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**Office of The  
Inspector General**  
U.S. NUCLEAR REGULATORY COMMISSION

UNITED STATES NUCLEAR REGULATORY COMMISSION

# INSPECTION REPORT

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

July 23, 1990

OFFICE OF THE  
INSPECTOR GENERAL

MEMORANDUM FOR: Chairman Carr  
Commissioner Rogers  
Commissioner Curtiss  
Commissioner Remick

FROM: *David C. Williams*  
David C. Williams  
Inspector General

SUBJECT: INSPECTION OF NRC STAFF'S REVIEW OF PILGRIM  
OFF-SITE EMERGENCY PREPAREDNESS

The enclosed Office of the Inspector General (OIG) Report of Inspection responds to allegations concerning the NRC staff's testimony on the status of off-site emergency preparedness during the October 14 and December 9, 1988, Commission meetings. These meetings were conducted to consider the restart of the Pilgrim Nuclear Power Station.

The NRC staff reviewed a draft of this report and provided their comments. We have included the complete text of their comments and our response to their comments as Appendix I to the report.

If you have any questions regarding the OIG's report, I will be happy to meet with you at your convenience.

Enclosure:  
Report of Inspection

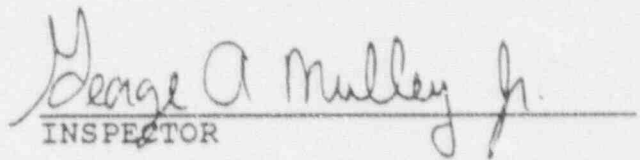
cc: J. Taylor, EDO

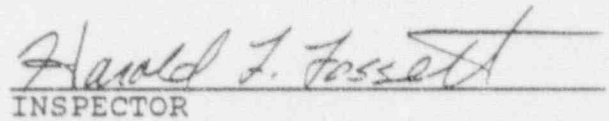
OFFICE OF THE INSPECTOR GENERAL

REPORT OF INSPECTION

NRC STAFF'S REVIEW OF FILGRIM OFF-SITE  
EMERGENCY PREPAREDNESS

CASE NO. 90N-02

  
INSPECTOR

  
INSPECTOR



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## EXECUTIVE SUMMARY

### INTRODUCTION

This inspection was initiated by the Office of the Inspector General (OIG) based on two letters received in June and July 1989. The first letter from David L. Quaid, a resident of Duxbury, Massachusetts, alleged that Nuclear Regulatory Commission (NRC) staff provided inaccurate off-site emergency preparedness information to the NRC Commission during October 14 and December 9, 1988, Commission meetings on the restart of the Pilgrim Nuclear Power Station (Pilgrim). The second letter was forwarded to OIG by the NRC Region I Administrator. This letter was addressed to Senator John Glenn, Jr., from Citizens Urging Responsible Energy, a non-profit citizen action group, and it alleged that during the October 14, 1988, Commission meeting, officials of Region I misrepresented to the NRC Commission certain facts regarding the status of off-site emergency planning at Pilgrim. As we looked into the NRC staff's statements during the Commission meetings on Pilgrim restart, we identified an additional concern with respect to the thoroughness of the staff's assessment of Pilgrim off-site emergency preparedness. Specifically, our inspection addressed the following issues:

1. The adequacy of the NRC staff's assessment of Pilgrim off-site emergency preparedness.
2. The accuracy of the information provided by the staff to the NRC Commission during the meetings in October and December 1988.

### BACKGROUND

The Federal Emergency Management Agency (FEMA) is the lead federal agency responsible for reviewing State and local government emergency preparedness plans. At the conclusion of its review, FEMA submits its findings and determinations to NRC. Specifically, FEMA is concerned with the adequacy of emergency preparedness by the communities located within a 10 mile radius outside the perimeter of a nuclear power plant. This area is referred to as the Emergency Planning Zone (EPZ). NRC has the primary responsibility for assessing the adequacy of licensee on-site emergency plans. On-site emergency planning addresses the actions to be taken by the licensee within the perimeter of the nuclear plant in the event of an accident. The NRC must also review FEMA findings and determinations concerning off-site emergency preparedness and decide whether the integrated state of on-site and off-site emergency preparedness will provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the plant.

Pilgrim was shut down by Boston Edison Company (BECO) in April 1986 due to equipment and operational problems. NRC confirmed BECO's intention to keep the station shut down until corrections were made. In August 1987, while Pilgrim was still shut down, FEMA issued a report on the adequacy of off-site emergency preparedness for Pilgrim. The report concluded that off-site emergency plans and procedures were not adequate to protect the public health and safety in the event of an accident at the plant. Consequently, FEMA withdrew its 1982 interim finding of adequacy for Pilgrim. NRC did not take any enforcement action as a result of the deterioration of off-site emergency preparedness; however, the NRC staff judged the deficiencies identified by FEMA to be serious enough that they stated Pilgrim would not be permitted to restart until improvements were made and the staff observed some demonstration of the improvements. The NRC staff did not specify the improvements they considered necessary or the nature of the demonstration.

FEMA began a review of the revised Pilgrim off-site emergency preparedness plans shortly after publication of its August 1987 report. In early 1988, the NRC staff realized that the equipment and operational problems at Pilgrim which forced the plant to shut down were being resolved, and it was apparent that Pilgrim would be operationally ready for restart before the ongoing FEMA review of off-site emergency preparedness was completed. To avoid any possible delay in the restart, the Director, Office of Nuclear Reactor Regulation, NRC, made the decision to have the NRC staff conduct an assessment of off-site emergency preparedness. It is not regular practice for the NRC staff to assess off-site emergency preparedness. Based on their assessment, the NRC staff concluded that sufficient progress had been made in correcting the off-site emergency preparedness deficiencies identified by FEMA to provide reasonable assurance that adequate protective measures could and would be taken in the event of a radiological emergency at the plant.

At the October 14, 1988, Commission meeting to consider the restart of Pilgrim, the staff presented their findings and they recommended to the Commission that it authorize Pilgrim to restart. The Commission did not vote on the restart of Pilgrim during this meeting, however, and a second Commission meeting was held on December 9, 1988. At the December Commission meeting, although the FEMA review of the revised off-site emergency plans was still not completed, the staff again recommended that Pilgrim be permitted to restart. On December 21, 1988, the Commission authorized BECO to restart Pilgrim and to begin a controlled power ascension program.

As noted above, NRC is required to review the report of FEMA findings and determinations before arriving at a final reasonable assurance conclusion. NRC need not agree with or accept the FEMA findings. Although a FEMA review of the revised Pilgrim off-

site emergency plans was ongoing during 1988, the NRC staff considered the requirement for NRC to review a FEMA report to be satisfied by their review of the August 1987 FEