTS HAS BEEN SEPARATELY ANALYZED AS PART OF THE ATTACHED REVIEW OF THE MASSACHUSETTS RADIOLOGICAL PLANS FOR PILGRIM WHICH FEMA INITIATED PURSUANT TO 44 CFR 350.

II. SUMMARY

THE DETAILED ANALYSIS OF ISSUES RAISED IN THE JULY 15, 1986 PETITION IS PRESENTED IN SECTION III. MOST OF THE ISSUES RAISED IN THE 1986 PETITION ARE ESSENTIALLY IDENTICAL TO ISSUES RAISED IN A PETITION SUBMITTED TO THE NRC IN 1983 BY MASSPIRG, AND TO ISSUES PREVIOUSLY EXAMINED BY NRC AND FEMA. BASED ON A PREVIOUS ANALYSIS BY FEMA, THE NRC DENIED THE 1983 MASSPIRG PETITION ON FEBRUARY 27, 1984.

FEMA REVIEWED THIS NEW PETITION IN LIGHT OF THE STATE OF THE RECORD AT THE TIME OF ITS SUBMITTAL AND INFORMATION AVAILABLE TO FEMA AS OF NOVEMBER, 1986. OUR REVIEW WAS LARGELY COMPLETED BY DECEMBER 20, 1986. FEMA DEALT WITH LATER INFORMATION INCLUDING FEMA STAFF ANALYSIS OF PUBLIC AND INTERAGENCY MEETINGS, AND THE BARRY REPORT, IN ITS SELF-INITIATED REVIEW. IT SHOULD BE NOTED, HOWEVER, THAT, WHILE FEMA'S ANALYSIS OF THE SEVEN ALLEGED DEFICIENCIES IN OFF-SITE EMERGENCY PLANNING INDICATES THAT THE INFORMATION IN THE PETITION DID NOT SUSTAIN THE CONTENTIONS BASED ON THE STATE OF THE RECORD AT THE TIME THE PETITION WAS REVIEWED, FEMA AGREES WITH THE GENERAL THRUST OF SOME OF THE CONCLUSIONS OF THE PETITION FOR THE REASONS CITED IN ITS SELF-INITIATED REVIEW AND INTERIM FINDING DATED JULY 29, 1987.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY WILL CONTINUE TO REVIEW AND ANALYZE THE STATUS OF EMERGENCY PLANNING IN THE VICINITY OF ALL NUCLEAR POWER PLANTS, INCLUDING PILGRIM, TO INSURE THAT A CORRECT ANALYSIS OF OFF-SITE EMERGENCY PLANNING IS PRESENTED TO THE NUCLEAR REGULATORY COMMISSION.

III. ANALYSIS

FEMA HAS ADDRESSED EACH OF THE SEVEN ISSUES IN OFF-SITE EMERGENCY PLANNING RAISED IN THIS PETITION BELOW.

14/ DEFICIENCIES IN THE RADIOLOGICAL EMERGENCY RESPONSE PLAN (REXP)

PETITIONERS:

SERIOUS DEFICIENCIES EXIST IN THE REXP FOR PILGRIM, WARRANTING SUSPENSION OF BOSTON EDISON'S OPERATING LICENSE BY THE NRC. THE DEFICIENCIES ARE OUTLINED BELOW. THE COMBINED EFFECT OF THESE DEFICIENCIES IS TO ABROGATE THE "REASONABLE ASSURANCE THAT ADEQUATE PROTECTIVE MEASURES CAN AND WILL BE TAKEN IN THE EVENT OF A RADIOLOGICAL EMERGENCY," THE STANDARD SET BY 10 CFR 50.47 (A)(1).

FEMA:

FEMA HAS PROVIDED RESPONSES TO EACH OF THE PETITIONER'S ALLEGATIONS. THESE RESPONSES ARE GIVEN BELOW.

15/ DEFICIENCIES IN ADVANCE INFORMATION

A) PETITIONERS:

THE ONLY METHOD BEING USED FOR ADVANCE PUBLIC EDUCATION IN THE PILGRIM EMERGENCY PLANNING ZONE (EPZ) IS THE DISTRIBUTION OF PAMPHLETS BY MAIL. A MASSPIRG TELEPHONE SURVEY CONDUCTED IN 1983 REVEALED SERIOUS INADEQUACIES IN THE DISTRIBUTION, RETENTION, AND UNDERSTANDING OF THE PAMPHLETS BY AREA RESIDENTS. NO IMPROVEMENTS IN THE ADVANCE INFORMATION PROCEDURES HAVE BEEN CARRIED OUT SINCE 1983.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED BY THE CURRENT PETITION. IN RESPONSE TO THE 1983 PETITION (APPENDIX 1)

FEMA STATED:

TWO PAMPHLETS ENTITLED "EMERGENCY PUBLIC INFORMATION" AND "NUCLEAR ENERGY QUESTIONS AND ANSWERS" WERE MAILED TO ALL RESIDENTS IN THE EPZ IN SEPTEMBER 1981 AND SEPTEMBER 1982. IN ADDITION, THE PAMPHLETS WERE DISTRIBUTED TO COMMERCIAL ESTABLISHMENTS AND PUBLIC BUILDINGS IN THE EPZ, INCLUDING HOTELS. OVER 120,000 OF BOTH BROCHURES HAVE BEEN DISTRIBUTED IN AN AREA OF APPROXIMATELY 55,000 POPULATION AND 20,000 HOUSEHOLDS. POSTERS DEPICTING EMERGENCY INFORMATION HAVE BEEN DISPLAYED IN THE EPZ SINCE OCTOBER 1982.

MASSPIRG'S INFORMATION WAS DERIVED FROM A POLL THAT THEY CONDUCTED OF SOME OF THESE RESIDENTS IN THE AREA. WHEN ASKED IF THEY HAVE RECEIVED [EPI] BROCHURES, A SUBSTANTIAL 70% RESPONDED THAT THEY REMEMBERED RECEIVING THEM.

MASSPIRG ALSO REPORTS THAT 9% OF THOSE POLLED SAID THEY WOULD TUNE TO AN EBS RADIO STATION AS A FIRST REACTION TO HEARING THE SIRENS, AND AN ADDITIONAL 19% WOULD TUNE TO RADIO OR TV, BOTH OF WHICH ARE REASONABLE AND APPROPRIATE RESPONSES. MASSPIRG DID NOT ASK WHAT PEOPLE WOULD DO UPON SOME REFLECTION AS THE SIRENS CONTINUED TO SOUND.

EACH SIREN HAS A PUBLIC ADDRESS CAPABILITY AND CAN BE USED TO BROADCAST SPECIFIC INSTRUCTIONS TO THE PUBLIC, INCLUDING TRANSIENTS, IN AN EMERGENCY AND THIS SHOULD BE CONSIDERED TO BE PART OF THE PUBLIC EDUCATION EFFORT. LOCAL AND STATE PUBLIC SAFETY VEHICLES ALSO ARE EQUIPPED WITH PA CAPABILITY. MESSAGES WILL BE BROADCAST OVER THESE PUBLIC ADDRESS SYSTEMS TO TUNE TO THE EBS STATION FOR INFORMATION. THIS SHOULD BE SUFFICIENT TO AID RESIDENTS AND TRANSIENTS IN AN EMERGENCY.

FEMA DETERMINED IN 1983 THAT THE PETITION DID NOT INDICATE THAT THE COMMONWEALTH WAS UNABLE TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC. THE MASSPIRG PETITION WAS DENIED BY THE NRC IN THE "INTERIM DIRECTOR'S DECISION UNDER 10 CFR 2.206", FEBRUARY 27, 1984. HOWEVER, SINCE THAT TIME THE COMMONWEALTH HAS TAKEN ADDITIONAL STEPS TO ENHANCE ITS PUBLIC INFORMATION PROGRAM.

ACCORDING TO INFORMATION PROVIDED BY MCDA AND THE BOSTON

EDISON COMPANY, THE ANNUAL PUBLIC EDUCATION BROCHURE ENTITLED "EMERGENCY PUBLIC INFORMATION: WHAT TO DO IN CASE OF AN EMERGENCY AT PILGRIM NUCLEAR POWER STATION" (APPENDIX 4) WAS MAILED TO RESIDENTS, HOTELS AND MOTELS, AND PUBLIC BUILDINGS IN THE PLUME EXPOSURE EMERGENCY PLANNING ZONE (EPZ) IN AUGUST 1986 (SEE APPENDIX 5). BROCHURES WERE ALSO MAILED TO RESIDENTS IN 1985. THE 1986 BROCHURE IS IN COMPLIANCE WITH THE GUIDANCE PROVIDED IN NUREG-0654, FEMA-REP-1, REV 1, "CRITERIA FOR PREPARATION AND EVALUATION OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND PREPAREDNESS IN SUPPORT OF NUCLEAR POWER PLANTS." THE CURRENT BROCHURE CONTAINS THE FOLLOWING INFORMATION:

- EDUCATIONAL INFORMATION ON RADIATION;
- DESIGNATION OF RADIO STATIONS FOR EMERGENCY PUBLIC INFORMATION;
- PROTECTIVE MEASURES (I.E., SHELTERING, RESPIRATORY PROTECTION, EVACUATION ROUTES, AND RECEPTION CENTERS); AND
- A RETURN POSTCARD AND INSTRUCTIONS FOR PERSONS WITH SPECIAL NEEDS SO THAT ARRANGEMENTS CAN BE MADE TO PROVIDE APPROPRIATE TRANSPORTATION IN THE EVENT OF AN EVACUATION.

FEMA SPONSORED A STATISTICALLY VALID SURVEY AFTER THE SEPTEMBER 29, 1986 TEST OF THE PILGRIM PUBLIC ALERT AND NOTIFICATION SYSTEM. THE SURVEY INDICATED THAT 72.8% OF THE PEOPLE REMEMBER RECEIVING THE PUBLIC INFORMATION BROCHURE.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTIONS.

B) PETITIONERS:

THE CURRENT (SEPTEMBER 1985) PAMPHLETS CONTAIN NO INFORMATION REGARDING PUBLIC TRANSPORTATION FOR PURPOSES OF EVACUATION, DESPITE THE FACT THAT THE RADIOLOGICAL EMERGENCY RESPONSE PLAN (KERP) FOR THE TOWN OF PLYMOUTH PROVIDES FOR THIRTEEN "STAGING AREAS" WHERE PERSONS WITHOUT TRANSPORTATION WILL BE DIRECTED FOR "POSSIBLE" PUBLIC TRANSPORT.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

THE COMMONWEALTH STATED IN ITS RESPONSE TO THE 1985 PETITION: (APPENDIX 3)

LOCAL PLANS UTILIZE LISTINGS OF POST OFFICES, FIRE HOUSES, SCHOOLS AND OTHER WELL KNOWN, RECOGNIZABLE SITES FOR 'STAGING AREAS.' ALTHOUGH LOCAL RESIDENTS ARE WELL AWARE OF THESE SITES, WE ARE STUDYING THE USE OF MAPS AND MAY INCLUDE THEM IN FUTURE PUBLICATIONS.

FEMA STATED IN ITS RESPONSE TO THE 1983 PETITION: (APPENDIX 1)

PUBLIC TRANSPORTATION - THE LACK OF PROVISIONS IN THE PLANS FOR TRANSPORTATION OF THOSE WHO MAY NOT HAVE ACCESS TO CARS WAS PREVIOUSLY NOTED AS A DEFICIENCY AND THE STATE IS REVISING THE PLANS ACCORDINGLY. NO REQUESTS FOR SPECIAL TRANSPORTATION HAVE, TO DATE, BEEN REGISTERED WITH PLYMOUTH CIVIL DEFENSE, ALTHOUGH SUCH INFORMATION HAS BEEN SOLICITED.

THE 1986 PUBLIC INFORMATION BROCHURES DIRECT PERSONS IN NEED OF TRANSPORTATION OR OTHER SPECIAL HELP TO RETURN THE POSTCARD FOUND IN THE BROCHURE TO MCDA AREA II HEADQUARTERS OR TO CALL THEIR TOWN HALL OR CIVIL DEFENSE OFFICE AS SOON AS POSSIBLE TO ARRANGE FOR ASSISTANCE BEFORE AN EMERGENCY.

IF PEOPLE NEED ASSISTANCE DURING AN EMERGENCY, THEY ARE TO CALL THE LOCAL CIVIL DEFENSE OFFICE. THE LOCAL PLANS SPECIFY THAT CONTRACTOR SCHOOL BUSES MAY BE USED TO MOVE THOSE WITHOUT PERSONAL MEANS OF TRANSPORTATION. IF NEEDED, ADDITIONAL BUSES (OR OTHER MEANS OF MASS TRANSPORT) WILL BE REQUESTED THROUGH THE MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDA) AREA II HEADQUARTERS. THE COMMONWEALTH OF MASSACHUSETTS HAS IDENTIFIED IN ITS STATE PLAN A VAST NUMBER OF STATE CONTROLLED RESOURCES AVAILABLE IN THE EVENT OF AN ACCIDENT AT PILGRIM.

PREDETERMINED STAGING AREAS FOR BUSES WILL BE ACTIVATED AT SITES SPECIFIED BY THE DIRECTOR OF CIVIL DEFENSE (CD) AS THE SITUATION REQUIRES. PLYMOUTH HAS IDENTIFIED 13 STAGING AREAS WHERE THOSE PEOPLE IN NEED OF TRANSPORTATION WOULD GO TO OBTAIN PUBLIC TRANSPORTATION. IF AN EVACUATION WERE ORDERED, PEOPLE WOULD BE ADVISED TO STAY TUNED TO RADIO AND TV FOR INFORMATION REGARDING THE EVACUATION. THE PLYMOUTH CIVIL DEFENSE DIRECTOR IS RESPONSIBLE FOR COORDINATING WITH MCDA AREA II HEADQUARTERS TO ASSURE THAT INFORMATION REGARDING THE ARRANGEMENTS FOR THOSE PEOPLE IN NEED OF TRANSPORTATION ARE CONTAINED IN EBS MESSAGES.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

C) PETITIONERS:

THE ADVANCE INFORMATION SYSTEM FOR TOURISTS AND OTHER TRANSIENTS IS INADEQUATE OR NONEXISTENT. FOR EXAMPLE, NO SIGNS HAVE BEEN POSTED TO PROVIDE APPROPRIATE INFORMATION FOR TRANSIENTS, A MEASURE SUGGESTED BY THE NRC IN 10 CFR PART 50, APPENDIX E. IV.D.2.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

THE COMMONWEALTH STATED IN ITS RESPONSE TO THE 1983 PETITION: (APPENDIX 3)

POSTERS HAVE BEEN DISTRIBUTED, AND ARE AVAILABLE THROUGHOUT THE EPZ. THE EPI PAMPHLETS INCLUDE REMOVABLE EMERGENCY PUBLIC INFORMATION STICKERS AND HAVE ALSO BEEN DISTRIBUTED (SEE ENCLOSED). THE SIREN SYSTEM INSTALLED THROUGHOUT THE EPZ IS EQUIPPED WITH PUBLIC ADDRESS CAPABILITY WHICH WOULD BE USED TO PROVIDE TRANSIENTS WITH EMERGENCY INFORMATION. LOCAL AND STATE PUBLIC SAFETY VEHICLES ARE ALSO EQUIPPED WITH PA CAPABILITY.

FEMA'S RESPONSE TO THE 1983 PETITION (APPENDIX 1) STATED:

TWO PAMPHLETS ENTITLED "EMERGENCY PUBLIC INFORMATION" AND "NUCLEAR ENERGY QUESTIONS AND ANSWERS" WERE MAILED TO ALL RESIDENTS IN THE EPZ IN SEPTEMBER 1981 AND SEPTEMBER 1982. IN ADDITION, THE PAMPHLETS WERE DISTRIBUTED TO COMMERCIAL ESTABLISHMENTS AND PUBLIC BUILDINGS IN THE EPZ, INCLUDING HOTELS. OVER 120,000 OF BOTH BROCHURES HAVE BEEN DISTRIBUTED IN AN AREA OF APPROXIMATELY 55,000 POPULATION AND 20,000 HOUSEHOLDS. POSTERS DEPICTING EMERGENCY INFORMATION HAVE BEEN DISPLAYED IN THE EPZ SINCE OCTOBER 1982.

ACCORDING TO INFORMATION PRESENTED TO FEMA BY BOSTON EDISON,

WHO DISTRIBUTE THE BROCHURES FOR THE MASSACHUSETTS CIVIL DEFENSE AGENCY, EMERGENCY PUBLIC INFORMATION BROCHURES WERE RECENTLY DISTRIBUTED TO HOTELS AND MOTELS, LIBRARIES, AND TOWN OFFICES IN THE AREA, AND PLACARDS WERE POSTED AT VARIOUS LOCATIONS THROUGHOUT THE EPZ (SEE LETTER FROM BOSTON EDISON, DATED OCTOBER 29, 1986, APPENDIX 5).

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

D) PETITIONERS:

THE INADEQUATE ADVANCE INFORMATION SYSTEM VIOLATES 10 CFR §50.47 (B)(7); 10 CFR PART 50, APPENDIX E. IV D.2, AND EVALUATION CRITERIA G.1, G.2 AND P. 10 OF NUREG-0654.

FEMA:

FEMA HAS RESPONDED TO THIS ISSUE IN ITEMS A, B, AND C ABOVE.

15/ DEFICIENCIES IN NOTIFICATION DURING AN ACCIDENT

A) PETITIONERS:

THE WARNING SIREN SYSTEM AND BACK-UP SYSTEMS ARE INADEQUATE TO ESSENTIALLY COMPLETE THE INITIAL NOTIFICATION OF THE PUBLIC WITHIN THE PLUME EXPOSURE PATHWAY OF THE EMERGENCY PLANNING ZONE (EPZ) WITHIN FIFTEEN MINUTES, AS REQUIRED BY 10 CFR PART 50, APPENDIX E., IV. D.3. FOR EXAMPLE, THE SIREN SYSTEM HAS BEEN PLAGUED WITH FALSE ALARMS. RATHER THAN CORRECT THIS PROBLEM, THE RESPONSE HAS BEEN TO DISCONNECT THE SIREN SYSTEM DURING ELECTRICAL STORMS.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO NEW SUBSTANTIVE ISSUES ARE RAISED IN THE CURRENT PETITION.

WHILE THE ALERT AND NOTIFICATION SYSTEM EXPERIENCED FALSE ALARMS FOR SOME TIME AFTER ITS INSTALLATION, BOSTON EDISON EXAMINED THE PROBLEM AND MADE IMPROVEMENTS IN THE SYSTEM. FEMA'S REVIEW OF THE SIREN TEST RESULTS, THE ALERT AND NOTIFICATION SYSTEM DESIGN AND OPERATIONAL RECORDS PROVIDED BY BOSTON EDISON COMPANY INDICATES THAT THIS PROBLEM DOES NOT NOW EXIST. (ALSO SEE APPENDIX 5, PAGE 8, ET. SE'2.)

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

B) PETITIONERS:

THE SIRENS ARE INAUDIBLE OR BARELY AUDIBLE WITHIN LARGE AREAS OF THE EPZ (REPORT ON THE PILGRIM NUCLEAR POWER STATION SIREN TEST, JUNE 19, 1982, FEMA, JANUARY 1983, P.6). FURTHERMORE, FEDERAL REGULATIONS REQUIRE NOTIFICATION OF "ALL SEGMENTS" OF THE POPULATION (CRITERIA J.10.C, E.6; 10 CFR PART 50, APPENDIX E, IV. D.3).

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

FEMA STATED IN ITS RESPONSE TO THE 1983 PETITION (APPENDIX 1)

THAT:

MAGSPIRG SEEMS TO HAVE MISUNDERSTOOD THE REPORT ON THE "PILGRIM NUCLEAR POWER STATION SIREN RESPONSE EXERCISE FOR THE PILGRIM NUCLEAR POWER STATION, MARCH 3, 1982." THE FIXED SIREN SYSTEM WAS DESIGNED TO BE USED IN CONJUNCTION WITH OTHER METHODS OF NOTIFICATION SUCH AS MOBILE NOTIFYING TEAMS, TONE ALERT RADIOS, AND THE EBS. FEMA IS CURRENTLY DEVELOPING STANDARDS FOR MEASURING THE EFFECTIVENESS OF FIXED SIRENS. HOWEVER, THE 1982 SIREN TEST DEMONSTRATED AN IMPRESSIVE ABILITY TO NOTIFY THE PUBLIC USING SIRENS ALONE. IN OUR OPINION, THE TEST ALSO DEMONSTRATED A CONTINUING NEED FOR THE OTHER FORMS OF PUBLIC NOTIFICATION THAT ARE PRESENTLY INCLUDED IN THE PLANS.

FEMA'S REPORT ON THE PILGRIM NUCLEAR POWER STATION SIREN TEST DID NOT STATE THAT THE SIRENS WERE INAUDIBLE OR BARELY AUDIBLE WITHIN LARGE AREAS OF THE EPZ. PAGE 6 OF THE REPORT, WHICH THE THE PETITIONERS REFERENCE, DISCUSSES WHERE FEMA OBSERVERS WERE LOCATED DURING THE TEST. FEMA STATED ELSEWHERE IN THE REPORT THAT WE CHOSE TO LOCATE THE 18 OBSERVERS IN THOSE FEW AREAS WHERE SIREN OUTPUTS WOULD BE THE WEAKEST. THEREFORE, WE CONCLUDED THAT THE OBSERVERS' REPORTS SHOULD NOT BE TAKEN AS AN INDICATION OF WIDESPREAD PROBLEMS. IT IS WORTH NOTING THAT FEMA SPONSORED A TELEPHONE SURVEY IMMEDIATELY FOLLOWING A SEPTEMBER 29, 1986 TEST OF THE PILGRIM ALERT AND NOTIFICATION SYSTEM WHICH INDICATED THAT 88.2% OF THE PEOPLE WERE DIRECTLY ALERTED BY THE SIRENS ON THE DAY OF THE TEST. FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

C) PETITIONERS:

THE DEFICIENT SIREN SYSTEM WOULD FAIL TO WARN THE HEARING IMPAIRED; TESTIMONY AT THE JUNE 18, 1986 HEARING ON THE PILGRIM KEEP BEFORE MASSACHUSETTS LEGISLATORS PROVIDED NO EVIDENCE OF THE EXISTENCE OF AN ALTERNATE PLAN FOR NOTIFICATION OF THIS SEGMENT OF THE POPULATION, A DIRECT VIOLATION OF THIS STATUTORY MANDATE.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES WERE RAISED IN THE CURRENT PETITION.

IN ITS RESPONSE TO THE 1983 MASSPIRG PETITION (APPENDIX 3), THE COMMONWEALTH OF MASSACHUSETTS STATED:

MCDA AND BOSTON EDISON HAVE WORKED WITH THE MASSACHUSETTS OFFICE FOR THE DEAF (MUD) AND THE DEAF COMMUNITY CENTER IN FRAMINGHAM, MA IN ORDER TO ADDRESS THIS PROBLEM. BOSTON EDISON OFFERED TO EQUIP HOUSEHOLDS OF DEAF PEOPLE LIVING ALONE IN THE EPZ WITH TELE-TYPEWRITER DEVICES FOR THEIR TELEPHONE. THIS DEVICE IS WIDELY ACCEPTED AS ADEQUATE COMMUNICATIONS FOR SERVING A DEAF PERSON DURING AN EMERGENCY. NEWSLETTERS FOR THE DEAF CARRIED NOTIFICATION OF THIS PROGRAM. NO SUCH HOUSEHOLDS HAVE BEEN IDENTIFIED IN THE PILGRIM EPZ.

FEMA STATED IN ITS NOVEMBER 3, 1983 ANALYSIS OF THE 1983 MASSPIRG PETITION (APPENDIX 1).

THE COMMONWEALTH OF MASSACHUSETTS AND BOSTON EDISON HAVE WORKED WITH THE MASSACHUSETTS OFFICE OF THE DEAF, THE COUNCIL OF ELDER AFFAIRS AND THE DEAF COMMUNITY CENTER IN FRAMINGHAM IN AN ATTEMPT TO IDENTIFY DEAF RESIDENTS WITHIN THE EPZ. THEY HAVE ALSO ATTEMPTED TO NOTIFY DEAF PEOPLE WITHIN THE EPZ THROUGH NEWSLETTERS ABOUT EFFORTS TO PROVIDE

DEAF RESIDENTS OF THE EPZ WITH TELETYPEWRITER (TTY) DEVICES. NO SUCH HOUSEHOLDS HAVE BEEN IDENTIFIED BY THESE EFFORTS. THIS MAY BE BECAUSE MOST INDIVIDUALS WITH SPECIAL NEEDS LIVE WITH SOMEONE AND CAN RELY ON OTHER MEMBERS OF THE HOUSEHOLD IN TIMES OF EMERGENCY. ALSO, DEAF PEOPLE AND OTHER INDIVIDUALS WITH SPECIAL NEEDS TEND TO CONGREGATE IN URBANIZED AREAS WHERE THEY CAN RECEIVE SERVICES READILY AND THE PILGRIM EPZ IS NOT URBANIZED.

CONFIDENTIAL LISTS IDENTIFYING THE DEAF ARE BELIEVED TO EXIST. IN A MEETING ON AUGUST 19, 1983 WITH MASSPIRG, THE MASSACHUSETTS SECRETARY OF PUBLIC SAFETY AGREED TO DO RESEARCH ON EXISTING LAWS TO SEE IF THIS INFORMATION COULD LEGALLY BE MADE AVAILABLE TO THE MCDA FOR PLANNING PURPOSES. THE COMMONWEALTH AND UTILITY HAVE ASSURED FEMA THAT THEY WILL CONTINUE THEIR OUTREACH AND WILL PROVIDE TTY DEVICES TO ANY PROFOUNDLY DEAF PERSON IN THE EPZ WHO REQUESTS ONE.

THE EFFORT TO IDENTIFY HEARING IMPAIRED PEOPLE WHO MAY REQUIRE TTY DEVICES CONTINUES THROUGH ANNUAL EMERGENCY PUBLIC INFORMATION (EPI) BROCHURES MAILED TO ALL HOMES WITHIN THE 10-MILE EPZ. AS NOTED EARLIER, THESE BROCHURES CONTAIN A POSTCARD TO BE USED BY SPECIAL NEEDS INDIVIDUALS APPRISING LOCAL OFFICIALS OF THE INDIVIDUAL'S SPECIAL NEED. BOSTON EDISON RECENTLY SENT A LETTER TO THE MASSACHUSETTS COMMISSION FOR DEAF AND HARD OF HEARING TO REQUEST THEIR AID IN IDENTIFYING INDIVIDUALS LIVING IN THE PILGRIM EPZ, WHO MAY NEED TTY DEVICES (SEE BOSTON EDISON LETTER - APPENDIX 5).

MCDA AND BOSTON EDISON INFORMED US THAT AS OF OCTOBER 1986, NO HOUSEHOLDS CONTAINING A DEAF PERSON HAVE BEEN IDENTIFIED.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

D) PETITIONERS:

IN TESTIMONY BEFORE MASSACHUSETTS STATE LEGISLATORS ON JUNE 18, 1985, EDWARD A. THOMAS, DIVISION CHIEF, NATURAL & TECHNOLOGICAL HAZARDS, FEMA, STATED THAT BOSTON EDISON HAD FAILED REPEATEDLY TO DELIVER TO FEMA NECESSARY TECHNICAL SPECIFICATIONS ON THE SIREN SYSTEM. MR. THOMAS ADDED THAT THESE DELAYS BY BECO HAVE FORCED REPEATED POSTPONEMENTS OF THE FULL-SCALE SYSTEM TEST REQUIRED BY FEMA.

FEMA:

WHILE BOSTON EDISON DID NOT SUBMIT THE NECESSARY TECHNICAL INFORMATION WHEN SCHEDULED, THE COMMONWEALTH OF MASSACHUSETTS FORWARDED TO FEMA THE "FEMA-43 REPORT, PUBLIC ALERT AND NOTIFICATION SYSTEM FOR THE PILGRIM NUCLEAR POWER STATION" ON JUNE 20, 1985. ADDITIONAL INFORMATION WAS REQUESTED AND PROVIDED TO FEMA BY BOSTON EDISON ON JUNE 23, 1985. THE ADDITIONAL INFORMATION WAS ANALYZED AND FOUND TO BE IN SUFFICIENT COMPLIANCE WITH THE REQUIREMENTS OF FEMA-43 TO ENABLE FEMA TO CONDUCT A TEST OF THE PILGRIM SIREN SYSTEM ON SEPTEMBER 29, 1985. THIS TEST INDICATED THAT 88.2% OF THE PEOPLE WERE DIRECTLY ALERTED BY THE SIRENS ON THE DAY OF THE TEST.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

17/ DEFICIENCIES IN EVACUATION PLANS

A) PETITIONERS:

THE EVACUATION TIME ESTIMATES FOR THE PILGRIM EPZ ARE UNREALISTICALLY LOW. THEY FAIL TO TAKE INTO ACCOUNT THE PROBABILITY OF SOME PANIC, TRAFFIC DISORDER, TRAFFIC OBSTACLES OUTSIDE THE EPZ AND THE FACT THAT THOUSANDS OF PEOPLE OUTSIDE DESIGNATED EVACUATION ZONES WILL ALSO EVACUATE. ACCORDING TO TESTIMONY BEFORE MASSACHUSETTS LEGISLATORS ON JUNE 18, 1986 BY EDWARD A. THOMAS, DIVISION CHIEF, NATURAL & TECHNOLOGICAL HAZARDS, FEMA, THE "REASONABLE ASSURANCE" ADEQUACY OF THE CURRENT PLAN IS BASED ON THE ASSUMPTION THAT COMMUNITIES OUTSIDE OF THE TEN MILE EPZ HAVE DEVELOPED PLANS TO AUGMENT EVACUATION AND SHELTERING EFFORTS. WHEN ASKED, MR. LUBERING, (SIC) DEPUTY DIRECTOR OF THE MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDHA), STATED THAT HE HAD NO EVIDENCE THAT SUCH PLANS EXIST. FURTHERMORE, EVACUATION TIME ESTIMATES ARE NOT PROVIDED FOR VARIOUS ADVERSE WEATHER SCENARIOS.

FEMA:

THE CURRENT EVACUATION TIME ESTIMATES ARE BASED ON A SEPTEMBER, 1980, STUDY CONDUCTED BY HMM ASSOCIATES, INC. WHICH WAS UPDATED IN AUGUST, 1981. THERE WERE ALSO SUPPLEMENTAL STUDIES ADDRESSING TRAFFIC CONGESTION PROBLEMS OUTSIDE OF THE EPZ IN THE VICINITY OF BUZZARDS BAY AND THE SAGAMORE BRIDGE AND PROJECTING THE IMPACT OF FUTURE POPULATION GROWTH. THESE STUDIES WERE EXTENSIVELY REVIEWED BY THE NRC AND FEMA AS PREVIOUSLY MENTIONED IN THIS REPORT. BOSTON EDISON HAS RECENTLY CONTRACTED TO UPDATE THE EVACUATION TIME ESTIMATE FOR THE PILGRIM NUCLEAR POWER STATION. THE PETITIONERS RAISE FIVE SEPARATE ISSUES WITH RESPECT TO EVACUATION WHICH WE HAVE ADDRESSED BELOW:

A) PANIC - PANIC, AS ACCEPTED BY MOST DISASTER RESEARCH PROFESSIONALS, WAS DEFINED BY ENRICO L. QUARANTELLI TO MEAN PEOPLE RUNNING FROM AN ASSUMED THREAT OF DANGER, NOT JUST A

HEIGHTENED SENSE OF ANXIETY¹. PANIC ALSO CONNOTES A SUDDEN OVERWHELMING FEAR THAT PRODUCES HYSTERICAL OR IRRATIONAL BEHAVIOR THAT CAN SPREAD QUICKLY THROUGH A GROUP OF PEOPLE. RESEARCH BASED ON ACTUAL DISASTERS HAS REVEALED THAT THE SPECTER OF WILD OR IRRATIONAL FLIGHT IN THE FACE OF GREAT THREAT OR DANGER IS NOT BORNE OUT IN REALITY. PEOPLE WILL OFTEN STAY IN A THREATENING SITUATION RATHER THAN MOVE OUT OF IT. RUSSEL DYNES AND OTHER RESEARCHERS² HAVE COMMENTED THAT THERE IS NO REASON TO EXPECT THAT PEOPLE WOULD REACT ANY DIFFERENTLY BECAUSE OF A RADIATION THREAT FROM AN EMERGENCY AT A NUCLEAR POWER PLANT THAN THEY WOULD TO ANY OTHER DISASTER. THEY HAVE ALSO EMPHASIZED THAT A KEY TO THE MANAGEMENT OF PEOPLE IN DANGER IS THE ABILITY FOR OFFICIALS TO PROVIDE CLEAR INSTRUCTIONS AND INFORMATION THAT WILL ADDRESS PUBLIC FEARS AND MINIMIZE CURIOSITY THAT COULD ATTRACT ONLOOKERS WHO MIGHT INHIBIT OR INTERFERE WITH MEASURES TAKEN TO PROTECT THE PUBLIC IN DANGER.

B) TRAFFIC DISORDERS - DISASTER RESEARCH LITERATURE HAS GENERALLY SHOWN THAT DURING A DISASTER PEOPLE DRIVE SAFELY AND DO NOT EXHIBIT ERRATIC DRIVING BEHAVIOR^{3,4}. IN ADDITION THE COMMONWEALTH OF MASSACHUSETTS HAS DEMONSTRATED THE ABILITY TO DEAL WITH TRAFFIC DISORDERS IN NUMEROUS EXERCISES AND REAL LIFE SITUATIONS.

C) TRAFFIC OBSTACLES OUTSIDE THE EPZ - THIS ISSUE WAS RAISED BY THE NUCLEAR REGULATORY COMMISSION AND WAS EXTENSIVELY REVIEWED BY FEMA IN A REPORT DATED MAY 1, 1984 (APPENDIX 2). IN BRIEF, OUR MAY 1, 1984 REPORT INDICATES THE TWO AREAS WHICH MIGHT PRESENT OBSTRUCTIONS TO EVACUATING TRAFFIC OUTSIDE OF THE EPZ ARE THE ROUTE 128, ROUTE 3 (SOUTH) INTERCHANGE AND THE SAGAMORE BRIDGE ROTARY. FEMA'S ANALYSIS INDICATED THAT THE COMMONWEALTH OF MASSACHUSETTS HAS UTILIZED THE INFORMATION DEVELOPED BY BOSTON EDISON AND ISSUES IDENTIFIED BY NRC TO DEVELOP AN ADEQUATE TRAFFIC MANAGEMENT PLAN. THIS PLAN IS ENTITLED "MASSACHUSETTS STATE POLICE TROOP U HEAD-QUARTERS, MIDDLEBOROUGH, MASSACHUSETTS, HIGHWAY TRAFFIC CONTROL AND PLAN FOR AN EMERGENCY CONDITION AT PILGRIM I NPS." THE PLAN CALLS FOR CONTROL OF TRAFFIC AT THE SAGAMORE BRIDGE AND SEVERAL MILES TO THE WEST TO EXPEDITE THE FLOW OF TRAFFIC OUT OF THE EPZ. TRAFFIC FROM CAPE COD WOULD BE RE-ROUTED TO THE BOURNE BRIDGE.

IN THE MOST SEVERE CASE MASSACHUSETTS PLANS TO CLOSE ROUTE 3 SOUTH AT ITS INTERSECTION WITH ROUTE 128. IN OTHER CASES THEY WILL CLOSE ROUTE 3 SOUTH AT ROUTE 18 WHICH IS 4 MILES SOUTH OF THE 128/3 INTERCHANGE.

D) SHADOW EVACUATION - THE MAIN EVACUATION ROUTES OUT OF THE PILGRIM EPZ ARE ROUTE 3 NORTH; ROUTE 3A NORTH; ROUTE 3 SOUTH; ROUTE 3A SOUTH; ROUTE 6/28 WEST; ROUTE 44 WEST; ROUTE 58 NORTH; ROUTE 58 SOUTH; ROUTE 108 WEST AND ROUTE 495 WEST.

THERE ARE ADDITIONAL SECONDARY ROADS OUT OF THE EPZ WHICH WOULD ALSO BE UTILIZED DURING AN EVACUATION. THE STATE POLICE HAVE DEVELOPED A DETAILED TRAFFIC MANAGEMENT PLAN FOR THE PILGRIM EPZ SO AS TO EXPEDITE TRAFFIC MOVEMENT OUT OF THE EPZ IN THE EVENT OF AN ACCIDENT AT THE PILGRIM NUCLEAR POWER STATION. THEY WILL BE ASSISTED BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.

b) ADVERSE WEATHER - THE AUGUST 19, 1981 UPDATE OF THE PILGRIM EVACUATION TIME ESTIMATES PROVIDED AN ESTIMATE FOR AN ADVERSE WEATHER CONDITION WHICH WAS INCLUDED IN THE AREA II NLEUA PLAN. THE EVACUATION TIME ESTIMATE UPDATE FOR PILGRIM WHICH IS NOW BEING PERFORMED FOR BOSTON EDISON WILL ADDRESS ADVERSE WEATHER SCENARIOS IN MORE DETAIL.

CONCERNING THE REMARKS ATTRIBUTED TO EDWARD A. THOMAS, THE THRUST OF MR. THOMAS'S COMMENTS WERE THAT: (A) FEMA AND THE COMMONWEALTH OF MASSACHUSETTS SUPPORT THE DEVELOPMENT OF COMPREHENSIVE PLANS TO DEAL WITH A WIDE VARIETY OF EMERGENCIES; (B) LOCAL GOVERNMENT HAVE THE OPTION OF DETERMINING WHICH PARTICULAR HAZARDS WILL BE SPECIFICALLY IDENTIFIED IN THEIR PLANS; (C) AND THAT LOCAL EMERGENCY PLANS CAN BE AND HAVE BEEN USED TO SUCCESSFULLY PROTECT THE PUBLIC FROM HAZARDS NOT SPECIFICALLY RECOGNIZED IN THE EMERGENCY PLANS. MR. THOMAS POINTED OUT THREE EXAMPLES OF THE USE

OF EMERGENCY PLANS DESIGNED FOR ONE HAZARD TO PROTECT THE PUBLIC FROM ANOTHER HAZARD:

- A. SUCCESSFUL USE OF CRISIS RELOCATION PLANS TO MOVE APPROXIMATELY 750,000 PEOPLE FROM THE PATH OF HURRICANE FREDERICK IN 1979.
- B. SUCCESSFUL USE BY STATE AND LOCAL GOVERNMENTS OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND EQUIPMENT TO PROTECT THE PUBLIC IN A SECTION OF CONNECTICUT DEVASTATED BY SUDDEN AND CATASTROPHIC FLOODS IN 1982.
- C. SUCCESSFUL USE OF LOCAL RADIOLOGICAL EMERGENCY RESPONSE PLANS AND EQUIPMENT TO PROTECT THE PUBLIC FROM A TOXIC RELEASE OF CHEMICALS FROM A CHEMICAL MANUFACTURER LOCATED NEAR THE WATERFORD NUCLEAR POWER PLANT IN LOUISIANA.

THEREFORE, MR. THOMAS CONCLUDED, THAT IN CONSIDERING WHETHER OR NOT A LARGER EMERGENCY PLANNING ZONE WAS REQUIRED TO PROTECT THE PUBLIC ON CAPE COD OR IN OTHER AREAS OUTSIDE THE CURRENT EMERGENCY PLANNING ZONE FOR PILGRIM ESTABLISHED BY THE COMMONWEALTH OF MASSACHUSETTS, THE LEGISLATURE MAY WANT TO CONSIDER FUNDING THE COMPREHENSIVE IMPROVEMENT OF EMERGENCY PLANS FOR THE AREA TO DEAL WITH ALL HAZARDS INCLUDING THOSE OF TOXIC CHEMICAL SPILLS, HURRICANES AND FLOODS WHICH EVERYONE AGREES HAVE A MUCH HIGHER PROBABILITY OF OCCURRING THAN AN ACCIDENT AT A NUCLEAR POWER PLANT.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

B) PETITIONERS:

"THERE ARE NO WORKABLE PLANS FOR EVACUATING THE PHYSICALLY DISABLED, NURSING HOME RESIDENTS, SCHOOL CHILDREN, HOSPITAL PATIENTS, CAMPERS, INMATES OF CORRECTIONAL FACILITIES, OR PEOPLE WITHOUT AUTOMOBILES. [IN LIGHT OF THE DEFICIENCY NOTED IN C. BELOW (LACK OF CONTRACTUAL AGREEMENTS WITH TRANSPORTATION PROVIDERS), GENERAL STATEMENTS IN THE PLAN TO THE EFFECT THAT THESE GROUPS WILL SOMEHOW BE EVACUATED ARE MEANINGLESS AND UNREALISTIC."

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

FEMA HAS STATED PREVIOUSLY IN ITS NOVEMBER 3, 1983, ANALYSIS OF THE MASSPIRG PETITION (SEE APPENDIX 1) THAT THE COMMONWEALTH OF MASSACHUSETTS PLANNING FOR SPECIAL NEEDS POPULATION IS WEAK BUT ACCEPTABLE. MCOA IN ITS RESPONSE TO THE 1983 MASSPIRG PETITION, HAS STATED THAT IN ADDITION TO LOCAL RESOURCES THE SUBSTANTIAL RESOURCES OF THE COMMONWEALTH WOULD BE BROUGHT TO BEAR SHOULD LOCAL GOVERNMENTS NEED ADDITIONAL ASSISTANCE IN EVACUATING SPECIAL NEEDS POPULATIONS. THE LOCAL PLANS SPECIFY THAT NURSING HOME RESIDENTS WILL BE EVACUATED BY PRIVATE AUTO, INSTITUTIONAL VAN, FIRE DEPARTMENT AMBULANCES, AND BUSES, IF NECESSARY. THE ONLY HOSPITAL LOCATED WITHIN THE 10-MILE EPZ IS THE JORDAN HOSPITAL IN PLYMOUTH. THE PROTECTION FACTOR AFFORDED BY THE HOSPITAL BUILDINGS' STRUCTURE AND MATERIALS WILL BE SUFFICIENT TO ALLOW SHELTER-IN-PLACE AS THE APPROPRIATE

PROTECTIVE ACTION FOR MANY ACCIDENT SCENARIOS. HOWEVER, IF NECESSARY, MOST OF THE PATIENTS WOULD BE EVACUATED BY PRIVATE AUTOS OF THE STAFF AND PATIENTS OR BY BUSES COORDINATED BY PLYMOUTH CIVIL DEFENSE STAFF. INTENSIVE CARE AND ORTHOPEDIC PATIENTS WHO NEED LIFE-SUPPORT SYSTEMS OR SPECIAL CARE IN MOVING WILL BE TRANSPORTED BY AMBULANCES.

THROUGH RESPONSE CARDS INCLUDED WITH THE ANNUAL EPI BROCHURES DISTRIBUTED TO ALL HOUSEHOLDS WITHIN THE 10-MILE EPI, PHYSICALLY DISABLED INDIVIDUALS ARE BEING IDENTIFIED SO THAT SPECIAL TRANSPORTATION NEEDS CAN BE IDENTIFIED IN ADVANCE.

AS MENTIONED ABOVE IN RESPONSE TO ISSUE 15(B), THE LOCAL PLANS SPECIFY THAT CONTRACTOR SCHOOL BUSES MAY BE USED TO MOVE THOSE WITHOUT PERSONAL MEANS OF TRANSPORTATION. THE PLAN PROVIDES THAT, IF THERE IS TIME, SCHOOL CHILDREN WILL BE RETURNED HOME TO EVACUATE WITH THEIR FAMILIES. UNLESS A DECISION IS MADE AT THE STATE OR LOCAL LEVEL, TO EVACUATE IN BUSES.

EVACUATION PLANS FOR INMATES AT CORRECTIONAL FACILITIES ARE DETAILED IN LOCAL PLANS. THERE ARE ONLY THREE SUCH FACILITIES ALL LOCATED WITHIN THE TOWN OF PLYMOUTH. THESE ARE THE PLYMOUTH COUNTY HOUSE OF CORRECTION (1984 EST. PEAK USE 255 INMATES), THE TOWN OF PLYMOUTH JAIL (1984 EST. PEAK USE - 22 INMATES), AND THE MASSACHUSETTS CORRECTIONAL INSTITUTION (1984 EST. PEAK USE - 65 INMATES).

ACCORDING TO THE TOWN OF PLYMOUTH RECORD DATED MAY 1989, EACH FACILITY HAS ESTABLISHED PROCEDURES FOR SHELTERING OR EVACUATION OF INMATES AND STAFF.

RECEPTION FOR INMATES, IN THE EVENT OF AN EVACUATION, WILL BE PROVIDED BY THE MASSACHUSETTS CORRECTIONAL INSTITUTION IN BRIDGEWATER. TRANSPORT WILL BE VIA BUSES AND VANS PROVIDED BY EACH INSTITUTION, WITH ADDITIONAL BACK-UP AVAILABLE FROM THE NATIONAL GUARD.

A COMPARISON OF THE ANTICIPATED TRANSPORTATION REQUIREMENTS THAT WOULD BE NECESSARY TO EVACUATE THE TRANSIT DEPENDENT POPULATION (INCLUDING MOBILITY IMPAIRED INDIVIDUALS, NURSING HOME RESIDENTS, HOSPITAL PATIENTS, SCHOOL CHILDREN AND INMATES AT CORRECTIONAL FACILITIES) WITH THE TRANSPORTATION RESOURCES ARTICULATED BY THE COMMONWEALTH OF MASSACHUSETTS, (ESPECIALLY, THE VAST STATE CONTROLLED RESOURCE OF MBTA BUSES) DOES NOT SUPPORT THE PETITION'S ALLEGATIONS THAT THE AREA [] MCDA AND AND STATE RESOURCES ARE INADEQUATE TO HANDLE AN EVACUATION.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION SUFFICIENT TO SUSTAIN ITS CONTENTION. ON THE OTHER HAND, FEMA, IN ITS SELF-INITIATED REVIEW HAS ANALYZED INFORMATION OF ITS OWN THAT SPEAKS TO THE ISSUES RAISED.

C.1) PETITIONERS:

TESTIMONY BY FEMA AND MCDA OFFICIALS AT THE JUNE 18, 1986 HEARING ON THE PILGRIM KERP INDICATED THAT THERE ARE NO CONTRACTUAL AGREEMENTS WITH BUS COMPANIES OR BUS DRIVERS, AMBULANCE COMPANIES, OR ANY OTHER TRANSPORTATION PROVIDERS FOR THOUSANDS OF PEOPLE WHO CANNOT DRIVE OR MAY NOT HAVE AN AUTOMOBILE.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

AT THE PRESENT TIME THERE ARE NO WRITTEN AGREEMENTS WITH PRIVATE BUS COMPANIES ALTHOUGH THE STATE HAS BEEN CONSIDERING THE NEED FOR THESE AGREEMENTS SINCE JULY 1983, (SEE MCDA RESPONSES TO MASSPIRG PETITION, PAGE 9, APPENDIX III).

AS STATED IN FEMA'S RESPONSE TO THE 1983 MASSPIRG PETITION (APPENDIX 1), ARRANGEMENTS HAVE BEEN MADE WITH THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA), A STATE AGENCY THAT, IN AN EMERGENCY, MAY BE DIRECTED BY THE GOVERNOR TO RESPOND. ACCORDING TO THE COMMONWEALTH OF MASSACHUSETTS, AN INVENTORY OF PUBLIC TRANSPORTATION RESOURCES IS AVAILABLE ON COMPUTER AND THESE RESOURCES SHOULD BE SUFFICIENT TO PROVIDE TRANSPORTATION TO THOSE WHO NEED IT. [SEE, ...-INITIATED REVIEW AND INTERIM FINDING FOR UPDATED INFORMATION].

c.2) PETITIONERS:

NO DRIVERS HAVE BEEN TRAINED IN THEIR SUPPOSED ROLE IN EVACUATION PLANS. IN FACT, NO DRIVERS HAVE BEEN INFORMED THAT THEY HAVE A ROLE IN EVACUATION PLANS.

FEMA:

AN EMERGENCY WORKER IS AN INDIVIDUAL WHO HAS AN ESSENTIAL MISSION WITHIN THE PLUME EXPOSURE EPZ TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC WHO COULD BE EXPOSED TO IONIZING RADIATION FROM THE PLUME OR ITS DEPOSITION. THE EMERGENCY WORKER MUST BE TRAINED IN THE BASIC CHARACTERISTICS OF IONIZING RADIATION AND ITS HEALTH EFFECTS. IN THIS CONTEXT, BUS DRIVERS AND OTHER PERSONNEL WHO WILL DRIVE EVACUATION VEHICLES MAY BE EMERGENCY WORKERS AND AS SUCH SHOULD BE TRAINED IN THEIR ROLE DURING AN EMERGENCY. [SEE, FEMA-REP-2 (REV. 1) "GUIDANCE ON OFF-SITE EMERGENCY RADIATION SYSTEMS", PHASE 1 - AIRBORNE RELEASE, DECEMBER 1985, P. 5-1, AND NUREG-0654, FEMA REP-1, REV.-1, II U. 1,2, 4 AND 5.]

THE MASSACHUSETTS PLANS FOR DEALING WITH AN ACCIDENT AT PILGRIM INDICATE THAT THE PRIMARY MEANS OF EVACUATION FOR THE EPZ WILL BE PRIVATE AUTOMOBILES. [SEE, E.G., TOWN OF PLYMOUTH RADIOLOGICAL EMERGENCY RESPONSE PLAN, P.7 ET SEQ.]. FOR POPULATIONS WHO DID NOT HAVE ACCESS TO PRIVATE AUTOMOBILES, THE PLANS CONTEMPLATE THE USE OF BUSES OR AMBULANCES. IF EXTRA BUSES ARE NEEDED FROM OUTSIDE THE EPZ, THE TOWNS WOULD CONTACT THE STATE AREA CIVIL DEFENSE HEADQUARTERS WHICH WOULD THEN COORDINATE THE PROVISION OF SUCH RESOURCES FROM THE VAST RESOURCES AVAILABLE TO THE COMMONWEALTH OF MASSACHUSETTS ESPECIALLY INCLUDING THE MBTA [ID. AT PP. 24-33].

FEMA HAS NO INDICATION THAT APPROPRIATE TRAINING (E.G., IN NOTIFICATION, RADIOLOGICAL EXPOSURE CONTROL, AND RADIOLOGICAL ACCIDENTS) HAS BEEN PROVIDED. THE TOWN OF PLYMOUTH CIVIL DEFENSE DIRECTOR INDICATED AT THE FEMA SPONSORED PUBLIC MEETING ON THE PLANS ON JUNE 3, 1982, THAT A TRAINING PROGRAM FOR BUS DRIVERS WAS BEING DEVELOPED FOR DEPLOYMENT IN THE FALL OF 1982. [SEE, TRANSCRIPT OF A PUBLIC MEETING ON THE STATE RADIOLOGICAL EMERGENCY RESPONSE PLAN, P. 27]. HOWEVER, WE UNDERSTAND THAT SUCH TRAINING DID NOT TAKE PLACE, AND IN ANY CASE, TRAINING FOR BUS DRIVERS IN RADIOLOGICAL EXPOSURE CONTROL HAS NOT EVER BEEN PROVIDED TO BUS DRIVERS.

LACK OF TRAINING FOR DRIVERS OF EVACUATION VEHICLES OR ANY OTHER EMERGENCY WORKER IS A PROBLEM AND IS NOT IN ACCORDANCE WITH FEDERAL GUIDANCE. THE COMMONWEALTH OF MASSACHUSETTS PLANS FOR EVACUATING THE PILGRIM EPZ CONTEMPLATE THAT THOSE BUS DRIVERS FROM OUTSIDE THE EPZ WILL MAKE ONLY ONE RUN INTO THE EPZ, PICK UP PASSENGERS AT A DESIGNATED SITE, AND IMMEDIATELY LEAVE. IN ADDITION, BASED ON OUR OBSERVATIONS OF THE MASSACHUSETTS EXERCISES OF THE PILGRIM PLANS, WE UNDERSTAND THAT THE STATE WILL CAREFULLY CONSIDER THE DOSE CONSEQUENCES TO THE DRIVER AND HIS PASSENGERS, AND THE OPTIMUM TIME FOR THE EVACUATION TRIP SELECTED. [SEE, MASSACHUSETTS RADIOLOGICAL EMERGENCY RESPONSE PLAN §§P.A.3, P.B.1, AND P.B.3]. THE STATE HAS INFORMED US THAT IN THE EVENT THAT A DRIVER

OF AN EVACUATION VEHICLE WAS LIKELY TO BE EXPOSED TO A LARGER DOSE OF RADIATION THAN THE GENERAL PUBLIC, THE STATE DECISION-MAKERS COULD USE AS EVACUATION DRIVERS A SUBSTANTIAL POOL OF STATE POLICE AND CIVIL DEFENSE WORKERS WHO HAVE BEEN APPROPRIATELY TRAINED IN RADIOLOGICAL EMERGENCY RESPONSE. THIS TYPE OF PRIMARILY AD HOC RESPONSE IS NOT DESIRABLE HOWEVER, AND THE COMMONWEALTH SHOULD IMPROVE ITS PLANS IN THIS AREA. TO ASSIST STATE AND LOCAL GOVERNMENTS IN IMPROVING THEIR PLANNING IN THE AREA OF BUS TRANSPORTATION, PARTICULARLY FOR SCHOOL CHILDREN, FEMA HAS DEVELOPED GUIDANCE MEMORANDUM EV-2, "PROTECTIVE ACTIONS FOR SCHOOL CHILDREN". THIS DOCUMENT WILL ASSIST THE COMMONWEALTH IN REFINING PLANS FOR BUS TRANSPORTATION, AND DRIVER TRAINING. FEMA WILL INSIST THAT IMPROVED PLANS AND TRAINING RELATED TO BUS DRIVERS BE DEVELOPED PRIOR TO, AND TESTED DURING, THE NEXT EXERCISE OF THE PILGRIM RADIOLOGICAL EMERGENCY RESPONSE PLANS.

IN THE MEANTIME, FEMA BELIEVES THAT THE USE OF TRAINED STATE POLICE AND CIVIL DEFENSE WORKERS AS BUS DRIVERS IS AN ADEQUATE COMPENSATORY MEASURE, AND THEREFORE, THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

C.5) PETITIONERS:

FURTHERMORE, THE PROPOSED ROUTE OF SUCH EVACUATION (ROUTE 3 NORTH AND ROUTE 44 WEST) ARE COMPLETELY INADEQUATE TO EFFECTIVELY HANDLE THE ANTICIPATED VOLUME OF TRAFFIC. THIS IS PARTICULARLY TRUE DURING THE SUMMER MONTHS DUE TO THE HEAVY VOLUME OF TOURISTS HEADING TO AND FROM CAPE COD.

FEMA:

FEMA THOROUGHLY ANALYZED THIS ISSUE IN 1984 AT THE REQUEST OF THE NRC, (SEE APPENDIX 2). WHILE ROUTES 3 AND 44 ARE THE MAJOR ROUTES LEADING OUT OF THE EPZ, THERE ARE MANY OTHER ROADS WHICH CAN BE USED TO LEAVE THE AREA. ALL ROUTES LEADING INTO THE EPZ WILL BE CLOSED TO INCOMING TRAFFIC, ACCORDING TO THE "STATE POLICE HIGHWAY TRAFFIC CONTROL AND NOTIFICATION PLAN FOR AN EMERGENCY AT PILGRIM I NPS."

THE EVACUATION TIME ESTIMATE FOR THE PILGRIM EPZ HAS BEEN EXTENSIVELY REVIEWED BY FEMA AND THE NRC AND FOUND TO BE ADEQUATE. POSSIBLE BOTTLE NECKS HAVE BEEN IDENTIFIED AND TRAFFIC MANAGEMENT PLANS HAVE BEEN DEVELOPED TO ALLOW EVACUATION TO PROCEED AS RAPIDLY AS POSSIBLE.

BOSTON EDISON HAS RECENTLY CONTRACTED TO UPDATE THE EVACUATION TIME ESTIMATE AND TRAFFIC MANAGEMENT PLAN FOR THE PILGRIM EPZ. (SEE APPENDIX 5, PAGES 11-12).

FEMA, THEREFORE, CONCLUDES THAT THE ISSUES RAISED IN SECTION 17 OF THE PETITION DO NOT PROVIDE INFORMATION SUFFICIENT TO SUSTAIN ITS CONTENTION. ON THE OTHER HAND, FEMA, IN ITS

SELF-INITIATED REVIEW HAS ANALYZED INFORMATION THAT SPEAKS TO THE ISSUES RAISED IN 17.C.1 AND 17.C.2.

18/ ALLEGED DEFICIENCIES IN MEDICAL FACILITIES

A) PETITION:

VARIOUS NRC AND FEMA REGULATIONS REQUIRE THAT ARRANGEMENTS BE MADE FOR MEDICAL SERVICES FOR CONTAMINATED INJURED INDIVIDUALS (10 CFR 50.47 (B)(12); 10 CFR PART 50, APPENDIX E. 11.E AND IV. E.7) EVALUATION (CRITERIA L.1 AND L.3). THE PLAN MAKES INADEQUATE PROVISION FOR TREATMENT OF VICTIMS OF RADIOACTIVE CONTAMINATION. A MASSPIRG 1983 STUDY OF THE TWO HOSPITALS LISTED IN THE PLAN IN EFFECT REVEALED THEY HAVE A TOTAL CAPACITY TO TREAT ONLY EIGHT OR NINE VICTIMS OF RADIOACTIVE CONTAMINATION. ONE OF THESE (JORDAN HOSPITAL, PLYMOUTH) IS WITHIN FOUR MILES OF THE PLANT, SO IT MAY NEED TO BE EVACUATED. THE OTHER (MORTON HOSPITAL, TAUNTON) IN 1983 HAD NO STAFF TRAINED FOR RADIOLOGICAL ACCIDENTS. NO DATA SUGGESTS THE SITUATION HAS MATERIALLY IMPROVED SINCE 1983.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND MEDICAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

IN ITS RESPONSE TO THE PETITION THE COMMONWEALTH OF MASSACHUSETTS STATED (APPENDIX 3, JULY 20, 1985):

UNDER NO CIRCUMSTANCES WOULD WE EXPECT LARGE NUMBERS OF CONTAMINATED INDIVIDUALS. THE NRC THROUGH NUREG-0396 MADE IT CLEAR THAT MEDICAL REQUIREMENTS RESULTING FROM POWER PLANT ACCIDENTS NEED INVOLVE ONLY LIMITED FACILITIES FOR TREATMENT OF EXPOSED OR CONTAMINATED INDIVIDUALS. NONETHELESS, ALL ACCREDITED MASSACHUSETTS HOSPITALS MUST MAINTAIN A CAPABILITY TO TREAT EXPOSED OR CONTAMINATED INDIVIDUALS.

FEMA PREVIOUSLY STATED (APPENDIX 1, NOVEMBER 3, 1985):

THIS CONCERN HAS BEEN ADDRESSED IN ACCORDANCE WITH NRC'S REQUIREMENTS AS FOLLOWS:

1) NUREG-0396 MAKES IT CLEAR THAT MEDICAL REQUIREMENTS RESULTING FROM POWER PLANT ACCIDENTS NEED INVOLVE ONLY LIMITED FACILITIES FOR TREATMENT OF EXPOSED OR CONTAMINATED INDIVIDUALS. THIS POSITION IS IN ACCORD WITH THE NRC COMMISSIONER'S MEMORANDUM AND ORDER OF APRIL 4, 1983 (17 NRC 528 (1983), CLI-83-10) WHICH STATES:

NO ADDITIONAL MEDICAL FACILITIES OR CAPABILITIES ARE REQUIRED FOR THE GENERAL PUBLIC. HOWEVER, FACILITIES WITH WHICH PRIOR ARRANGEMENTS ARE MADE AND THOSE LOCAL OR REGIONAL FACILITIES WHICH HAVE THE CAPABILITY TO TREAT CONTAMINATED INJURED INDIVIDUALS SHOULD BE IDENTIFIED... EMERGENCY PLANS SHOULD, HOWEVER, IDENTIFY THOSE LOCAL OR REGIONAL MEDICAL FACILITIES WHICH HAVE THE CAPABILITIES TO PROVIDE APPROPRIATE MEDICAL TREATMENT FOR RADIATION EXPOSURE. NO CONTRACTUAL AGREEMENTS ARE NECESSARY AND NO ADDITIONAL HOSPITALS OR OTHER FACILITIES NEED BE CONSTRUCTED.

2) WE NOTE THAT ALL ACCREDITED MASSACHUSETTS HOSPITALS ARE REQUIRED BY THE COMMONWEALTH TO MAINTAIN A CAPABILITY TO TREAT EXPOSED OR CONTAMINATED INDIVIDUALS AND EMERGENCY PERSONNEL ARE ADVISED IN THE HANDLING OF RADIATION VICTIMS. IN ADDITION, AS REQUIRED BY NRC REGULATIONS, THE UTILITY HAS MADE ARRANGEMENTS WITH JORDAN HOSPITAL IN PLYMOUTH TO PROVIDE ACUTE TREATMENT FOR EXPOSED OR CONTAMINATED PERSONNEL. THIS ABILITY WAS REVIEWED BY THE MAY 1982 EXERCISE OF THE EMERGENCY PLAN AND FOUND ACCEPTABLE.

THESE ARRANGEMENTS ARE DOCUMENTED ON PAGE 133 AND ANNEX A OF THE EMERGENCY PLAN FOR THE PILGRIM NUCLEAR POWER STATION.

BOSTON EDISON STATED THAT ADDITIONAL HOSPITALS HAVE BEEN IDENTIFIED AND ARRANGEMENTS HAVE BEEN MADE WITH THEM CONCERNING TREATMENT OF CONTAMINATED INDIVIDUALS OR RADIATION VICTIMS. (APPENDIX 5, PAGE 15).

ADDITIONAL RESOURCES ARE AVAILABLE IN OTHER AREAS AND THROUGH THE FEDERAL RADIOLOGICAL EMERGENCY RESPONSE PLAN.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

B) PETITIONERS:

THE PLAN FAILS TO PROVIDE FOR THE DISTRIBUTION OF RADIO-PROTECTIVE DRUGS FOR THE PREVENTION OF THYROID TUMORS TO THE GENERAL PUBLIC OR TO PERSONS IN INSTITUTIONS WHO MAY NOT BE EVACUATED. THE NRC AND FEMA RECOMMEND DISTRIBUTION OF SUCH DRUGS AT LEAST TO SUCH INSTITUTIONALIZED PERSONS (EVALUATION CRITERIA, J.10.E. AND J.10.F.J).

FEMA:

THIS IS SIMILAR TO AN ISSUE THAT WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. HOWEVER THE PETITIONER IN THIS CASE MAKES THE ADDITIONAL POINT THAT THERE ARE NO SPECIFIC PROVISIONS IN THE MASSACHUSETTS RADIOLOGICAL EMERGENCY PLANS FOR PROVIDING RADIO PROTECTIVE DRUGS TO INSTITUTIONALIZED PERSONS AS IS REQUIRED BY FEDERAL GUIDANCE.

IN ITS RESPONSE TO THE 1983 MASSPIRG PETITION, THE COMMONWEALTH OF MASSACHUSETTS STATED (APPENDIX 3):

THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH (MDPH) HAS ADVISED THAT DISTRIBUTION OF POTASSIUM IODIDE IN MASSACHUSETTS WILL BE LIMITED TO EMERGENCY WORKERS DURING THE INITIAL PHASE OF AN EMERGENCY. THE MDPH POLICY IS BASED UPON THE DRUG'S POTENTIAL ADVERSE SIDE EFFECTS IF DISTRIBUTED TO THE GENERAL POPULATION INDISCRIMINATELY.

FEMA STATED IN ITS RESPONSE TO THE 1983 MASSPIRG PETITION (APPENDIX 1):

THE COMMONWEALTH OF MASSACHUSETTS HAS CAREFULLY REVIEWED THIS ISSUE AND FORMULATED A POLICY FOR THE DISTRIBUTION OF POTASSIUM IODIDE WHICH IS THAT IT WILL ONLY BE GIVEN TO EMERGENCY WORKERS UNDER EXTRAORDINARY CIRCUMSTANCES. IF THERE WERE A POSSIBILITY OF RADIOACTIVE IODINES BEING RELEASED, THE COMMONWEALTH WOULD EVACUATE THE AREA OR SHELTER THE POPULATION RATHER THAN HAVE THEM TAKE RADIO-PROTECTIVE DRUGS. THIS POLICY IS BASED UPON THE COMMONWEALTH'S PERCEPTION OF THE DRUG'S POTENTIAL ADVERSE SIDE EFFECTS IF DISTRIBUTED TO THE GENERAL POPULATION, AND IS CONSISTENT WITH CURRENT FEDERAL POLICY. (SEE APPENDIX B)

THE COMMONWEALTH'S PLAN FOR THE DISTRIBUTION OF POTASSIUM IODINE TO INSTITUTIONALIZED PEOPLE IS WEAK. THE STATE DIRECTOR OF THE DEPARTMENT OF PUBLIC HEALTH, RADIATION CONTROL UNIT HAS TOLD US THAT THE CURRENT MASSACHUSETTS POLICY IS THAT THE COMMISSIONER OF PUBLIC HEALTH WOULD ANALYZE THE SITUATION AT THE TIME OF THE ACCIDENT TO DETERMINE IF THE ADMINISTRATION OF KI TO INSTITUTIONALIZED PEOPLE IS WARRANTED. BECAUSE OF THE COMPARATIVELY FEW INSTITUTIONS IN THE PILGRIM PLUME EXPOSURE EMERGENCY PLANNING ZONE THE DISTRIBUTION OF KI TO THE INSTITUTIONS COULD BE ACCOMPLISHED ON AN AD HOC BASIS USING EXISTING STOCKS MAINTAINED BY NUCLEAR UTILITIES. THE COMMONWEALTH'S PLAN WOULD BE ENHANCED IF THE POLICY FOR THE ADMINISTRATION OF KI TO INSTITUTIONALIZED PEOPLE WERE CLEARLY STATED; AND IF PROCEDURES FOR THE DISTRIBUTION OF KI TO THE INSTITUTIONS WERE MORE FULLY DEVELOPED.

FEMA, THEREFORE, CONCLUDES THAT WHILE THE PETITION POINTS OUT A WEAKNESS IN THE MASSACHUSETTS PLANS, IT DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

19/ THE EMERGENCY PLANNING ZONE IS TOO SMALL

A) PETITIONERS:

THE ENVIRONMENTAL PROTECTION AGENCY (EPA) RECOMMENDS PROTECTIVE MEASURES BY THE PUBLIC WHEN RADIATION EXPOSURE IS LIKELY TO EXCEED THE EPA'S "PROTECTIVE ACTION GUIDE" OF ONE REM (MANUAL OF PROTECTIVE ACTION GUIDE AND PROTECTIVE ACTIONS FOR NUCLEAR ACCIDENTS, EPA-520/1-75-001, EPA, 1975).

FEMA:

THE COMMONWEALTH OF MASSACHUSETTS RADIOLOGICAL EMERGENCY RESPONSE PLAN IS CONSISTENT WITH FEDERAL PROTECTIVE ACTION GUIDELINES.

B) PETITIONERS:

NRC REGULATIONS REQUIRE THE EXACT SIZE AND CONFIGURATION OF EACH EPZ TO BE "DETERMINED IN RELATION TO LOCAL RESPONSE NEEDS AND CAPABILITIES AS THEY ARE AFFECTED BY SUCH CONDITIONS AS DEMOGRAPHY, TOPOGRAPHY, LAND CHARACTERISTICS, ACCESS ROUTES, AND JURISDICTIONAL BOUNDARIES." GENERALLY, THE NRC PROVIDES, THE PLUME EXPOSURE EPZ SHOULD BE ABOUT TEN MILES IN RADIUS (10 CFR PART 50.47 (c)(2)). BOSTON EDISON COMPANY HAS STATED THAT THE ONLY FACTOR USED TO CREATE THE PILGRIM EPZ WAS JURISDICTIONAL BOUNDARIES (RESPONSE OF BOSTON EDISON COMPANY TO COMMONWEALTH OF MASSACHUSETTS' FIRST SET OF INTERROGATORIES ON EMERGENCY PLANNING, JULY 20, 1981, P. 21).

FEMA:

THE REGIONAL ASSISTANCE COMMITTEE, WHICH IS CHAIRED BY FEMA, REVIEWED THE PROPOSED PILGRIM NUCLEAR POWER STATION PLUME EXPOSURE EMERGENCY PLANNING ZONE AND FOUND IT TO BE ADEQUATE IN SIZE AND THAT IT ADEQUATELY ADDRESSED THE DEMOGRAPHIC, TOPOGRAPHIC AND LAND USE CHARACTERISTICS, ACCESS ROUTES, AND JURISDICTIONAL BOUNDARIES.

THE COMMONWEALTH OF MASSACHUSETTS INDICATED AT THE PLYMOUTH PUBLIC MEETING (JUNE 30, 1986) IT WILL REVIEW THE SIZE OF THE PILGRIM PLUME EXPOSURE EMERGENCY PLANNING ZONE AS PART OF AN ONGOING EFFORT TO IMPROVE EMERGENCY PLANS AND PREPAREDNESS AROUND NUCLEAR POWER PLANTS.

FEMA CONCLUDES THAT THE PETITION CONTAINS NO EVIDENCE TO SUGGEST THAT THE SIZE OF THE PLUME EXPOSURE EMERGENCY PLANNING ZONE FOR THE PILGRIM NUCLEAR POWER STATION IS TOO SMALL.

C) PETITIONERS:

CAPE COD BEGINS JUST ELEVEN MILES FROM PILGRIM AND IS CONNECTED TO THE MAINLAND BY ONLY TWO BRIDGES. THERE IS NO EMERGENCY PLANNING FOR CAPE COD, NOR PUBLIC EDUCATION OF PROTECTIVE MEASURES, NOR WARNING SIRENS. HOWEVER, THERE ARE PLANS TO CLOSE THE CAPE COD BRIDGES TO PREVENT ITS EVACUATION, SO AS TO GIVE PREFERENCE TO EVACUEES WITHIN THE PLANT'S 10-MILE RADIUS. THIS IS TOTALLY UNACCEPTABLE TO THE PEOPLE ON THE CAPE, WHO WOULD BE IN THE PATH OF A RADIOLOGICAL PLUME IF THE WIND WERE BLOWING TOWARD THE CAPE. EVEN IF THEY WERE ALLOWED TO EVACUATE THE CAPE OVER THE CONNECTING BRIDGES, THEY WOULD BE DOING SO IN THE DIRECTION OF THE PLANT AND THE SOURCE OF THE RADIATION. THE ISSUE OF EVACUATING CAPE COD IS EXTREMELY IMPORTANT IN THE LIGHT OF THE CHERNOBYL ACCIDENT, SINCE THERE THE RADIOACTIVE PLUME EXTENDED MUCH FURTHER THAN 10-MILES.

FEMA:

THIS ISSUE WAS RAISED PREVIOUSLY IN THE "PETITION OF THE MASSACHUSETTS PUBLIC INTEREST RESEARCH GROUP FOR EMERGENCY AND REMEDIAL ACTION" FILED BY MASSPIRG WITH THE NRC ON JULY 20, 1983. NO SUBSTANTIVE NEW ISSUES ARE RAISED IN THE CURRENT PETITION.

FEMA STATED IN ITS RESPONSE TO THE 1983 PETITION (APPENDIX 1):

THE CONCLUSION IN THE MASSPIRG PETITION THAT THE SIZE OF THE EMERGENCY PLANNING ZONE SHOULD BE INCREASED TO INCLUDE CAPE COD AND OTHER AREAS IS BASED UPON A REPORT PREPARED FOR THE MASSACHUSETTS ATTORNEY GENERAL'S OFFICE. THIS REPORT WAS PREPARED BY HMB TECHNICAL ASSOCIATES AND IS ENTITLED "REVIEW OF CALCULATION OF REACTOR ACCIDENT CONSEQUENCES (KALC 2) RESULTS AND LIQUID PATHWAYS, (NUREG-1596) STUDY:

"IMPLICATIONS FOR EMERGENCY PLANNING IN THE VICINITY OF THE PILGRIM NUCLEAR POWER STATION." THE REPORT CONCLUDES "...PROTECTIVE ACTION GUIDELINE DOSES MAY BE EXCEEDED IF THE CURRENT EMERGENCY PLANNING ZONES ARE USED." TO THE EXTENT THAT THIS STATEMENT INDICATES A NEED TO INCREASE THE SIZE OF THE APPROXIMATELY 10-MILE RADIUS PLUME EXPOSURE PATHWAY ZONE AT PILGRIM, SUCH A CONCLUSION IS NOT GENERALLY ACCEPTED BY THE SCIENTIFIC COMMUNITY AT THIS TIME.

THE SIZE AND CONFIGURATION OF THE EMERGENCY PLANNING ZONE FOR PILGRIM IS BASED UPON NUREG-U654 CRITERIA AND APPROVED BY THE REGIONAL ASSISTANCE COMMITTEE (KALC). THE SIZE OF THE EPZ TO BE USED FOR RADIOLOGICAL EMERGENCY RESPONSE WAS DETERMINED BY A JOINT NRC/EPA TASK FORCE STUDY. THE CONCLUSIONS REACHED BY THE TASK FORCE ARE DOCUMENTED IN NUREG-U654, EPA 520/1-78-016. BOTH NUREG-U654 AND NUREG-U396 RECOGNIZE THAT PAGS MIGHT BE EXCEEDED BEYOND THE TEN MILE PLUME EXPOSURE EPZ IN THE EVENT OF THE WORST POSSIBLE ACCIDENT AND METEOROLOGICAL CONDITIONS. HOWEVER, A TEN MILE PLUME EXPOSURE EPZ WAS STILL CHOSEN AS A PLANNING BASIS IN NUREG-U654 BECAUSE:

- A. PROJECTED DOSES FROM THE TRADITIONAL DESIGN BASIS ACCIDENTS WOULD NOT EXCEED PAG LEVELS OUTSIDE THE ZONE;
- B. PROJECTED DOSES FROM MOST CORE MELT SEQUENCES WOULD NOT EXCEED PAG LEVELS OUTSIDE THE ZONE;
- C. FOR THE WORST CORE MELT SEQUENCES, IMMEDIATE LIFE THREATENING DOSES WOULD GENERALLY NOT OCCUR OUTSIDE THE ZONE;
- D. DETAILED PLANNING WITHIN 10 MILES WOULD PROVIDE A SUBSTANTIAL BASE FOR EXPANSION OF RESPONSE EFFORTS IN THE EVENT THAT THIS PROVED NECESSARY.

THE NRC HAS BEEN INVESTIGATING ACCIDENT SOURCE TERMS, PROBABILITIES AND CONSEQUENCES OF NUCLEAR REACTOR ACCIDENTS FOR SEVERAL YEARS. THE RESULT OF THESE STUDIES, WHEN COMPLETE, ARE EXPECTED TO BE USED IN REVISING NUREG-0654. THE REVISION OF NUREG-0654 MAY INCLUDE RECONSIDERATION OF THE SIZE OF THE EMERGENCY PLANNING ZONE.

CAPE COD IS BEYOND THE 10-MILE EPZ AND DOES NOT NEED SPECIFIC RADIOLOGICAL EMERGENCY PLANS. HOWEVER, AS NOTED EARLIER IN THIS RESPONSE, THE COMMONWEALTH HAS INDICATED TO FEMA THAT IT WILL REVIEW THE SIZE OF THE PILGRIM PLUME EXPOSURE EMERGENCY PLANNING ZONE AS PART OF AN ON-GOING EFFORT TO IMPROVE EMERGENCY PLANS AND PREPAREDNESS AROUND NUCLEAR POWER PLANTS. SPECIFIC, DETAILED PLANS DEVELOPED FOR THE EPZ DO NOT PRECLUDE TAKING APPROPRIATE PROTECTIVE ACTIONS BEYOND THE 10-MILE AREA. IN FACT, THE DETAILED EPZ PLANS BECOME THE BASIS FOR ANY ACTIONS REQUIRED AT GREATER DISTANCES.

ACCORDING TO THE MASSACHUSETTS CIVIL DEFENSE AGENCY COMPREHENSIVE EMERGENCY MANAGEMENT PLANS WHICH ADDRESS THE USE OF SHELTER AND EVACUATION AS POSSIBLE PROTECTIVE RESPONSE TO EMERGENCIES CURRENTLY EXIST IN MOST COMMUNITIES OUTSIDE OF THE PLUME EXPOSURE EMERGENCY PLANNING ZONE.

FEMA HAS JOINED NRC AND THE DEPARTMENT OF ENERGY, EPA AND THE NUCLEAR INDUSTRY IN THE PREPARATION OF A REPORT ON THE CHERNOBYL ACCIDENT. FEMA ACCEPTED THE RESPONSIBILITY FOR THE CHAPTER ON EMERGENCY RESPONSE AND PREPAREDNESS. WE VIEW THIS REPORT AS A NECESSARY PREREQUISITE FOR ANY REVIEW

OF THE U.S. RADIOLOGICAL EMERGENCY PREPAREDNESS PROGRAM. IT SHOULD IDENTIFY LESSONS FROM THE CHERNOBYL EXPERIENCE THAT CAN BE USED IN REVIEWING THE U.S. PROGRAM. AT THIS TIME, HOWEVER, WE ARE NOT YET IN A POSITION TO DETERMINE IF THE LESSONS LEARNED AT CHERNOBYL WILL REQUIRE CHANGES IN THE RADIOLOGICAL EMERGENCY PLANNING.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

D) PETITIONERS:

BASED HIS CONCLUSION UPON NRC DATA, THE ATTORNEY GENERAL OF MASSACHUSETTS HAS CONCLUDED THAT THE SIZE OF THE PILGRIM EPZ IS INADEQUATE (COMMENTS OF ATTORNEY GENERAL FRANCIS X. BELLUCCI RELATIVE TO OFF-SITE EMERGENCY PLANNING FOR THE PILGRIM NUCLEAR POWER STATION, SUBMITTED TO FEMA, AUGUST 1982).

FEMA:

IN RESPONSE TO A JUNE 3, 1982, PUBLIC MEETING ON THE STATE AND LOCAL OFF-SITE RADIOLOGICAL EMERGENCY PLAN, ASSISTANT ATTORNEY GENERAL JOANN SHOTWELL OF THE ENVIRONMENTAL PROTECTION DIVISION OF THE MASSACHUSETTS ATTORNEY GENERAL'S OFFICE REQUESTED BY A LETTER OF JUNE 16, 1982, THAT THE MEETING RECORD BE LEFT OPEN UNTIL THE END OF JULY SO THAT HER OFFICE COULD SUBMIT FURTHER COMMENTS. THE ATTORNEY GENERAL'S OFFICE RETAINED MHB TECHNICAL ASSOCIATES OF SAN JOSE, CALIFORNIA, TO REVIEW FOR THEM CERTAIN DOCUMENTS RELATED TO OFF-SITE PLANNING AROUND THE PILGRIM NPS. THE MHB REPORT WAS TITLED "REVIEW OF CALCULATION OF REACTOR CON-

SEQUENCES (ORAC 2) RESULTS AND LIQUID PATHWAYS (NUKEG-1596) STUDY: IMPLICATIONS FOR EMERGENCY PLANNING IN THE VICINITY OF THE PILGRIM NUCLEAR POWER STATION". IN A LETTER DATED AUGUST 20, 1983, FRANCIS A. BELLOTTI, THE MASSACHUSETTS ATTORNEY GENERAL (AG) SENT TO FEMA REGION 1, FIFTEEN PAGES OF COMMENTS ADDRESSING FOUR GENERAL ISSUES. ONE OF THESE ISSUES DEALT WITH THE SIZE OF THE 10-MILE PLUME EXPOSURE EPZ. BASED ON MHB'S TECHNICAL REVIEW OF THE REFERENCED NRC DOCUMENTS, THE MASSACHUSETTS AG INDICATED THAT POTENTIAL DOSES TO THE POPULATION WOULD EXCEED THE LEVELS AT WHICH THE EPA PROTECTIVE ACTION GUIDES RECOMMEND EVACUATION, EVEN AT DISTANCES OF 50 MILES DOWNWIND FROM THE PLANT. THIS SITUATION, THE AG BELIEVES, WOULD OCCUR DURING AN SST-1 WORSE CASE ACCIDENT UNDER CERTAIN WEATHER CONDITIONS THAT RESULT IN MAXIMUM DOSE. THUS, THE AG BELIEVES THAT THE CURRENT USE OF THE 10-MILE EPZ FOR PILGRIM IS NOT APPROPRIATE, AND THAT THE EPZ SHOULD, THEREFORE, BE EXTENDED FURTHER TO INCLUDE ALL OF CAPE COD.

THIS SAME CONCERN WAS RAISED BY MASSPIRG AND WAS REFERRED TO THE NRC FOR THEIR RESPONSE AS IT WAS IN DIRECT CONFLICT WITH NRC'S REGULATION 10 CFR 50.7 (c) (2). NRC'S RESPONSE TO MASSPIRG IS DISCUSSED ON PAGES 10-14 OF NRC'S "INTERIM DIRECTOR'S DECISION UNDER 10 CFR 2.206 (DOCKET NO. 50-293)," (FEBRUARY 27, 1984).

THE RESPONSE STATES THAT THE PLUME EPZ FOR THE PILGRIM FACILITY IS BASED UPON NUREG-0654 GUIDANCE CRITERIA. THE JOINT NRC/EPA TASK FORCE THAT DEVELOPED NUREG-0396 CONSIDERED SEVERAL POSSIBLE RATIONALES FOR ESTABLISHING THE SIZE OF THE EPZs. THESE INCLUDED RISK, PROBABILITY, COST EFFECTIVENESS AND AN ACCIDENT CONSEQUENCE SPECTRUM. THE TASK FORCE CHOSE TO BASE EPZ SIZE ON A FULL SPECTRUM OF ACCIDENTS AND CORRESPONDING CONSEQUENCES TEMPERED BY PROBABILITY CONSIDERATIONS. IT WAS THE CONSENSUS OF THE TASK FORCE THAT A PLUME EPZ OF ABOUT TEN MILES WOULD PROVIDE AN ADEQUATE PLANNING BASE BEYOND WHICH ACTIONS COULD BE TAKEN ON AN AD HOC BASIS USING THE SAME CONSIDERATIONS THAT WENT INTO THE INITIAL ACTION DETERMINATIONS. IN ITS STATEMENT ON "PLANNING BASIS FOR EMERGENCY RESPONSE TO NUCLEAR POWER ACCIDENTS," 44 FED. REG. 61123 (OCT. 23, 1979), THE COMMISSION NOTED THAT AN EPZ OF ABOUT 10 MILES IS CONSIDERED LARGE ENOUGH TO PROVIDE A RESPONSE BASE WHICH WOULD SUPPORT ACTIVITY OUTSIDE THE PLANNING ZONE SHOULD THIS EVER BE NEEDED.

THE PETITIONER CONTENDS THAT, BASED UPON THE REFERENCED CRAC 2 RESULTS, AN ENLARGEMENT OF THE CURRENT PILGRIM PLUME EPZ IS WARRANTED BECAUSE THE PROJECTED DOSES EXCEED THE EPA PROTECTIVE ACTION GUIDES (PAGs) OUTSIDE THE 10-MILE EPZ. BOTH NUREG-0654 AND NUREG-0396 RECOGNIZE, BASED UPON CRAC 2 RESULTS, THAT THE PAGs MIGHT BE EXCEEDED BEYOND THE TEN MILE

PLUME EXPOSURE EPZ IN THE EVENT OF THE WORST POSSIBLE ACCIDENT AND METEOROLOGICAL CONDITIONS. HOWEVER, A TEN MILE PLUME EXPOSURE EPZ WAS STILL CHOSEN AS A PLANNING BASIS IN NUKLEU-UBDH BECAUSE:

- A. PROJECTED DOSES FROM THE TRADITIONAL DESIGN BASIS ACCIDENTS WOULD NOT EXCEED PAG LEVELS OUTSIDE THE ZONE;
- B. PROJECTED DOSES FROM MOST SEVERE FUEL DEGRADATION SEQUENCES WOULD NOT EXCEED PAG LEVELS OUTSIDE THE ZONE;
- C. FOR THE WORSE FUEL DEGRADATION SEQUENCES, IMMEDIATE LIFE THREATENING DOSES WOULD GENERALLY NOT OCCUR OUTSIDE THE ZONE; AND
- D. DETAILED PLANNING WITHIN 10 MILES WOULD PROVIDE A SUBSTANTIAL BASE FOR EXPANSION OF RESPONSE EFFORTS IN THE EVENT THAT THIS PROVED NECESSARY.

HENCE, AT THE PRESENT TIME, NRC HAS INDICATED TO FEMA THAT THERE IS NO BASIS FOR REQUIRING THAT A PLUME EXPOSURE PATHWAY EPZ SHOULD BE GREATER THAN APPROXIMATELY A 10-MILE RADIUS FROM THE PLANT.

FEMA, THEREFORE, CONCLUDES THAT THE PETITION DOES NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

20/ LACK OF COORDINATION AND PRIORITIZATION OF THE KEKP

A) PETITIONERS:

THE NRC SHOULD SUSPEND THE OPERATING LICENSE OF THE PILGRIM POWER PLANT UNTIL A REALISTIC, DETAILED KEKP IS DEVELOPED, SHOWING AN ACTUAL CAPABILITY TO EDUCATE, ALERT, TREAT AND EFFICIENTLY EVACUATE ALL PEOPLE WHO MAY BE AT RISK FROM A CATASTROPHIC ACCIDENT AT THE PLANT. FEDERAL, STATE AND LOCAL GOVERNMENT AGENCIES, AS WELL AS BOSTON EDISON, HAVE ALL ACCORDED A LOW PRIORITY TO EMERGENCY PLANNING. INSTEAD OF TRYING SERIOUSLY TO DEVISE A PLAN THAT WILL PROTECT ALL

OF THE PUBLIC, PLANNERS HAVE SOUGHT TO ACHIEVE ONLY MINIMUM COMPLIANCE WITH NRC REGULATIONS; AS SECTIONS 13 THROUGH 18 OF THIS PETITION DEMONSTRATE, THEY HAVE FAILED TO DO EVEN THAT. THIS INSUFFICIENT COMMITMENT TO PUBLIC PROTECTION IS EVIDENT IN MISSED DEADLINES, SLOW PROCESSING OF PAPERWORK, LACK OF ATTENTION TO DETAIL AND INADEQUATE BUDGETS AND STAFFING.

TO DATE, FEMA HAS LARGELY ACQUIESCED IN PLANS THAT FAIL TO DEMONSTRATE A CAPABILITY TO ADEQUATELY RESPOND TO AN ACTUAL EMERGENCY, AND FEMA'S ACQUIESCENCE HAS BEEN EMULATED BY THE NRC. WHERE FEMA HAS CRITICIZED PARTS OF THE PLAN, THE MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDA) HAS NOT RESPONDED IN A TIMELY FASHION TO FEMA'S CONCERNS. FOR EXAMPLE, ACCORDING TO TESTIMONY BEFORE MASSACHUSETTS STATE LEGISLATORS ON JUNE 18, 1986, BY EDWARD A. THOMAS OF FEMA, THE AGENCY SENT LETTERS OUTLINING PERSISTENT FEMA CONCERNS TO MCDA IN OCTOBER, 1985 AND JANUARY, 1986. FEMA RECEIVED NO RESPONSE TO THE OCTOBER LETTER UNTIL JUNE 3, 1986 AND FEMA HAD NOT YET RECEIVED A RESPONSE TO THE JANUARY LETTER BY THE TIME OF THE HEARING.

FEMA:

ON JUNE 15, 1981, THE DIRECTOR OF THE MASSACHUSETTS CIVIL DEFENSE AGENCY (MCDA) ON BEHALF OF THE GOVERNOR OF THE COMMONWEALTH OF MASSACHUSETTS SUBMITTED THE RADIOLOGICAL EMERGENCY RESPONSE PLANS FOR REVIEW PURSUANT TO 44 CFR 350, AND STATED THAT IN THE OPINION OF MCDA THE PLAN WAS ADEQUATE TO PROTECT THE PUBLIC HEALTH AND SAFETY. ON SEPTEMBER 29, 1982, FEMA ISSUED AN INTERIM FINDING THAT ALTHOUGH THE PLANS WERE NOT PERFECT, "THE INTERIM FINDING OF FEMA IS THAT THE STATE PLAN AND LOCAL PLANS TOGETHER ARE ADEQUATE TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC." ON MARCH 6, 1985 AND OCTOBER 30, 1985 FEMA INFORMED THE MASSACHUSETTS CIVIL DEFENSE AGENCY BY LETTER THAT BECAUSE OF UNRESOLVED EMERGENCY PLANNING ISSUES RAISED DURING THE RAC REVIEWS OF OCTOBER 1981

AND SEPTEMBER 1982, AND DURING THE 1982 AND 1985 EXERCISES WE HAD SUSPENDED PROCESSING THEIR REQUEST FOR A FORMAL APPROVAL PURSUANT TO 44 LFR 350. FEMA HAS NOT RESUMED ITS PROCESSING OF THE 350 APPROVAL REQUEST BECAUSE MCDA HAS NOT ADEQUATELY ADDRESSED THE ISSUES RAISED IN THE LETTERS. IT SHOULD BE UNDERSTOOD THAT WHILE THE RESOLUTION OF THESE ISSUES WOULD ENHANCE THE MASSACHUSETTS PILGRIM KERP, NEVERTHELESS THE PLANS HAVE BEEN FOUND TO BE ADEQUATE IN THAT THEY MEET THE MINIMUM STANDARD OF PROVIDING A REASONABLE ASSURANCE THAT THE STATE AND LOCAL PLANS ARE ADEQUATE TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC IN THE PILGRIM EPZ. [SEE, SELF-INITIATED REVIEW AND INTERIM FINDING FOR UPDATED INFORMATION.]

EXERCISES OF THE PLANS AND PREPAREDNESS OF STATE AND LOCAL GOVERNMENTS WITHIN THE PLUME EXPOSURE EMERGENCY PLANNING ZONE FOR THE PILGRIM NUCLEAR POWER STATION WERE OBSERVED BY FEMA ON MARCH 3, 1982; JUNE 29, 1983, AND SEPTEMBER 5, 1985. A REVIEW OF THE EXERCISES INDICATES THAT THE COMMONWEALTH OF MASSACHUSETTS HAS MOVED PROMPTLY TO CORRECT PLAN OR PERFORMANCE PROBLEMS WHICH WOULD INTERFERE WITH ITS ABILITY TO PROTECT THE PUBLIC IN THE EVENT OF AN ACCIDENT AT PILGRIM. THE 1982 AND 1983 EXERCISES DEMONSTRATED THAT A CAPABILITY EXISTED FOR STATE AND LOCAL GOVERNMENTS TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC IN THE EVENT OF AN ACCIDENT AT THE PILGRIM NUCLEAR POWER STATION.

HOWEVER, FEMA'S OBSERVATION OF THE EXERCISE CONDUCTED ON SEPTEMBER 5, 1985, IDENTIFIED FOUR DEFICIENCIES IN THE EXERCISE. FEMA NOW USES THE WORD "DEFICIENCIES" TO MEAN DEMONSTRATED AND OBSERVED INADEQUACIES THAT WOULD CAUSE A FINDING THAT OFF-SITE EMERGENCY PREPAREDNESS WAS NOT ADEQUATE TO PROVIDE REASONABLE ASSURANCE THAT APPROPRIATE PROTECTIVE MEASURES CAN BE TAKEN TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC LIVING IN THE VICINITY OF A NUCLEAR POWER FACILITY IN THE EVENT OF A RADIOLOGICAL EMERGENCY.

ON SEPTEMBER 20, 1985, FEMA SENT A LETTER TO MCDA INFORMING THEM OF THE EXISTENCE OF THE FOUR DEFICIENCIES IDENTIFIED FOR THE CARVER EOC AND THE TAUNTON RECEPTION CENTER. ON OCTOBER 29, 1985, A REMEDIAL EXERCISE WAS HELD TO DEMONSTRATE CORRECTION OF THESE DEFICIENCIES. THE FOUR DEFICIENCIES WERE CORRECTED. (SEE FEMA 1 DOCUMENT, "REPORT ON THE REMEDIAL EXERCISE FOR THE PILGRIM NUCLEAR POWER STATION", OCTOBER 29, 1985).

THE COMMONWEALTH OF MASSACHUSETTS RESPONDED PROMPTLY TO THE DEFICIENCIES IDENTIFIED DURING THE 1985 EXERCISE. AS INDICATED ABOVE BOTH BY FEMA AND THE PETITIONERS, THE RESPONSE TO ISSUES WHICH WERE NOT CATEGORIZED AS DEFICIENCIES HAS NOT BEEN TIMELY. FOLLOWING THE JUNE 29, 1983 EXERCISE NO DEFICIENCIES WERE IDENTIFIED AND THE COMMONWEALTH PROVIDED A

COMMUNITY LEVEL. THE STATE THEN PROVIDED A SCHEDULE OF CORRECTIVE ACTIONS IN A LETTER TO FEMA DATED JUNE 20, 1985, FOR ALL STATE AND LOCAL COMMUNITY INADEQUACIES NOTED AT THE 1983 EXERCISE. FEMA OBSERVED, DURING THE 1985 EXERCISE, THAT MANY OF THE PROBLEMS IDENTIFIED IN THE 1982 AND 1983 EXERCISES HAD BEEN CORRECTED, BUT MANY NEW "AREAS REQUIRING CORRECTIVE ACTION" (ARCA) AND FOUR DEFICIENCIES WERE IDENTIFIED. THE COMMONWEALTH HAD CORRECTED THE DEFICIENCIES BY OCTOBER 29, 1985 AND ON OCTOBER 30, 1985 PROVIDED FEMA WITH A PLAN OF ACTION WHICH, IT FELT, IF IMPLEMENTED WOULD RESOLVE THE "AREAS REQUIRING CORRECTIVE ACTION". ON MARCH 5, 1986 FEMA SENT THE COMMONWEALTH THE REPORT ON THE SEPTEMBER 5, 1985 EXERCISE. THE COMMONWEALTH, AS PROVIDED IN FEMA GUIDANCE, WAS TO PROVIDE FEMA WITH A SCHEDULE OF CORRECTIVE ACTIONS FOR THE "AREAS REQUIRING CORRECTIVE ACTION" WITHIN 50 DAYS OF THE REPORT'S RECEIPT. ALTHOUGH FEMA HAD NOT RECEIVED A SCHEDULE BY THE TIME THE PETITION WAS FILED, IT DID NOT FEEL THE SCHEDULE WAS OVERLY LATE. THE COMMONWEALTH HAS NOT YET, HOWEVER, SUBMITTED ITS SCHEDULE OF CORRECTIVE ACTIONS. THIS SUBJECT IS DEALT WITH IN FEMA'S SELF-INITIATED REVIEW AT PP 37-44.

B) PETITIONERS:

ANOTHER EXAMPLE OF THE SERIOUS LACK OF COORDINATION WAS THE FAILURE OF MCDUA TO DELIVER TO FEMA AN UP-TO-DATE VERSION OF THE STATE EMERGENCY PLAN. ACCORDING TO STATEMENTS BY FEMA AND MCDUA OFFICIALS IN THE JUNE 20, 1986 EDITION OF THE PATRIOT LEDGER OF QUINCY, MA, THE PLAN WAS NOT DELIVERED UNTIL 10 MONTHS AFTER IT WAS PREPARED. MCDUA COMPLETED THE

UPDATED PLAN IN AUGUST, 1985 BUT DID NOT DELIVER A COPY OF IT UNTIL JUNE 25, 1986. FEMA HAD FORMALLY REQUESTED A COPY OF THE PLAN IN OCTOBER, 1985, BUT DID NOT FOLLOW UP ON THAT REQUEST. MCOA'S FAILURE TO RESPOND TO FEMA'S REQUEST AND FEMA'S EVIDENT LACK OF CONCERN AND UNWILLINGNESS TO DEMAND MORE RESPONSIVE ACTION ARE SYMPTOMATIC OF AN EMERGENCY RESPONSE REGIME THAT IS UNCOORDINATED AND GIVEN LOW PRIORITY BY ITS ATTENDANT PUBLIC AGENCIES.

FEMA:

THE BULK OF THE MASSACHUSETTS HEMPS FOR THE PILGRIM EPZ WHICH FEMA HAS ON FILE ARE CURRENT. THE LAST MAJOR REVISION TO THE STATE PLAN WAS IN 1982 AND FEMA HAS THOSE CHANGES. MINOR CHANGES TO LOCAL PLANS WERE MADE IN 1985. FEMA REQUESTED COPIES OF THE PLANS ON OCTOBER 30, 1985, AND FEMA RECEIVED COPIES OF THEM FROM HMM ASSOCIATES IN A LETTER DATED JUNE 22, 1986. THE COMMONWEALTH SUBSEQUENTLY INFORMED FEMA THAT THE 1985 VERSION OF THE LOCAL PLANS WERE CURRENT. FEMA WOULD ENCOURAGE ATTEMPTS BY THE COMMONWEALTH OF MASSACHUSETTS TO GIVE RADIOLOGICAL EMERGENCY PREPAREDNESS PLANNING A HIGHER PRIORITY.

C) PETITIONERS:

FURTHER EVIDENCE OF THIS LACK OF COORDINATION AND PRIORITIZATION WAS REVEALED IN MR. THOMAS' JUNE 18, 1986 TESTIMONY. MR. THOMAS STATED THAT BOSTON EDISON HAD FAILED REPEATEDLY TO DELIVER TO FEMA NECESSARY TECHNICAL SPECIFICATIONS ON THE SIRENS THAT WOULD NOTIFY THE PUBLIC OF A RADIOLOGICAL EMERGENCY AT THE PILGRIM PLANT. MR. THOMAS STATED THAT THESE DELAYS BY BOSTON EDISON HAVE FORCED REPEATED POSTPONEMENTS OF SYSTEM TESTING. THUS, THE SYSTEM HAS NEVER BEEN GIVEN THE FULL-SCALE TEST REQUIRED BY FEMA.

FEMA:

AS NOTED IN THE RESPONSE TO ITEM 16 ABOVE, FEMA RECEIVED THE

SIREN SYSTEM TECHNICAL SPECIFICATIONS ON JUNE 20, 1985, AND PERFORMED A DETAILED REVIEW OF THE STATE AND LOCAL "FULL-SCALE SIREN TEST ON SEPTEMBER 29, 1986. RESULTS OF THE SIREN TEST INDICATED THAT 38.2% OF THE PEOPLE WERE DIRECTLY ALERTED BY THE SIRENS ON THE DAY OF THE TEST. HOWEVER THE PETITION DOES NOT DEMONSTRATE THAT THESE DELAYS INTERFERED WITH THE COMMONWEALTH'S ABILITY TO PROTECT THE PUBLIC.

D) PETITIONERS:

THE EMERGENCY RESPONSE SYSTEM'S LACK OF PRIORITIZATION IS FURTHER DEMONSTRATED BY THE FACT THAT LOCAL CIVIL DEFENSE AGENCIES IN THE COMMUNITIES WITHIN THE EMERGENCY PLANNING ZONE HAVE SERIOUS STAFFING AND BUDGETARY PROBLEMS. MOST LOCAL CIVIL DEFENSE DIRECTORS WITHIN THE EPZ ARE UNPAID OR RECEIVE ONLY SMALL STIPENDS. MOST HAVE LITTLE OR NO PAID STAFF. THE RELIANCE ON VOLUNTEERS, WHO OFTEN HAVE MINIMAL PROFESSIONAL EXPERIENCE OR TRAINING, REFLECTS THE UNWILLINGNESS OF STATE AND LOCAL GOVERNMENT TO MAKE A GENUINE COMMITMENT TO EMERGENCY RESPONSE PLANNING. MAJOR IMPROVEMENTS IN STAFFING AND BUDGETS OF STATE AND LOCAL CIVIL DEFENSE BODIES MUST BE IMPLEMENTED BEFORE PUBLIC SAFETY CAN BE ENSURED. MOREOVER, LEST THE NECESSARY MEASURES TAKEN CONSTITUTE PUBLIC SUBSIDIZATION OF THE FINANCIAL REQUIREMENTS OF A SAFE NUCLEAR POWER SYSTEM, BOSTON EDISON SHOULD BE REQUIRED TO PROVIDE THE FINANCIAL MEANS FOR THEM.

FEMA:

FEMA FEELS THAT THIS ALLEGATION IS TOTALLY WITHOUT MERIT BASED UPON PAST HISTORY WITH VOLUNTEER GOVERNMENT IN THE U.S. EACH DAY THOUSANDS OF VOLUNTEERS IN LOCAL GOVERNMENTS PERFORM ADMIRABLY, OFTEN WITH GREAT RISK TO THEIR PERSONAL SAFETY AND WELL-BEING. ONE EXCELLENT EXAMPLE OF THIS IS THE DEDICATION AND COMMITMENT DISPLAYED BY VOLUNTEERS WHO PARTICIPATE IN RADIOLOGICAL EMERGENCY RESPONSE EXERCISES AND RES-

POND TO EMERGENCIES IN THEIR COMMUNITIES ON A DAILY BASIS. AS NOTED BY FEDERAL EVALUATORS' COMMENTS IN EXERCISE REPORTS FOR THE EXERCISES OF THE RADIOLOGICAL EMERGENCY RESPONSE PLANS FOR THE PILGRIM NUCLEAR POWER STATION IN 1982, 1983, AND 1985, THE DEDICATION AND COMMITMENT OF THE VOLUNTEERS HAS BEEN CONSISTENTLY DISPLAYED. THE VOLUNTEERS HAVE INCLUDED LOCAL CIVIL DEFENSE DIRECTORS AND STAFF, SELECTMEN, FIRE PERSONNEL, PARA-MEDICS, RED CROSS VOLUNTEERS, RACES AMATEUR RADIO OPERATORS, THE CIVIL AIR PATROL AND OTHERS. THE VOLUNTEERS ARE KNOWLEDGEABLE OF THEIR DUTIES AND CONSCIENTIOUS IN THE PERFORMANCE OF THESE DUTIES. ALTHOUGH VOLUNTEERS RECEIVE LITTLE OR NO STIPENDS FOR THEIR SERVICES, THEY ARE WORKING TO MAKE THEIR COMMUNITIES A SAFER AND BETTER PLACE FOR THEIR FAMILY AND FRIENDS TO LIVE. MANY VOLUNTEERS HAVE INDICATED TO OUR STAFF THAT THE SATISFACTION OF HELPING PROTECT THEIR COMMUNITY AFFORDS THEM FAR GREATER REWARDS AND INCENTIVE THAN ANY MONETARY COMPENSATION COULD PROVIDE.

FEMA, THEREFORE, CONCLUDES THAT THE ISSUES RAISED IN SECTION 20 OF THE PETITION DO NOT PROVIDE INFORMATION WHICH SUSTAINS THE CONTENTION.

FOOTNOTES

1. HANS, JOSEPH M., JR.; SELL, THOMAS C., EVACUATION RISKS - AN EVALUATION, ENVIRONMENTAL PROTECTION AGENCY, EPA-520/6-74-002, JUNE, 1974.
2. IBID; PG 43
3. IBID; PG 18
4. TREADWELL, MATTIE E., HURRICANE CARLA - SEPTEMBER 3-14, 1961; DEPARTMENT OF DEFENSE - OFFICE OF CIVIL DEFENSE, REGION V, DENTON, TEXAS, PG 16
5. FEMA REGION I INTERIM FINDINGS "JOINT STATE AND LOCAL EMERGENCY RESPONSE CAPABILITIES FOR THE PILGRIM NUCLEAR POWER STATION, PLYMOUTH, MASSACHUSETTS, SEPTEMBER 1982"



FEMA COMMENTS

ON THE
REPORT TO THE GOVERNOR ON EMERGENCY PREPAREDNESS
FOR AN ACCIDENT AT THE PILGRIM NUCLEAR POWER STATION

JULY 29, 1987

FEDERAL EMERGENCY MANAGEMENT AGENCY
JOHN W. McCURMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109-4595

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I. INTRODUCTION

On December 22, 1986, the Secretary of Public Safety, Charles Barry, forwarded a copy of the "Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station" (Barry Report) to the Federal Emergency Management Agency (FEMA). He requested that FEMA review the report, inform him of its findings, and tell him what steps FEMA intended to take. The Governor and the Director of the Massachusetts Civil Defense Agency (MCDA) have endorsed the Barry Report and FEMA, therefore, views this report as the authoritative and current position of the Commonwealth.

FEMA has analyzed the Barry Report and used its analysis in developing FEMA's July 29, 1987 report "Self-Initiated Review and Interim Finding" (Hereinafter Self-Initiated Review). The Commonwealth concluded that the emergency response plans for an accident at the Pilgrim Nuclear Power Station are not adequate to protect the health and safety of the public. FEMA has also concluded that the plans are inadequate for the reasons cited in its Self-Initiated Review.

Many of the issues raised in the Barry Report were previously identified by FEMA, and date back to the 1981 and 1982 Regional Assistance Committee (RAC) reviews of the Commonwealth's Radiological Emergency Response Plans and the

September, 1982 Interim Findings. Other issues raised by the Barry Report provided new information to FEMA which was very useful in conducting its Self-Initiated Review.

FEMA applauds the diligence and hard work that went into the Commonwealth's critical examination of its emergency plans and welcomes its commitment to develop a comprehensive program to resolve the problems identified by both FEMA in its Interim Finding, and the Commonwealth in the Barry Report. FEMA looks forward to working with the Commonwealth on this important project.

FEMA feels, however, that, for the sake of the record, there are issues in the Barry Report which need to be clarified. FEMA has, therefore, provided comments on specific sections of the report below.

II. Specific Comments

1. Barry Report:

First, there are factors beyond the state's control, such as reactor design, plant management and the aggressiveness of federal regulators, that have a direct impact on emergency preparedness. (p.1)

FEMA Comment:

FEMA has reviewed plans submitted by the Commonwealth in 1981 and 1982 and revised local plans submitted in 1986. FEMA has consistently informed the Commonwealth of weaknesses in its plans. The Commonwealth has previously either stated that it was working on improving the plans or pledged to correct the plans.

The Commonwealth has primary responsibility to maintain and improve the radiological emergency response plans in the event of an accident at the Pilgrim Nuclear Power Station.

2. Barry Report:

On a number of occasions over the years, Civil Defense has requested support from FEMA and from BECo in accordance with federal regulations. These efforts led to a consultant being made available to the Department of Public Health and one planner being made available to Massachusetts Civil Defense supported by utility company grants to the Massachusetts Health Research Institute, Inc. However, in view of the fact that Massachusetts Civil Defense has to coordinate planning for three licensed plants affecting Massachusetts, (Rowe, MA, Plymouth, MA and Vernon, VT) and until April 1986, was involved in planning activities for the Seabrook Power Plant, the resources made available to the agency have been totally inadequate. (p.13)

FEMA Comment:

FEMA has provided all the technical assistance on emergency planning requested by the Commonwealth over the years. FEMA also has permitted employees of the

Commonwealth, either fully or partially funded by FEMA, to work on the Radiological Emergency Response Program.

All other States in New England adequately fund their Radiological Emergency Response Program. FEMA is encouraged that the Commonwealth is in the process of obtaining funds for its program.

3. Barry Report:

A response to the MASSPIRG report was published by FEMA on November 3, 1983. This response noted that "[w]hile MASSPIRG raises a number of good points, after a detailed analysis, we [FEMA] continue to make the Interim Finding that the Commonwealth of Massachusetts has demonstrated that there is reasonable assurance that the public would be adequately protected if there were an accident at the Pilgrim Nuclear Power Station." (p. 15)

FEMA Comment:

FEMA largely based its response to the MASSPIRG Petition on a review of the plans and information provided in the "Massachusetts Civil Defense Agency (MCDA) Analysis to the Massachusetts Public Interest Group Report - Blue Print for Chaos II: Pilgrim Disaster Plans. Still a Disaster" (copy attached).

4. Barry Report:

In May and June 1985, revised state and local plans were

published by Civil Defense and distributed to federal, state and local officials. (p.17)

FEMA Comment:

FEMA has not received a revision to the State Radiological Emergency Response Plan since 1982. In a letter to FEMA dated April 10, 1987, The Director, Massachusetts Civil Defense Agency, informed us that the 1982 version was the operational plan.

FEMA received copies of the 1985 local plans on June 25, 1986. FEMA's review of these plans indicate that the major issues identified in the 1981 and 1982 RAC Reviews and the 1982 Interim Findings have not been addressed.

3. Barry Report:

On October 30, 1985, FEMA wrote the Massachusetts Civil Defense once again concerning formal approval of the plans, and indicated that the process was "on hold" pending receipt of material called for in the 1981 and 1982 RAC Reviews. FEMA also requested copies of 1985 revised plans. These plans were made available to FEMA during the September 1985 exercise, but evidently were not formally delivered until June, 1986. On June 6, 1986 Civil Defense responded to FEMA, and indicated that work remained to be done to prepare the plans for the formal review, and that a lack of resources was impeding progress. (pp. 17, 18)

FEMA Comment:

FEMA first wrote to MCDA on March 6, 1985, informing

it that FEMA was suspending processing of the June, 1981 request for formal emergency plan approval pursuant to 44 CFR 350 because "there are a number of outstanding deficiencies in the State and local plans and procedures which we cannot certify have been corrected". These issues were raised in the 1981 and 1982 RAC reviews and in the 1982 and 1983 exercise reports.

At the September 1985 exercise the revised local plans were utilized by local officials; however, FEMA did not receive copies for review until June, 1986.

6. Barry Report:

Reception Community Plans ... Pilgrim had three (Hanover, Bridgewater and Taunton). (p. 41)

FEMA Comment:

Although FEMA knew of problems with the Hanover Mall Reception Center, it was not formally informed of the withdrawal of Hanover until February 27, 1987.

7. Barry Report:

[The ETE] is based upon outdated information. Furthermore, it rests on a series of highly controversial assumptions. For example, the Pilgrim ETE assumes that "people not in the planned evacuation boundaries for each case would not choose to evacuate anyway". This ignores consideration of the so-called "shadow phenomenon" which is a theory that holds that during a radiological

emergency there will be widespread spontaneous evacuation. (p. 44)

FEMA Comment:

FEMA conducted a detailed analysis of evacuation issues for the Pilgrim EPZ in response to a January 20, 1984, request from the NRC. FEMA issued its report on May 1, 1984. The State Police Traffic Management Plan provides for its control of evacuation routes several miles beyond the EPZ boundary, thereby enabling it to prevent people beyond the EPZ, who might decide to evacuate, from interfering with the EPZ evacuation traffic.

FEMA does not disagree with the Commonwealth that an updated Evacuation Time Estimate (ETE) may enhance the Pilgrim plans and endorses the state and utility efforts to conduct such a study.

8. Barry Report:

The federal response to the dilemma of state planners who lack authoritative site-specific data and minimum ETE standards is to point out that sheltering, and not evacuation, is the solution in the case of the extremely severe, fast-breaking accident.... Unfortunately, that alternative provides no greater assurance that public health can be protected. [The report then goes on to quote from a transcript of the 1983 Congressional Oversight Hearings between Congressman Patterson and Mr. Krimm, Assistant Associate Director, Office of Natural and Technological Hazards, concerning sheltering.] (pp. 45, 46)

FEMA Comment:

A Congressional Oversight Hearing is not the vehicle through which guidance on the efficacy of sheltering as a protective action is provided to state officials.

Agencies of the Federal Government have published information concerning shelter as a protective action. The Environmental Protection Agency has published "Protective Action Evaluation Part II: Evacuation and Sheltering as Protective Actions Against Nuclear Accidents Involving Gaseous Releases, 1978." This document was widely distributed and has been discussed many times with state officials over the years. The U.S. Department of Health and Human Services published in 1983 "Preparedness and Response in Radiation Accidents", which contains information concerning shelter as a protective action. On February 25, 1985, FEMA mailed copies of the HHS document to MCDA and the Massachusetts Department of Public Health. In addition a considerable amount of information on the subject of sheltering as a protective action has been provided to both state civil defense and radiological health personnel by both FEMA and the NRC.

FEMA is studying the subject of sheltering as a protective action. This study may lead to the development of guidelines for making protective action decisions regarding either the use of sheltering versus

evacuation or a combination of these two options.

9. Barry Report:

[A]d hoc planning is clearly inadequate when a fast-breaking incident occurs. (p. 48)

FEMA Comment:

As stated in the July 29, 1987 Self-Initiated Review, this represents a reversal of the Commonwealth's long-held position that it could effectively implement its plan and protect the public utilizing ad hoc resources to assist municipalities during evacuations; and FEMA needs further information in order to evaluate the Commonwealth's ability to protect the public in the event of an accident at Pilgrim. [See, Self-Initiated Review, p.28, p.35.]

It should be noted that some ad hoc response is inevitable in even the best incident specific plans, and sometimes may be the only response possible in some events such as chemical spills, dam breaks and hurricanes for which Massachusetts plans are largely far less developed than existing plans for Pilgrim.

10. Barry Report: Expansion of the EPZ (pp. 63-68)

FEMA Comment:

NRC and FEMA regulations both define the Plume Exposure Pathway EPZ as an area about 10 miles in radius (See, ex., 44CFR 350.2(g)). Guidance issued jointly by both agencies indicates that the exact size and configuration of the EPZ ... shall be determined by State and local governments in consultation with FEMA and NRC, taking into account such local conditions as demography, topography, land characteristics, access routes and local jurisdiction boundaries. [See, NUREG 0654, FEMA Rep-1, p.11, p.17]

FEMA encourages emergency planning. Communities located beyond the existing Pilgrim Plume Exposure Pathway EPZ established by the Commonwealth and approved by FEMA and the Regional Assistance Committee may wish to consider developing plans appropriate to a nuclear power plant accident as part of their comprehensive emergency plans.

[See, in addition FEMA's comments on this matter in Analysis of Emergency Preparedness Issues at Pilgrim Nuclear Power Plant, July 29, 1987, pp 34-41].

11. Barry Report: Annual Review of Emergency Plans (p. 71)
The Director of Civil Defense shall publish procedures for annual review...of the preparedness and response plans for Pilgrim...

FEMA Comment:

FEMA sent a copy of Guidance Memorandum PR-1 to NCDA on October 4, 1985. GM PR-1 contained specific information concerning the requirement that each state submit an Annual Letter of Certification. FEMA sent letters on July 31, 1986 and January 8, 1987 requesting the Annual Letter of Certification from the Commonwealth. To date, FEMA has not received an Annual Letter of Certification from the Commonwealth. We support Secretary Barry's affirmation that such review must be done. [See, Self-Initiated Review, Section III. F]

EXECUTIVE OFFICE OF ENERGY RESOURCES
73 Tremont Street
Boston, Massachusetts 02108

February 8, 1982

Hon. Leonard Bickwit, General Counsel
Nuclear Regulatory Commission
Matomic Building
1717 H Street, N.W.
Washington, D.C. 20555

Dear Mr. Bickwit,

The Executive Office of Energy Resources of the Commonwealth of Massachusetts (EOER) is the state agency in Massachusetts responsible for the development of state energy policy, and is empowered to receive private and federal energy related grants.

EOER is considering proposing to NRC that NRC require Boston Edison Company to finance a home weatherization/conservation program or other energy consumer related program, in an amount equal to the civil penalty recently proposed by NRC in connection with operation of the company's Pilgrim I nuclear generating unit. Such expenditure would be in lieu of final imposition of the proposed penalty or in fulfillment of the penalty obligation. Customers within the service area of Boston Edison Company and other utilities which receive power directly from the Pilgrim I unit under long term contracts would be eligible for the benefits of the program. EOER would propose to NRC, in accordance with 10 C.F.R. §2.205(b), 2.206, or other relevant regulations, that its final order include a reduction, remission or mitigation of the proposed penalty, in connection with an order to Edison to make payment for the public service program as proposed by the state.

Should NRC decline to issue such an order, or decline to do so without the advance agreement of the utility, the state would proceed under §2.206(a) ("such other action as may be proper") to request that NRC issue its final penalty order in the alternative, i.e. the specified civil penalty, unless the payment for the proposed public service program is made by a date certain.

We know of no precedent, positive or negative, for consideration of such a proposal. We are not aware of any explicit legal barriers in the applicable statute

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or regulations which would preclude such a disposition, and, of course, analogous procedures at SEC, FTC, DOE, and other agencies provide a broad range of precedents.

Before putting Edison, the relevant state and local officials, other interested persons, and N.R.C. staff to the burden of dealing with a formal proposal, we would appreciate having a preliminary informal opinion from your office as to whether you feel that there are any legal barriers to either result, i.e. a direct NRC order to Boston Edison Company to make payments for the proposed program, or an NRC order to Boston Edison requiring payment of the penalty unless payment is made for the program. Obviously, to be useful to those concerned, it would be necessary to have your response as soon as possible.

Let me know if we can provide further information which would assist you in responding rapidly to this inquiry. If for any reason a timely response appears impossible, it would be helpful to know that immediately.

Sincerely,

*
Patrick J. Kenny
General Counsel
Executive Office of Energy
Resources
Commonwealth of Massachusetts
73 Tremont Street
Boston, MA 02108
(617) 727-0538

* Dictated to Washington for immediate transmittal by hand to NRC. Signed original will follow by first class mail.

BOSTON EDISON COMPANY
GENERAL OFFICES 800 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02199

June 6, 1979

G. CARL ANDOGNINI
MANAGER
NUCLEAR OPERATIONS DEPARTMENT

BECO. Ltr. #79-114

Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

License No. DPR-35
Docket No. 50-293

Containment Atmospheric Control System

Ref: (a) NRC Letter T. A. Ippolito to
G. C. Andognini dated 3/14/79

Dear Sir:

In Reference (a), you requested that we submit a schedule for installation and testing of a CAD System at Pilgrim Station, Unit #1. You also requested that we include a detailed description of design changes made to the original FSAR submittal as a result of the revised regulatory guidance.

Our current plans do not call for the installation of a CAD System. We intend to retain the present inerted containment atmosphere requirements, and we are evaluating a system that incorporates hydrogen recombination capability. This substantially upgraded system conceptual design has resulted from your revised regulatory guidance and our continuing intent to assure protection of the public health and safety.

Because of the extensive design changes resulting from the revised regulatory guidance, we are unable to commit at this time to any detailed design change. We will submit a summary description of our proposed system and our proposed schedule of implementation by September 15, 1979.

If you have any questions on this subject, please feel free to contact us at your convenience.

Very truly yours,

G. Carl Andognini

~~7906120434 IR~~

7906120434

A001
5/10

EXHIBIT A

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

NOTICE OF ISSUANCE OF INTERIM DIRECTOR'S DECISION

Notice is hereby given that the Director, Office of Nuclear Reactor Regulation, has issued an interim decision concerning a request filed pursuant to 10 CFR 2.206 by the Honorable William B. Golden which requested that the Pilgrim Nuclear Power Station remain shut down or have its license suspended because of (1) deficiencies in the licensee management, (2) inadequacies in the emergency radiological plan, and (3) inherent deficiencies in the containment structure.

The Director of the Office of Nuclear Reactor Regulation has determined that the Petition, with the exception of the license management issue, should be denied. The reasons for this decision are explained in the "Interim Director's Decision Under 10 CFR 2.206," DD-87-14, which is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, DC and at the Local Public Document Room at the Plymouth Public Library, 11 North Street, Plymouth, Massachusetts 02360. That portion of the Petition concerning licensee management will be addressed in a subsequent response.

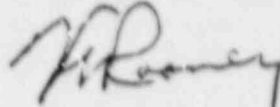
A copy of the Decision will be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c). As provided in this regulation, the Decision will constitute the final action of the Commission twenty-five

~~8708260/96~~ 3PP.

(25) days after issuance, unless the Commission, on its own motion, institutes review of the Decision within that time period.

Dated at Bethesda, Maryland, this 21st day of August 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "J. Rooney". The signature is written in a cursive style with a large initial "J" and "R".

Project Directorate I-3
Division of Reactor Projects I/II

CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of November, 1987, copies of the foregoing "Petitioner's Memorandum in Opposition to Respondent's and Boston Edison Company's Motions to Dismiss" were mailed, first class postage prepaid to:

Frank L. McNamara
United States Attorney
1107 J. W. McCormack Post Office
and Courthouse Building
Boston, MA 02109

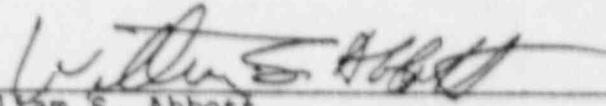
Edwin Meese
Attorney General of the United States
Constitution Avenue & Tenth Street, N.W.
Washington, D.C. 20530

Lando W. Zech, Jr., Chairman
U. S. Nuclear Regulatory Commission
1717 H Street
Washington, D.C. 20555

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William S. Abbott
Simonds, Winslow, Willis & Abbott
50 Congress Street
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(617) 523-5520

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

June 26, 1981

Docket No. 50-293

Mr. A. Victor Morisi, Mgr.
Nuclear Operations Support Dept.
Boston Edison Company
M/C Nuclear
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Morisi:

RE: Pilgrim I - Containment Atmosphere Control System

In Boston Edison Company's letter of October 19, 1979 (BECO. 79-207), BECo. referred to their analysis which demonstrated compliance with 10 CFR 50.44. Our letter of October 30, 1979 requested that this analysis be forwarded to us, and that it contain sufficient detail for us to evaluate compliance with 10 CFR 50, GDC 41, 42, and 43.

On May 29, 1981, your staff informed us of a potential non-compliance with 10 CFR 50.44. By June 2, 1981, actions were completed at Pilgrim to guarantee compliance, and immediate safety concerns were resolved. The NRC project manager requested a submittal by BECo. regarding compliance with the regulation, from its implementation to June 2, 1981. Your staff supplied that response on June 15, 1981 (BECO. 81-127). This response was followed by a meeting with us on June 18, 1981. During the meeting it was determined, as documented in BECo. 81-127, that Pilgrim I had not been in compliance with the regulation from the effective date of the rule (11/27/78) to June 2, 1981. This matter of past non-compliance, will be addressed by our Office of Inspection and Enforcement. The Office of Nuclear Reactor Regulation will assure the current compliance of Pilgrim I with 10 CFR 50.44 by performing a review of your present system. This letter formalizes the conclusions of that meeting.

Further information is necessary for us to evaluate the compliance of your system with 10 CFR 50, App. A, GDC 41, 42, and 43. Therefore, in order to determine whether your license should be modified or suspended, you are required pursuant to 10 CFR 50.54(f), to provide to us within seven (7) days of your receipt of this letter, a written statement, signed under oath or affirmation, which confirms the system's current compliance with 10 CFR 50.44 and includes the following:

1. A detailed system description which addresses, in detail, redundancy in components and features, interconnection capabilities, leak detection capability, automatic isolation and containment capability, such that with either a loss of offsite or onsite power, accompanied by the most limiting single failure, the system will perform its safety function.
2. Current (as built) piping and instrumentation drawings (P&ID's) and electrical schematics for the system.

~~810709 0176~~ ZIP

3. The pre-operational test data and test procedure(s) used to demonstrate compliance with App. A, GDC 43, and App. B, XI, of 10 CFR 50.

4. A discussion of how the explicit requirements for Design Control (10 CFR 50 App. B, XI) were met. Specifically, a) An independent design review to verify the adequacy of the system design, and b) suitability of parts regarding GDC 4.

5. A discussion of the design control measures which guaranteed an independent design review for field changes to the system, from initial installation to present, per 10 CFR 50, App. B, III, and a similar discussion for future field changes.

6. In order to assure future compliance, your statement should include a commitment to provide Technical Specifications for the system regarding a) surveillance of ducts, piping, filter frames, pressure source levels (ie. required capacity for system operation), or other important components or aspects with the appropriate Limiting Conditions of Operation, and b) periodic pressure and functional testing to demonstrate full compliance with GDC 43. Such testing must reflect the Test Controls of 10 CFR 50, App. B, XI. Records retention must comply with 10 CFR 50, App. B, XVII. The submittal of such proposed Technical Specifications will be acceptable in lieu of the commitment. Our review of your submittal should not preclude your compliance with your proposed specifications unless a conflict exists between them and existing specifications.

Tom Johnson says this info has been added to NRC's file.

Sincerely,

Thomas M. Novak
Thomas M. Novak, Assistant Director
for Operating Reactors
Division of Licensing

cc: See next page

DAILY REPORT - REGION I

9/9/80

-2-

Facility	Notification	Item or Ev	Regional Action
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OPERATIONS (contd)

Pilgrim Unit 1 (DN 50-293)	9/5 SRI fax	The following personnel assignments were effective on 9/1.	Information Item.
----------------------------------	-------------	--	-------------------

R. Machon, Nuclear Operations Manager (Pilgrim Station) - Site; C. Mathis, Deputy Nuclear Operations Manager - Site; W. Armstrong, Deputy Nuclear Operations Manager - Site; J. Seery, Nuclear Operations Staff Assistant (Nuclear Safety) - Site; R. Sevigny, Nuclear Staff Assistant (Maintenance) - Site; A. Morisi, Nuclear Operations Support Manager - Corporate; W. Merritt, Nuclear Engineering Manager - Corporate; H. Berriman, Quality Assurance Manager - Corporate.

*CAC Chairman
1. ...
2. ...
CAC Admin
Sec. ...*

Millstone Unit 2 (DN 50-336)	9/9 SRI fax	9/8 Daily Report Update. On 9/9 the licensee Per TI 2515/33, performed a special test trip of the Division II emergency bus loss of power trip circuit. The 9/8 event which involved the unplanned tripping of the Division I loss of power sensors was repeated. The licensee is continuing his investigation.	
------------------------------------	-------------	---	--

CONSTRUCTION

Nine Mile Point Unit 2 (DN 50-410)	9/8 telephone from licensee	10 CFR 50.55(e) notification. An embedded plate in the reactor pedestal was welded to 8 rebar utilizing ASME requirements rather than AWS D12.1, which is applicable. Welding was performed by ITT Grinnell.	Followup per MC 2512.
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 24, 1981

Docket 50-293

MEMORANDUM TO: Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

FROM: Mark H. Williams, Project Manager
Operating Reactors Branch #2
Division of Licensing

SUBJECT: Meeting Summary - June 18, 1981 meeting with the
Boston Edison Company

On June 18, 1981, a meeting was held with the representatives of the Boston Edison Company (BECo.) listed in Encl.1, regarding the past compliance of Pilgrim Nuclear Power Station Unit I with 10 CFR 50.44. The meeting was requested by BECo.

On May 29, 1981, BECo. identified an area of potential non-compliance with the regulation at Pilgrim I. Subsequent findings by BECo. resulted in their determination that a meeting was desirable. In the meeting, BECo. stated that Pilgrim I had not been in compliance with 50.44 from the effective date of the rule to June 2, 1981. This non-compliance was a result of various inadequacies in Management Controls.

The original system which was used to meet the regulation from November 1978 to May 1980 relied on operator actions to meet the single failure criterion of GDC 41. In June 1981, BECo. determined, as a result of an NRC requested review, that such operator actions could not be assured due to the postulated radiation doses in the reactor building subsequent to an accident (BECo. 81-127, 6/15/81). A new system, remotely operated, which did meet the single failure criterion, was installed in the May 1980 outage. Although this system was thought, by BECo., to be in service from May 1980 to June 1981, it was actually disabled during maintenance in July 1980. The purge lines were cut and capped rather than installing elbows as originally specified on a BECo. design change. An investigation is underway at BECo. to determine the manner in which the change request was altered. In addition, it was later discovered by BECo. that even if the lines had not been cut in July 1980, the system was still inoperable since it was valved out of service shortly after the May 1980 outage due to undesirable leakage. Therefore, the unit had not been in compliance with 10 CFR 50.44 at any time in the past. The NRC request which resulted in the BECo. findings was a telephone request in early 1981 based on NRC letter dated October 30, 1979 which requested BECo. to provide a basis for their letter of October 19, 1979, in which BECo. claimed compliance with the 10 CFR 50.44 with existing equipment.

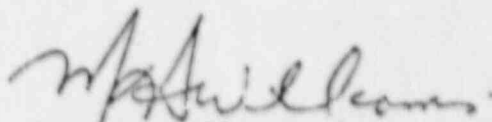
*BECo. had apparently come to that conclusion
had previously come to that conclusion
in March 1980. Info may have
in March then the cracks
in shipped then*

8106260495 3pp.

*"reminder" over a year
late, used up!*

Boston Edison presented their new program to implement effective Management Controls for Pilgrim 1 (Encl. 2). The method employed by BECo. forces all work items, regardless of their initiating circumstances (eg. NRC req't, BECo. design change, etc.) into a predetermined network. The network integrates all of the requirements of the operational, technical, and administrative disciplines of the company, which produces the final action. BECo. demonstrated how this future program would mitigate the possibility of future occurrences similar to the 50.44 violation. BECo. also committed to review their compliance with all post 1972 regulations which did not result in a design change at the plant. The schedule for their review would be submitted to NRC by June 26, 1981.

Subsequent to internal NRC discussion, BECo. was informed that the 50.44 violation would be addressed in two parts. The Office of Inspection and Enforcement, Region 1, would address the past non-compliance. It was agreed that BECo. appeared to be in compliance with the regulation since June 2, 1981 by use of the new system (BECo. 81-127, June 15, 1981). However, the Office of Nuclear Reactor Regulation would conduct a review of a detailed submittal by BECo. to assure such compliance. That submittal would be formally requested by a NRC letter to be sent during the week of June 22, 1981.



Mark H. Williams, Project Manager
Operating Reactors Branch #2
Division of Licensing

cc: w/o Encl 2
See Next Page

Enclosure 1

BECo. Meeting of June 18, 1981

NRC

BECo.

M. H. Williams, NRR
T. A. Ippolito, NRR
E. Blackwood, OIE
J. Partlow, OIE

- R. Machon
W. Merritt
A. V. Morisi
J. Fulton



Federal Emergency Management Agency

Washington, D.C. 20472

AUG 6 1987

Mr. Igne
1016-H

MEMORANDUM FOR: Frank J. Congel, Director
Division of Radiation Protection
and Emergency Preparedness
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission

FROM: *Richard W. Krimm*
Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological
Hazards Programs

SUBJECT: Offsite Emergency Planning at Pilgrim

In my memorandum to you on July 13, 1987, I stated the Federal Emergency Management Agency (FEMA) would deliver to the Nuclear Regulatory Commission (NRC) a finding on the adequacy of the offsite emergency preparedness plans for the Pilgrim Nuclear Power Station on or about August 15, 1987. This is an update of our previous interim finding which was transmitted to the NRC on November 2, 1983, along with a copy of the exercise report evaluating the initial joint State and local offsite radiological emergency preparedness exercise. These reports were provided to the NRC pursuant to the NRC/FEMA Memorandum of Understanding of November 1980, and in response to the NRC's request for assistance concerning emergency preparedness issues at Pilgrim dated September 6, 1983. In addition, in a memorandum to NRC on March 31, 1987, FEMA indicated that the response to the related 2.206 petition would be consolidated with the results of FEMA's self-initiated review of the overall state of offsite emergency preparedness and other relevant information.

FEMA's report, entitled "Self-Initiated Review and Interim Finding for the Pilgrim Nuclear Power Station" dated August 4, 1987, is attached. Included as attachments to the report are "FEMA Comments on the Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station" dated July 29, 1987 (located at Tab 1 in the attached binder), and FEMA's "Analysis of Emergency Preparedness Issues at Pilgrim Nuclear Power Station Raised in a Petition to the NRC dated July 15, 1986". FEMA's analysis of the issues raised in the 2.206 petition is dated July 29, 1987, and is located at Tab 2 of the attached binder.

Based on the Self-Initiated Review and Interim Finding, FEMA has concluded that Massachusetts offsite radiological emergency planning and preparedness are inadequate to protect the public health and safety in the event of an accident at the Pilgrim Nuclear Power Station. Because of the changed circumstances discussed in the report, the finding of adequacy contained in FEMA's previous interim finding no longer applies and that interim finding is hereby superseded.

If you have any questions, please contact me at 646-2871.

Attachments
As Stated

~~8708120268~~ 1P.



SELF-INITIATED REVIEW

AND

INTERIM FINDING

FOR THE PILGRIM NUCLEAR POWER STATION
PLYMOUTH, MA

AUGUST 4, 1987

FEDERAL EMERGENCY MANAGEMENT AGENCY
JOHN W. McCURMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109-4595

~~8708120269~~ 51PP.

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TAB I. FEMA Commentary on Barry Report

TAB II. FEMA RESPONSE TO 2.206 PETITION

I. SUMMARY

On September 5, 1986, the Federal Emergency Management Agency (FEMA) informed the Commonwealth of Massachusetts that it was undertaking a review of its September 29, 1982 Interim Finding for the Pilgrim Nuclear Power Station because of concerns raised during meetings in the Spring of 1986 and information received subsequent to those meetings from local officials, the Commonwealth, and other interested parties. FEMA identified six issues during the course of that review:

- Lack of evacuation plans for public and private schools and daycare centers.
- Lack of a reception center for people evacuating to the north.
- Lack of identifiable public shelters for the beach population.
- Inadequate planning for the evacuation of the special needs population.
- Inadequate planning for the evacuation of the transport dependent population.
- Overall lack of progress in planning and apparent diminution in emergency preparedness.

FEMA has analyzed these issues pertaining to the radiological emergency response plan and has reviewed the plan and exercise reports in conformance with applicable standards. FEMA concludes that the plan and preparedness for the state

and local governments within the plume exposure pathway for the Pilgrim Nuclear Power Station are not adequate to protect the health and safety of the public in the event of an accident at the Pilgrim Nuclear Power Station. This Interim Finding supercedes the Interim Finding of September 29, 1982.

II. BACKGROUND

On June 16, 1981, the Director of the Massachusetts Civil Defense Agency and Office of Emergency Preparedness (MCDA) submitted to the Federal Emergency Management Agency (FEMA), on behalf of the Governor, the State Comprehensive Emergency Response Plan, together with its Annexes, for Massachusetts and the local communities within the Plume Exposure Emergency Planning Zone (EPZ) for the Pilgrim Nuclear Power Station located in Plymouth, Massachusetts. In his letter of transmittal which accompanied this plan he stated, as required by Federal Regulation [See, 44 CFR 350.7], that "this plan is, in the opinion of the Massachusetts Civil Defense Agency, adequate to protect the public health and safety of the Commonwealth's citizens within the designated emergency planning zones of the Pilgrim Station and provides

for appropriate protective measures to be taken by the State and local governments in the event of a radiological emergency at the Pilgrim Station".

FEMA and the Regional Assistance Committee (RAC) reviewed this plan and issued a report of its review in October, 1981. As a consequence of this report the Commonwealth revised the plan. FEMA and the RAC reviewed this revision and issued a second report containing an analysis of areas where the plan was weak in September, 1982. FEMA has received no response from the Commonwealth regarding further revision of its plan.

In the interim, FEMA sponsored a public meeting, held on June 3, 1982, to discuss the Commonwealth's Radiological Emergency Response Plan for the Pilgrim Nuclear Power Station. The following issues were raised by the public at the meeting:

- The ability to evacuate communities within the 10-mile EPZ.
- The ability to evacuate Cape Cod beyond the 10-mile EPZ.
- Reliability and effectiveness of the sirens.
- Training and education of teachers, school bus drivers, and hospital personnel.
- Information brochures for the public, including transients.

- Policy on the use of radioprotective drugs.
- Protection of the elderly and others with special needs.¹

The Commonwealth responded to all these concerns, stating that the plan "provide(s) adequately for safe and orderly evacuation of communities within the 10-mile EPZ"² and pledging to work toward further improvement of the plan.

FEMA then issued an Interim Finding for the Pilgrim Nuclear Power Station on September 29, 1982. It found that although there were problems with the plan, "the state plan and local plans together are adequate to protect the health and safety of the public."³

Exercises testing this plan were conducted on March 3, 1982, June 29, 1983, and September 5, 1985; a Remedial Exercise was conducted on October 29, 1985; and FEMA observed a Drill on August 15, 1984. "Deficiencies", "areas requiring corrective action", and "areas recommended for improvement"

¹ Follow-up to the June 3, 1982 Public Meeting, FEMA, p. 1

² Ibid., p. 1

³ Interim Findings Joint State and Local Radiological Emergency Response Capabilities for the Pilgrim Nuclear Power Station Plymouth, Massachusetts, FEMA, September 29, 1982, p. 5.

were identified. As FEMA now uses the term, "deficiencies" are problems identified in plan implementation which preclude a finding that a plan is adequate to protect the health and safety of the public. "Areas requiring corrective action" are defined as inadequacies in State and local government performance observed during an exercise; although their correction is required, they are not considered, by themselves, to so adversely impact public health and safety, as to preclude a finding that the plans and preparedness are adequate to protect public health and safety. "Areas recommended for improvement" are defined as problem areas observed during an exercise that are not considered to adversely impact public health and safety. No deficiencies remain outstanding from FEMA's evaluation of these exercises. Many "areas requiring corrective action" and "areas recommended for improvement", however, have not been addressed to date.

By March, 1985, status of off-site radiological emergency response planning for the Pilgrim Nuclear Power Station was: (1) many planning problems remained unresolved from the October, 1981 RAC Review; (2) the Commonwealth had not responded to the September, 1982 RAC Review; and (3) it had not provided FEMA with schedules of corrective actions for the problems identified in the 1982 and 1983

exercises, which (as required by FEMA guidance) had been due within 30 days following the issuance of the exercise reports. On March 6, 1985 FEMA, therefore, informed the Commonwealth by letter that, because of unresolved emergency planning issues, it was suspending processing of the Massachusetts request for formal emergency plan approval made pursuant to 44 CFR 350. On June 20, 1985 the Commonwealth sent FEMA a schedule, both of actions it had taken and specific measures it was planning to take, to correct the problems identified in the 1983 exercise; plus general steps taken to correct problems identified in the 1982 exercise. However, the plan improvements the State promised have not yet been delivered to FEMA.

In its evaluation of the September 5, 1985 Pilgrim Exercise FEMA found that many of the previously identified problems had been corrected, but it identified new problems and four "deficiencies". The Commonwealth corrected the "deficiencies", as evidenced in an October 29, 1985 Remedial Exercise. It has not yet, however, provided FEMA a schedule of corrective actions for the 1985 exercise. FEMA guidance requires the submittal of a schedule of corrective actions within 30 days of the issuance of the exercise report.

On October 30, 1985, FEMA again informed the Commonwealth by letter that the processing of the "350" request was not progressing because of the many, unresolved issues identified in the 1981 and 1982 RAC Review, and observed during the exercises. FEMA also requested copies of the 1985 version of the local plans, which were provided in June 1986. The Commonwealth replied to FEMA's letter on June 6, 1986, at which time it outlined the initiatives it was taking in order to resolve the outstanding issues, and indicated the areas in which improvements had been made in the state plan and procedures. This reply did not, however, constitute a schedule of corrective actions because it did not provide a date by which plan improvements were to be completed. In sum, the Self-Initiated Review was based on the 1982 Massachusetts Radiological Emergency Response Plan and the 1985 version of the local plans.

FEMA first became aware of potentially serious problems with the Commonwealth's plan during a series of meetings with the Commonwealth and local communities in the Spring of 1986. Issues raised at these meetings, and information received subsequently, indicated that FEMA should review its Interim Finding concerning the emergency response plan for the Pilgrim Nuclear Power Station. Based on the information it

received. FEMA decided to conduct a review of the emergency response plan and preparedness for the Pilgrim Nuclear Power Station and so informed the Commonwealth in a letter to MCDA on September 5, 1986.

On December 22, 1986, the Secretary of Public Safety, Charles Barry, forwarded to FEMA a copy of the "Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station" (hereinafter called the Barry Report). This report stated that the Massachusetts plan and its preparedness are inadequate to protect the health and safety of the public in the event of an accident at the Pilgrim Nuclear Power Station. FEMA was subsequently informed that the Governor⁴ and the Director of the Massachusetts Civil Defense Agency⁵ had endorsed the Barry Report. In the course of its self-initiated review, FEMA has treated this report as the authoritative and current position of the Commonwealth.

⁴ Letter from Charles Barry, Secretary of Public Safety to Edward A. Thomas, December 22, 1986.

⁵ Letter from Robert J. Boulay, Director MCDA, to Edward A Thomas, April 10, 1987.

III. EVALUATION OF ISSUES

FEMA's Self-Initiated Review of the Commonwealth of Massachusetts Plan to protect the public in the event of an accident at the Pilgrim Nuclear Power Station is based on:

1. Information provided by State officials at a meeting held June 18, 1986 by members of the Massachusetts legislature concerning the Commonwealth's plans to protect the public in the event of an accident at Pilgrim;
2. Information provided by the public, and State and local officials at a meeting held in Duxbury June 25, 1986;
3. Information provided by the public, and State and local officials at a meeting held in Plymouth on June 30, 1986;
4. Information provided in the Barry Report;
5. Other information provided the Commonwealth of Massachusetts concerning the Pilgrim plan as

referenced in this report;

6. The existing Massachusetts Radiological Emergency Plans for an accident at Pilgrim which consists of the 1982 version of the State Plan, the 1985 version of the local plans, together with procedures and clarification submitted since 1982;

7. The transcripts of a public meeting on the Massachusetts plan for coping with an accident at Pilgrim sponsored by FEMA June 3, 1982;

8. FEMA and Regional Assistance Committee reviews of plans, and exercise of plans, as referenced in this report.

FEMA's review identified six areas of major concern:

- Lack of a reception center for people evacuating to the north.
- Lack of evacuation plans for public and private schools and daycare centers.
- Lack of identifiable public shelters for the beach population.

- Inadequate planning for the evacuation of the special needs population.
- Inadequate planning for evacuation of the transport dependent population.
- Overall lack of progress in planning and apparent diminution in emergency preparedness.

A. Evacuation of Schools

Issue

FEMA's regulations call for the Agency and the RAC to use a guidance document jointly developed by FEMA and the NRC [See, 44 CFR 350.5]. This document is known as NUREG-0654, FEMA-REP-1, Rev. 1. It indicates that state and local emergency plans shall include "means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement" and further indicates that such plans must describe the "means of relocation" for the population [See, NUREG-0654, FEMA-REP-1, II.J.10 (d); II.J.10 (g); Appendix 4; and FEMA Guidance Memorandum EV-2].

FEMA Previous Understanding

The local plans listed schools and provided information on

how those schools would be evacuated. Questions concerning the evacuation of schools were raised at the June 3, 1982, public meeting.

MCDA responded as follows:

On the lack of buses, we have made arrangements with the MBTA to provide us with back-up buses on an on-call needed basis to support Plymouth... on school SOP's I know that the superintendent of schools has been working very diligently on that.*

The Town of Plymouth responded:

We now have updated list of the drivers and their phone numbers. We have lists of alternate drivers. We know the location of all of the buses when they're not on the road and Mr. Nicholas [Superintendent] assured me through established early dismissal procedures that those buses can be obtained and brought to the schools.†

The Massachusetts Public Interest Research Group (MASSPIRG) alleged in "Blueprint for Chaos II: Pilgrim Disaster Plans Still a Disaster", dated July 20, 1983, that there were no workable plans to evacuate the schools. MCDA responded to the MASSPIRG report:

Existing plans and preparedness programs deal realistically with each of the "special population groups" identified. Local officials and representatives of schools. . . have been deeply involved in this process. Nonetheless, MCDA recognizes that the

* Transcript of "A Public Meeting on the State and Local Off-Site Radiological Emergency Plan", June 3, 1982, p. 66.

† Ibid., p. 67

specifics of such plans require constant attention and coordination with responsible local officials.

... we recognize that more comprehensive plans are desirable. We will be working in this area during the coming year.'

In its response to the MASSPIRG Petition FEMA concluded:

Although this is a weak area in the plan, it is made clear that all of the resources of Area II as well as State resources will be brought to bear should it become necessary to evacuate special population groups. Transportation resources and special equipment have been inventoried and are considered adequate. The Plan provides that, if there is time, school children will return home to evacuate with their families, or, if decided at the State or local level, be evacuated in buses.'

Although detailed procedures for school evacuation and early dismissal were not provided to FEMA, in consideration of the vast resources listed in the state's emergency plan for assistance to municipalities during evacuations (particularly the resources of the Massachusetts Bay Transportation Authority, the State Police, and the National Guard), FEMA found that the plan was acceptable.

-
- ' MCDA Analysis to The Massachusetts Public Interest Group Report "Blue Print for Chaos II: Pilgrim Disaster Plans, Still a Disaster", p. 8
 - ' Analysis of Emergency Preparedness Issues at Pilgrim Nuclear Power Station Raised by the Massachusetts Public Interest Group (MASSPIRG), FEMA, November 3, 1983, p. 8

Issue Identification

During the June 30, 1986 public meeting in the Town of Plymouth a citizen, whose children were in private schools, inquired about plans for their evacuation. FEMA promptly researched the matter and discovered for the first time that private schools were not included in the local plans.¹⁰

FEMA vigorously discussed this problem with representatives of both the Commonwealth and Boston Edison Company immediately following the meeting.

In his December 16, 1986 report to the Governor, Secretary Charles Barry stated that "ad hoc planning is clearly inadequate when a fast-breaking incident occurs".¹¹ He further indicated that it would be necessary for the Commonwealth to obtain Letters of Agreement with private bus companies to support the evacuation of the population needing transportation. The Commonwealth also informed FEMA that it would no longer contemplate using the resources of the MBTA in case of an emergency at Pilgrim.

¹⁰ Meeting Notes, Edward A. Thomas, June 30, 1986

¹¹ Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station (Barry Report), Secretary of Public Safety, December 16, 1986, p. 48

FEMA Current Position

The 1985 version of the town plans for Plymouth, Wuxbury, Carver, Kingston, and Marshfield are inadequate in that they do not identify all private schools and daycare centers within the plume exposure emergency planning zone. Detailed plans and procedures must be developed for these institutions, identifying sufficient resources and arranging for the availability of these resources to evacuate children and staff in the event of an accident at Pilgrim.

The Commonwealth's current position is that it will not use the vast state controlled bus resources of the MBTA and that it can no longer rely on ad hoc planning, at least during a fast-breaking accident. Detailed plans and procedures must, therefore, be developed for the early dismissal and evacuation of each community's schools and daycare centers. In addition, Letters of Agreement with transportation providers not under direct control must be obtained. Personnel designated to drive vehicles during an evacuation must also receive proper training as emergency workers.

Until this is accomplished the Massachusetts Radiological Emergency Response Plan is inadequate with respect to

NUREG-0654, FEMA-REP-1, Rev.1, evaluation criteria J.10 (d) and (g). The existence of this "inadequacy" precludes a finding by FEMA that there is a reasonable assurance that the public health and safety can be protected in the event of an accident at Pilgrim.

B. Reception Center

Issue

FEMA's regulations call for the Agency and the RAC to use a guidance document jointly developed by FEMA and the NRC [See, 44 CFR 350.51]. This document is known as NUREG-0654, FEMA-REP-1, Rev. 1. It indicates that state and local emergency plans must describe relocation centers where evacuees will be monitored and registered [See, NUREG-0654, FEMA-REP-1, Rev. 1, II.J.10.h and J.12].

FEMA Previous Understanding

On June 16, 1981, the Commonwealth submitted its plan to FEMA for review and approval pursuant to 44 CFR 350. The plan included provision for three reception centers. FEMA reviewed it in 1981 and provided the Commonwealth comments concerning the reception centers. The Commonwealth revised its plan and, in September 1982, FEMA and the RAC found the revisions for registering and monitoring evacuees acceptable. The 1982, 1983, and 1985

exercise each tested a reception center. In 1985 the Taunton Reception Center was found to have a "deficiency". The October 29, 1985 remedial exercise demonstrated that corrective actions had been taken and were acceptable.

Issue Identification

On February 27, 1987, Robert J. Boulay, Director, Massachusetts Civil Defense Agency, informed FEMA by letter that the Commonwealth had relieved the Town of Hanover of "their responsibility to serve as a reception community in the event of an accident at Pilgrim Station".¹² No alternative site has been identified.

FEMA Current Position

NUREG-0654/FEMA-REP-1 provides guidance on the registration and monitoring of evacuees. J.10.h states:

Relocation centers in host areas which are at least 5 miles, and preferably 10 miles, beyond the boundaries of

¹² Letter from Robert J. Boulay, Director, MCDA, to Edward A. Thomas, Chief, Natural and Technological Hazards Division, February 27, 1987

the plume exposure emergency planning zone.¹³

and J.12 states:

Each organization shall describe the means for registering and monitoring of evacuees at relocation centers in host areas. The personnel and equipment available should be capable of monitoring within about a 12-hour period all residents and transients in the plume exposure EPZ arriving at relocation centers.

The Commonwealth's plan does not now provide a reception, monitoring, and decontamination capability for approximately 60,000 people evacuating to the north. The use of the reception centers to the west and south is not in accordance with the existing state plan; has not been suggested as a viable option by the Commonwealth; and is not likely to be logistically feasible. FEMA, therefore, finds that the Massachusetts plan is inadequate with respect to NUREG-0654, FEMA-REP-1, Rev. 1, criteria J.10 (h) and J.12. The existence of this "inadequacy" precludes a finding by FEMA that there is a reasonable assurance that the public health and safety can be protected in the event of an accident at Pilgrim. Before this inadequacy can be corrected a new reception center must be found to replace Hanover; plans and procedures must be developed to register and monitor the evacuees; and submitted to FEMA for review.

¹³ Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants., NUREG-0654 / FEMA-REP-1, Rev. 1, November, 1980., pg. 63

C. Beach Population

Issue

FEMA regulations require the development of a range of protective actions for emergency workers and the public in the plume exposure EPZ and that guidelines for the choice of protective actions be in place. [See, 44 CFR 350.5(a)(10)].

The primary guidance document (jointly developed by FEMA and the NRC) used by FEMA and the RAC in reviewing off-site emergency plans is NUREG-0634, FEMA-REP-1, Rev 1. That guidance document indicates on page 13 that "[t]he range of times between the onset of accident conditions and the start of a major release is of the order of one-half hour to several hours". This statement is amplified on page 17, Table 2, to indicate that (a) the major portion of a release may occur in a time period ranging from as little as one-half hour to one day after the release begins and (b) that the travel time of the release to exposure point can range from one-half hour to two hours at five miles, and one hour to four hours at ten miles.

The appropriate protective action response in a fast breaking accident is prompt notification of the public within the Plume Exposure Emergency Planning Zone, either to seek shelter (in their present location or in public shelters) or, if conditions permit, to evacuate.

Because of the possibility that a large portion of this group may not have access to suitable shelter, or the ability to leave the EPZ rapidly, protection for the beach population requires careful analysis to determine whether appropriate protective actions can be implemented as required by Evaluation Criteria J.9, NUREG-0654, FEMA-REP-1, Rev. 1.

FEMA Previous Understanding

The issue of the beach population was raised at the June 3, 1982 meeting with respect to the large tourist population. Paul Cahill, Director, Massachusetts Civil Defense Agency at the time, stated:

We do have planning contingencies. . . We have done time study estimates and clear zone times for the maximum peak population during July, which would be 132,000 People within the ten-mile radius.¹⁴

¹⁴ Transcript of "A Public Meeting on the State and Local Off-Site Radiological Emergency Plan", June 3, 1982, p. 24.

MASSPIRG in its July 20, 1983 study on emergency planning for Pilgrim expressed its opinion that the location of public shelters should be included on maps in all emergency information materials. The Commonwealth responded as follows:

The MASSPIRG report repeatedly confuses facilities for temporary quartering (shelter areas to which evacuees are referred to from reception centers) and "shelter" as protective action in the event of a rapidly developing accident where evacuation is not feasible. For shelter as a protective action, plans call for residents to shelter in-house, and for visitors to shelter in any available building. Since many available buildings could potentially be utilized for shelter, mapping in this case would be confusing.¹¹

In 1982 FEMA and the RAC reviewed the issues related to protective actions for the beach population. The analysis included an examination of the evacuation time estimate for the Pilgrim EPZ as presented in the MCDA Area II Plan. Utilizing a 1990 population estimate of 152,100 people, this evacuation time estimate provides for a "clear time" for the entire EPZ of 5.9 hours (good weather) and 8.2 hours (adverse weather). While the evacuation time estimate did not examine specifically the evacuation of the beaches, some of the data indicate evacuation times for specific areas which include

¹¹ Massachusetts Civil Defense Agency (MCDA) Analysis to the Massachusetts Public Interest Research Group (MASSPIRG) Report "Blueprint for Chaos II: Pilgrim Disaster Plans, Still a Disaster.", p. 2

the beaches. The estimates are given below:

Location	Normal (Hours)	Adverse (Hours)
2 mile radius	2.75	3.2
West 3 miles	4.5	6.3
South 5 miles	3.4	4.25
North 10 miles	4.3	5.5

Most of the beach population in the Pilgrim EPZ are permanent or temporary residents (as opposed to "day trippers"). FEMA's discussions with MCDA and local officials indicated that, although the peak beach population might be approximately 20,000 people, those who would not have ready access to buildings which would provide adequate shelter ranged only from several dozen to possibly several hundred people. In discussions held in 1982, State and local officials assured FEMA that they could provide shelter for these people on an ad hoc basis. FEMA and the RAC, upon reviewing the information from the Commonwealth and empirically examining the area around the beaches, agreed with the Commonwealth's position that if sheltering in place were to be the recommended protective action, adequate shelters could be provided promptly on an ad hoc basis to those who would need it.

Issue Identification

In a reversal of the Commonwealth's previously stated position, the December 16, 1986 report from Secretary of Public Safety, Charles Barry, to the Governor states:

People at beaches might be particularly vulnerable during a fast-breaking accident at a nuclear power station because they may not have shelter nearby and individuals may be a good distance from their automobiles. The variability and changeability of coastal weather is another major consideration.¹⁶

The report concludes discussion of this issue:

Under present circumstances, the risks faced by the Pilgrim beach population cannot be assessed.¹⁷

FEMA Current Position

The Commonwealth had previously indicated to FEMA that the number of people at the beaches in the Pilgrim EPZ who may be without ready access to buildings appropriate for shelter in a radiological accident, ranged from several dozen to several hundred. FEMA has reviewed the matter and, based on a visual observation and preliminary

¹⁶ Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station (Barry Report), Secretary of Public Safety, December 16, 1986, pp. 51, 52, 53.

¹⁷ Ibid, p.51.

analysis, believes that the number of beach goers who may require public shelter are greater than the previous State estimates and actually may range from several hundred to one, or even two, thousand. In addition, the Commonwealth states in the Barry Report that it does not know whether there are sufficient nearby buildings which could provide adequate shelter on some of the beaches. The Commonwealth also questions whether or not it still has the capability to implement protective actions on an ad hoc basis during a fast-breaking accident.

There are, of course, several mitigating factors to be considered when examining protective actions for the beach population within the Pilgrim EPZ. First, the beach population appears to be made up largely of permanent or temporary residents who have access to buildings designed to minimize air infiltration and therefore, capable of providing effective shelter; second, the beaches are spread in different directions throughout the EPZ, ranging in distance from as near as 1.5 miles (White Horse) to as far as 10 miles (Green Harbor) from the plant, making it unlikely that the entire beach population would be affected initially during an accident; third, the evacuation network in the Pilgrim plume exposure EPZ is extensive and easily accessible; fourth, the beach population is not concentrated

along any one or two evacuation routes; fifth, the Commonwealth has developed workable plans for diverting corridor and shadow evacuation traffic from the evacuation network,¹⁴ thus maximizing its ability to quickly evacuate the population most at risk.

Although these factors indicate that protective actions for the beach population may well be adequate currently and, if not, readily correctable, FEMA can no longer state with confidence that a reasonable assurance exists that the beach population can be protected through prompt adequate sheltering. Before FEMA and the RAC can make a determination on this issue it must receive the following additional information:

- 1) an updated geographical description of the beaches and their capacity;
- 2) a detailed analysis of the beach population, including the number of permanent and temporary residents and the number of day visitors, together with their geographical dispersion;
- 3) an updated estimate of the length of time it would take to evacuate the beach population; and
- 4) a list of suitable buildings available for sheltering the beach population at each beach, including the capacities of

¹⁴ FEMA reviewed these plans as part of its May 1, 1984 "Analysis Report on Issues Related to the Pilgrim Evacuation Time Estimate".

these buildings and their distances from the beaches. If these buildings are not open to the public, the plans must clearly state how they will be made accessible and letters of agreement must be obtained as appropriate.

b. Special Needs Population

Issue

FEMA's regulations call for the Agency and the RAC to use a guidance document jointly developed by FEMA and the NRC [See, 44 CFR 250.5]. This document is known as NUREG-0654, FEMA-REP-1, Rev. 1. It indicates that state and local emergency plans shall include "means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement" and further indicates that such plans must describe the "means of relocation" for the population [See, NUREG-0654, FEMA-REP-1, II.J.10 (d); J.10 (g); G.1 (d); and G.2].

FEMA Previous Understanding

The 1985 version of the Town Annexes of Massachusetts plans state that:

Because it is not always possible to maintain current lists of the handicapped individuals within local communities, an inventory of local transportation

resources, both public and private, that would be called upon to assist any individuals having special needs will be maintained ...

Although this has not yet been tested as a specific exercise objective, FEMA's observations during exercises in the past have indicated that the towns maintain some listing of mobility impaired individuals or those who may be in nursing homes.

Existing local plans do not include a list of the resources the towns plan to use in assisting mobility impaired people during an evacuation, although they state:

Coordination of additional transportation (buses, trucks, vans) including transportation for the handicapped (chair-lift vans, ambulances) will be provided through OEP/CED, using standard emergency resource management procedures and available local and State resources.

In the same vein, the MCDA, Area 2 plan states:

Resources to assist handicapped individuals, in the control of such specialized agencies as area councils on aging, visiting nurses associations, handicapped service agencies, area hospitals and nursing homes, and private service suppliers, including chair-lift vans and other equipment resources, can be accessed by local communities and through MCDA, Area 2 Headquarters in Bridgewater as available.

In 1981 the RAC expressed its concern regarding planning for the mobility impaired population:

The State's and locals' plans to implement protective measures for the plume exposure pathway shall include means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement.

The local plans require that handicapped persons inform the town of their special transportation needs. Also the Pilgrim I Area Operations Plan has a listing of nursing homes and jails without explaining the necessary protective measures. These issues need to be better addressed.

The Commonwealth responded to the RAC's concern in this manner:

It has been the experience of the State that handicapped persons are not eager to make it publicly known that they may need special assistance in evacuating for fear that this would make them and their property more vulnerable if this information fell into the wrong hands. The State Civil Defense Agency is working to identify these individuals through various organizations that deal with the handicapped.

The RAC in turn replied that the Commonwealth needed to:

[u]pdate the Plan with information on the progress being made to identify the handicapped and provide for their protection.

The revised RAC comment in September 1982 stated:

No information is found in P.B.1.7, "Protective Alternatives" or in P.B.2, P.B.4, or elsewhere that provides protection for the mobility impaired. The State is now working on this and other special transportation related problems with special interest groups, Area Directors and the local officials.

The issue of plans for the evacuation of the special needs population was raised at a June 3, 1982 public meeting sponsored by FEMA on the Radiological Emergency Response Plan

for Pilgrim and at a July 21, 1982 meeting between FEMA, MCDA and the Pilgrim Alliance. The Commonwealth stated that it had been trying for some time to develop a listing of all the handicapped persons in the various communities without success, due to the reluctance of handicapped people for security reasons, to have their names on lists. The Commonwealth suggested that the Pilgrim Alliance contact the Office of Elderly Affairs and the local Council on Aging and cooperate with the ongoing effort of the Commonwealth to enhance planning in this area.

In its 1982 Interim Finding, FEMA indicated that plans for the evacuation of special needs individuals were often vague. In consideration of the enormous resources listed in the State's Emergency Plan for Assistance to Municipalities During Evacuations, however, and the fact that efforts were then actively underway to identify persons who needed special assistance, FEMA accepted the plan, notwithstanding its concern about its vagueness.

The issue of planning for the mobility impaired was then raised in the July 20, 1983, MASSPIRG study on emergency planning for Pilgrim. The study alleged that there was no confidential list of all physically disabled persons in the EPZ and that there were no workable plans for their

evacuation.

MCDA's response to the MASSPIRG report was as follows:

MCDA has worked for years to develop up-to-date lists of the handicapped. This effort has included notices in local newspapers and continues. Practical plans for evacuating such people using resources available to the State through Executive Order 144 personnel, (such as chairlift vans) as well as local and private resources do exist.^{1*}

In its effort to identify the mobility impaired and to locate the resources necessary to assist them during an evacuation, the Commonwealth has enclosed a post card for their use in its emergency public information brochures. Based upon this assurance by the Commonwealth and its efforts to identify mobility impaired individuals FEMA concluded that, although the planning for special needs population was weak, it was minimally acceptable.

Issue Identification

At a public meeting in Plymouth on June 30, 1986, a representative from the Commonwealth's Office of Handicapped Affairs stated that no contact had ever been made with her

^{1*} MCDA Analysis to The Massachusetts Public Interest Group Report "Blue Print for Chaos II: Pilgrim Disaster Plans, Still a Disaster", p. 3

office by planners developing radiological emergency response plans. Although this statement was in contradiction to what MCDA officials had previously led FENA to believe, no state representative denied the allegation at the meeting.

On December 16, 1986, Secretary of Public Safety, Charles Barry, sent a report to the Governor concerning the Pilgrim Emergency Plan. The report was accepted by the Governor and the Director of MCDA. The Barry Report states:

Plans should contain a good estimate of transportation needs and lists of locally available vehicles of each type. Having identified needs which cannot be met, the plans should identify buses, ambulance, and chair vans available beyond the EPZ which can be mobilized. Where necessary, letters of agreement should be concluded with private companies which will supply vehicles in an emergency...

The current plans for transportation dependent populations in the Pilgrim EPZ communities are far too rudimentary... While some progress has been made in identifying mobility impaired individuals, much work on this matter remains to be done.^{1*}

In addition the Commonwealth has determined that the preferred source of bus transportation for the Pilgrim emergency plan will be use of local, private bus companies. Massachusetts no longer plans to use the MBTA to provide

^{1*} Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station (Barry Report), Secretary of Public Safety, December 16, 1986, pp. 51, 52, 53.

transportation resources to the communities in the Pilgrim EPZ in the event of a nuclear accident. Although letters of agreement with private bus companies do not currently exist, the Commonwealth plans to work with the companies to obtain them.¹¹

FEMA Current Position

FEMA and the RAC reviewed this matter in 1981 and 1982 and accepted the Commonwealth's position that sufficient special plans were currently in place for the mobility impaired; sufficient resources had been identified, additional work was underway, and ad hoc response capability could further enhance this effort. Since then, however, questions have arisen as to the amount of effort that has been expended and is being expended to identify mobility impaired individuals and to plan adequately for their needs in the event of an incident at the Pilgrim Nuclear Power Station. No significant revision to the Commonwealth's plan has been submitted to FEMA since 1982.

¹¹ Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station (Barry Report), Secretary of Public Safety, December 16, 1986, p. 51 et. seq.

Now, the Commonwealth has indicated that it no longer plans to use the vast, readily accessible, state controlled resources of the MBTA for evacuating the mobility impaired population of the Pilgrim EPZ. To date it has offered no substitution for this resource. The Commonwealth's own Office of Handicapped Affairs has made uncontradicted statements that adequate planning for the mobility impaired has not been implemented.

FEMA, therefore, can no longer state with confidence that a reasonable assurance exists that the health and safety of mobility impaired people can be protected in the event of an accident at the Pilgrim Nuclear Power Station. Before FEMA and the RAC can make a determination on this issue additional information is needed. This information must include the updated, comprehensive procedures used to identify the mobility impaired, together with the program in place to periodically review and update all relevant information pertaining to them; the resources available to meet the needs of the this group; and letters of agreement for the use of these resources as appropriate.

E. Transportation Dependent Population

Issue

FEMA's regulations call for the Agency and the RAC to use a guidance document jointly developed by FEMA and the NRC [See, 44 CFR 350.81. This document is known as NUREG-0654, FEMA-REP-1, Rev. 1. It indicates that state and local emergency plans must describe the "means of relocation" for the population [See, NUREG-0654, FEMA-REP-1, II.J.10(g)].

FEMA Previous Understanding

The 1985 Pilgrim Area Town Annexes to the Massachusetts State Radiological Emergency Response Plans state:

[T]he primary means for evacuation ... would be private auto... [The] plan recognizes that while not every individual has access to a vehicle at a given time, considerable sharing of vehicle space among neighbors will accommodate most evacuees... Contractor school buses may be used to move those without personal means of transportation.

In 1981 the FEMA/RAC Review questioned the adequacy of the state and local plans to implement relocation from the Pilgrim EPZ. The FEMA/RAC Review of the 1982 revision of the

State Plan indicated that further planning was needed in order to protect persons, without access to an automobile, evacuating the Pilgrim EPZ.

The issue of how transportation is to be provided for those temporarily or permanently without access to an automobile was brought up again at the June 3, 1982 public meeting concerning Pilgrim. MCDA's response to this concern was that it had made arrangements with the Massachusetts Bay Transportation Authority (a state agency) to provide buses to the Pilgrim EPZ on an "as needed" basis.

This issue was also raised in MASSPIRG's July 20, 1983 study on emergency planning for Pilgrim which claimed that a substantial segment of the population will require public transportation in order to evacuate. MCDA responded to the MASSPIRG report as follows:

According to studies conducted there are sufficient privately owned vehicles to provide the general population with transportation during an evacuation. Mass-transportation resource lists provide additional capability if required.

Needs have been assessed and a mass transit inventory has been prepared to meet these needs.¹¹

¹¹ MCDA Analysis to The Massachusetts Public Interest Group Report Print for Chaos II: Pilgrim Disaster Plans, Still a Disaster"., p. 8.

While specific, detailed procedures were not available, FEMA, in consideration of the enormous resources listed in the State's Emergency Plan for assistance to municipalities during an evacuation and because the state had made arrangements for use of the resources from other state agencies (including the vast and readily accessible resources of the MBTA), found that this planning was adequate.

Issue Identification

At public meetings in Boston (June 18, 1986), Duxbury (June 25, 1986) and Plymouth (June 30, 1986), questions about the Commonwealth's provision for transportation for people without ready access to an automobile were repeatedly raised. The Commonwealth's general response was that this matter needed further study and analysis.

The December 16, 1986 report from Secretary of Public Safety, Charles Barry to the Governor states:

Transport dependent populations include people without access to a private automobile, school children and

children in day care while school is in session, hospital and nursing home residents, and other mobility-impaired persons.

Plans should contain a good estimate of transportation needs and lists of locally available vehicles of each type. Having identified needs which cannot be met, the plans should identify buses, ambulance, and chair vans available beyond the EPZ which can be mobilized. Where necessary, letters of agreement should be concluded with private companies which will supply vehicles in an emergency.

The current plans for transportation dependent populations in the Pilgrim EPZ communities are far too rudimentary.... Clearly, better plans to provide for the needs of all transportation dependent populations in the Pilgrim EPZ can and must be prepared.¹³

Current FEMA Position

FEMA and the RAC reviewed this matter in 1981 and 1982 and accepted the Commonwealth's position that planning in-place together with plans to utilize additionally provided resources on an ad hoc basis was minimally adequate. Since then, questions have arisen at public meetings and, recently, in the Barry Report itself as to the adequacy of the Commonwealth's pre-planning for evacuation of the transport dependent population. The Commonwealth states in the Barry Report that it can no longer provide adequate resources

¹³ Report to the Governor on Emergency Preparedness for an Accident at the Pilgrim Nuclear Power Station (Barry Report), Secretary of Public Safety, December 16, 1986, pp. 51, 52, 53.

during a fast-breaking accident on an ad hoc basis. In addition the Commonwealth has advised FEMA that it is no longer planning on using the MBTA to provide transportation resources.

Although it has not received an update of the Massachusetts plan since 1982, FEMA believes that many of the state transportation resources listed in the plan may well be available to the Commonwealth in the event of an accident at Pilgrim. Because the Commonwealth has indicated that it no longer plans to use its vast and accessible resources, including the MBTA, however, FEMA can no longer state with confidence that a reasonable assurance exists that the health and safety of the transport dependent population can be protected in the event of an accident at the Pilgrim Nuclear Power Station.

Before FEMA and the RAC can make a determination on this issue, we must receive detailed plans and procedures for protection of the transport dependent population, including: estimates of the number of people involved, lists indicating the resources needed and identified, and appropriate letters of agreement.

F. Overall Lack of Progress in Planning and Apparent Diminution in Emergency Preparedness

On June 16, 1981, pursuant to 44 CFR 350.7, the Commonwealth of Massachusetts submitted to FEMA, for formal approval, its plan for radiological emergency response to protect the public in the event of an accident at Pilgrim. The RAC reviewed the plan and issued its report in October, 1981. Following revision by the Commonwealth, the RAC reviewed the plan and issued another report in September, 1982.

A public meeting concerning the emergency response plan was sponsored by FEMA in Plymouth, Massachusetts on June 3, 1982. During the meeting several issues were raised by local officials and citizens. These issues were:

- The ability to evacuate communities within the 10-mile EPZ.
- The ability to evacuate Cape Cod beyond the 10-mile EPZ.
- Reliability and effectiveness of the sirens.
- Training and education of teachers, school bus drivers, and hospital personnel.
- Information brochures for the public, including transients.
- Policy on the use of radioprotective drugs.
- Protection of the elderly and others with special

needs.¹⁴

The Commonwealth committed itself to addressing these issues and resolving the problems brought to its attention.

Exercises testing the Commonwealth's emergency plan were conducted on March 3, 1982, June 29, 1983 and September 5, 1985; a no fault drill was held on August 15, 1984 and a Remedial Exercise was performed on October 29, 1985.

During these exercises "deficiencies", "areas requiring corrective action", and "areas recommended for improvement" were identified. As FEMA now uses the term, "deficiencies" are problems identified in plan implementation which preclude a finding that a plan is adequate to protect the health and safety of the public. "Areas requiring corrective action" are defined as inadequacies in State and local government performance observed during an exercise; although their correction is required, they are not considered, by themselves, to adversely impact public health and safety. "Areas recommended for improvement" are defined as problem areas observed during an exercise that are not considered to adversely impact public health and safety. The Commonwealth

¹⁴ Follow-up to the June 3, 1982 Public Meeting, FEMA, p. 1

has moved quickly to solve the "deficiencies". For example, during the September 5, 1985 exercise FEMA identified four deficiencies, and Massachusetts had resolved them all by October 29, 1985.

Many difficulties in the plan, minor when considered individually, plus numerous "areas requiring corrective action" remain uncorrected. These unresolved problems include virtually everything identified in the 1982 RAC review; many issues outstanding from the reports on the March 3, 1982, June 29, 1983 Exercises; all issues identified in the September 5, 1985 Exercise (except the deficiencies which were promptly remedied).

A review of the transcript of the June 3, 1982 public meeting held to receive local input indicates that the Commonwealth has failed generally to keep the commitments it made at that time to upgrade its emergency plan. Many of the improvements in emergency planning promised at the public meeting relate to items discussed in other sections of this review, such as transportation dependent people, school children, and the beach population. However, other planning and preparedness issues, not directly related to the above, remain outstanding [See, e.g., 1981, 1982 RAC Reviews, and 1985 Exercise Report]. For example, letters of agreement for tow trucks and

snow plow operators have not been obtained; a schedule for training of emergency workers has not been submitted; and a schedule for the required drills has not been forthcoming.

On March 6, 1985 and October 30, 1985 FEMA advised the Massachusetts Director of Civil Defense that, because the Commonwealth had been unresponsive to many of its comments on planning problems, FEMA must cease processing the Commonwealth's request for formal approval of the State and local plan to protect the public in the event of an accident at Pilgrim. The Report of Secretary of Public Safety Charles Barry, issued in December, 1986, generally acknowledges that the problems identified by FEMA in its plan reviews and exercise reports are valid and should be addressed in an orderly fashion. In addition, Secretary Barry concluded that the Massachusetts plans to protect the public in the event of an accident at Pilgrim are not adequate. The Commonwealth has not, to date, submitted plan improvements responsive to FEMA's many concerns (a violation of NUREG-0654, FEMA-REP-1 evaluation criteria N.5, P.4, and P.10).

During the past fifteen months representatives of FEMA have participated in numerous public and interagency meetings concerning the Commonwealth's plan. FEMA has observed that

the emergency plan for Pilgrim does not withstand scrutiny in the areas described elsewhere in this report and that there is a general lack of progress in actually resolving the numerous problems identified with it, discussed supra. FEMA has also noticed that State Civil Defense personnel who attended recent meetings were often unfamiliar with the plan and, therefore, were unable to answer questions or otherwise acquaint the public and media about matters addressed in the current plan. Furthermore, from FEMA's observation of the interaction between state and local emergency personnel it is apparent that there has been a lack of coordination between these levels of government in training and plan maintenance.

FEMA has not received any evidence that an annual training program for emergency workers at the state and local levels, as required by evaluation criterion 6 of NUREG-0654, FEMA-REP-1, Rev.1, has been developed or implemented. Based on FEMA's observations at the public meetings, we doubt that such a program is being carried out.

FEMA understands that the Boston Edison Company has recently invited State and local governments to participate in emergency planning drills. FEMA is not aware of the extent of State and local participation, however, nor has it

been apprised of the scope, depth and results of the drills.

The Commonwealth of Massachusetts has not submitted the Annual Letter of Certification, required by FEMA in Guidance Memorandum PR-1, October 1, 1985, "in order to facilitate the monitoring of REP planning and preparedness requirements as prescribed in NUREG-0654, FEMA-REP-1; and 44 CFR 350". On October 4, 1985 FEMA sent a letter to MCDA informing it of the requirement to submit a letter of certification by January 31, 1986 for calendar year 1985. FEMA repeated its request on July 31, 1986; and on January 8, 1987, requested both the 1985 and 1986 Annual Letters of Certification. To date it has received no response to any of its requests. FEMA therefore has no basis for believing that the Communication Drills (N.2.a), Medical Emergency Drill (N.2.c), Radiological Monitoring Drill (N.2.d) and Health Physics Drill (N.2.e) set forth in NUREG-0654, FEMA-REP-1, Rev. 1, have been conducted and documented as required under evaluation criteria N.3.4. In addition, FEMA has no assurance that a means to evaluate the observer comments and implement corrective actions has been developed as required under evaluation criterion N.5.

For the following reasons, therefore, FEMA can no longer state with confidence that a reasonable assurance exists that

the health and safety of the public can be protected in the event of an accident at the Pilgrim Nuclear Power Station:

- (1) the Commonwealth has failed to correct the numerous problems noted in FEMA's review of its plan and during its exercises as required by 44 CFR 350.9(a), and evaluation criterion N.5 of NUREG-0654, FEMA-REP-1, Rev. 1;
- (2) it has not updated its plan, and so advised FEMA of its actions, on an annual basis as required by evaluation criterion P.4 of NUREG-0654, FEMA-REP-1, Rev. 1;
- (3) it has not implemented State and local training as required by evaluation criterion O.5 of NUREG-0654, FEMA-REP-1, Rev. 1;
- (4) it has not pursued an adequate program of public education and information for the media as required by evaluation criterion G.5 of NUREG-0654, FEMA-REP-1, Rev. 1;
- (5) and it has not, despite numerous requests, submitted to FEMA the required Annual Letters of Certification for calendar years 1985 and 1986.
- (6) In addition, representatives of the Commonwealth have indicated that the state and local plan is inadequate; and
- (7) they have been unable to answer numerous questions posed by the public and by local officials in public meetings as required by evaluation criteria: G.1, G.2, G.5, O.1, O.2, O.4, and O.5, and P-1 of NUREG-0654, FEMA-REP-1, Rev. 1.

We also note that additional areas of plan weakness are identified in the attached FEMA Report, "Analysis of

Emergency Preparedness Issues at Pilgrim Nuclear Power Station Raised in a Petition to the NRC Dated July 15, 1986." While FEMA did not find these areas of plan weakness were sufficient to sustain the contentions raised in the petition, resolution of these weaknesses would certainly enhance the State's ability to protect the public. FEMA will therefore be closely monitoring the State's progress in resolving these matters.

IV. CONCLUSION

FEMA has analyzed the information provided at the Spring, 1986 meetings as well as additional information provided by the Commonwealth and the public subsequent to those meetings. Based on this analysis and a review of the Massachusetts plan FEMA determines that the Massachusetts plan is inadequate to protect the health and safety of the public in the event of an accident at the Pilgrim Nuclear Power Plant and cannot be implemented until the inadequacies noted in this Self-Initiated Review and Interim Finding are corrected. Because of the changed circumstances discussed above, the finding of adequacy contained in the Interim Finding of September 29, 1982 no longer applies and that Interim Finding is hereby superceded.

FEMA will continue to work with, and provide technical assistance to, the Commonwealth of Massachusetts in its effort to fulfill its responsibility to develop a radiological emergency response plan to protect the health and safety of its citizens.



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

October 30, 1979

Docket No. 50-293

Mr. G. Carl Andognini
Boston Edison Company
M/C NUCLEAR
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Andognini:

In your letter of October 19, 1979, you stated that an analysis of the present Pilgrim Nuclear Power Station (PNPS) design indicated that the station complies with 10 CFR 50.44, relying on existing equipment. Therefore, you have concluded that a Containment Air Dilution (CAD) system is not required and requested that we delete FSAR Amendment 35 from your docket.

Since the staff had concluded during the original licensing review of PNPS that a hydrogen control system should be provided for the facility, we will need additional information in order to determine that this capability exists as you have stated.

We request that you submit within 60 days of your receipt of this letter, an analysis of the existing equipment which demonstrates conformance with 10 CFR 50.44. Please include sufficient detail for us to evaluate equipment compliance with 10 CFR 50 Appendix A Criteria 41, 42 and 43. Your submittal should also include proposed Technical Specifications for the existing equipment that would be used for post-LOCA hydrogen control. We have included an excerpt from the latest version of GE-BWR STS (NUREG 0123 Revision 2) for your use as a model in preparing appropriate specifications.

Your cooperation with us is appreciated.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosure:
Excerpt from GE-ST5

cc -/enclosures:
See page 7

7912170106 2pp.

BOSTON EDISON COMPANY

TELECOPY MESSAGE

To: 215-337-5324
Telephone Number

Date/Time: 6/16/81 1515 hr

To: Director, Region I
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
621 Park Avenue
King of Prussia, PA 19406

From: Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Flymouth, MA 02360

Subject: PROMPT REPORTABLE OCCURRENCE
Bucket Number 20-293; License DPR-33
Assigned LER Number 81-021/OIX-0

Event Description: A recent review of design modifications installed to obviate the need operator access to the ~~SCRAMMER BUILDING~~ ~~YIELDING A LOCA TRIP~~ ~~QUESTIONS REGARDING THE~~ ~~ASSUMPTIONS MADE IN RERW. ANALYSIS DATED 3/26/80 TO DEMONSTRATE CONFORMANCE WITH 10CFR50~~ ~~THIS REVIEW INDICATES THAT UPPER LIMIT DOSE RATES WERE UNDERESTIMATED IN THE ANALYSIS.~~ ~~THEREFORE, COMPLIANCE WITH 10CFR50 APPENDIX A, ODC #1 BASED ON LOCAL OPERATOR ACTION~~ could not be assured.

Cause and Corrective Action: The cause of this event was the discovery during plant 117 of conditions not specifically considered in the safety analysis report that requires remedial action to prevent the existence or development of an unsafe condition. Remedial action involved the installation of purges and vent manifolds during the 1979 refueling outage. It should be noted that these manifolds were out of service from July to about June 3, 1981.

Facility Status:

- a) Routine Startup _____
- d) Routine Shutdown _____
- e) Steady State _____
- f) Load Changing _____

- 100 i Thermal MW _____
- a) Shutdown _____
- b) Refueling _____
- k) Other _____
- j) Not Applicable _____

A written follow-up report will be sent within two weeks.

NRC person notified J. E. Johann

Prepared by M.T. McLaughlin/E.J. Fin

Mail (3) copies to:

Director
Office of Management Information and Program Control
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Looks more like dose rate was never considered in 1979 rather than being underestimated

SWIDLER & BERLIN

CHARTERED
3000 K STREET, N.W.
SUITE 500
WASHINGTON, D.C. 20007-3841
(202) 944-4300

TELEX 701131
TELECOPIER (202) 944-4296

March 25, 1988

FREEDOM OF INFORMATION
ACT REQUEST

FOIA 88-198
Rec'd 3-31-88

Director
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

In re: Freedom of Information Act Request
No. 88-___, Concerning Pilgrim Nuclear Power
Station

Dear Sir:

In accordance with the provisions of the Freedom of Information Act, 5 U.S.C. §552 and Part 9, Subpart A of 10 C.F.R., it is requested that the records identified below be made available for inspection and copying:

1. Records of any votes taken by the Commission, and records or transcripts of Commission meetings, with respect to the shutdown of the Pilgrim Nuclear Power Station, or the restart thereof, on or after April 12, 1986.
2. All SECY papers, attachments thereto, records and other materials supporting or forming the basis for positions taken therein on the subject of the Pilgrim Nuclear Power Station, prepared on or after January 1, 1980.
3. All records prepared or dated on or after January 1, 1980 (but excluding documents included on Docket No. 50-293 accession listings available from the Public Document Room) of NRC Region I, the Office of the Executive Director for Operations, the Office of Inspection and Enforcement, the Office of Investigations, the Office of Nuclear Reactor Regulation, the Office of Nuclear Materials Safety and Safeguards, the Advisory Committee for Reactor Safeguards, the Office for Evaluation of Operational Data, and the NRC Emergency Operations Center which discuss, refer to, take positions on, or form the basis for decisions concerning, the performance of the Pilgrim Nuclear Power Station in the following areas:

~~48808230107~~ 3PP

- A. Management
 - B. Staffing
 - C. Organization and Organization Structure
 - D. Radiation Protection
 - E. Quality Assurance
 - F. Surveillance
 - G. Maintenance
 - H. Offsite Emergency Planning
 - I. Fire Protection
 - J. Security
 - K. Management Response to NRC Regulatory Activities
4. All records of Region I, the Office of Nuclear Reactor Regulation, the Commission, the Office of Inspection and Enforcement, or other Staff or Commission offices relating to, discussing or forming the basis or support for, the Director's Decision (DD-87-14) dated August 21, 1987.
 5. All records (other than those categories of documents excluded from Item 3) of any office referred to in Item 4, above, discussing, describing, assessing, evaluating, or otherwise relating to actions by the NRC staff, FEMA, the ACRS, or other NRC or Commission offices, to follow-up or monitor actions by Boston Edison Company, the Commonwealth of Massachusetts, other jurisdictions within the 10-mile emergency planning zone for Pilgrim Nuclear Power Station, to address issues raised in the Director's Decision (DD-87-14) dated August 21, 1987.
 6. All records of the NRC offices referred to in Item 4 discussing, describing, assessing or evaluating, or otherwise relating to actions of the NRC staff to evaluate the July 1987 Restart Plan, and other actions by Boston Edison Company, its agents or contractors, relating to the restart of the Pilgrim Nuclear Power Station.
 7. All records of communications (whether written or oral and occurring from April 12, 1986 to the present) between any office of the NRC Staff, or of the Commission or offices reporting directly to it, and Boston Edison Company, concerning the status or startup of the Pilgrim Nuclear Power Station.
 8. All records of communications (whether written or oral, and occurring from April 12, 1986 to the present) between any office of the NRC Staff or of the Commission or offices reporting directly to it, and FEMA, other Federal or State agencies or governmental entities, or persons concerning the status, startup, or issues relating to startup, of the Pilgrim Nuclear Power Station.

9. All records in the possession of any NRC Staff or Commission office pertaining to (a) the evaluation by FEMA, NRC, or any other entity or agency, of the adequacy of offsite emergency plans for the Pilgrim Nuclear Power Station, and (b) the conduct and/or evaluation of drills, full scale/full participation or partial scale/partial participation exercises conducted or planned for the Pilgrim Nuclear Power Station.

For purposes of this request, "record" or "document" is defined to include, but not be limited to, notes, memoranda, reports, meeting minutes, logs, transcripts, letters, position or policy papers, interpretations of requirements, and guidance documents, and refers to drafts as well as any final version of any record or document requested.

Sincerely,


George E. Johnson, Esq.
(202)944-4383

GEJ/veg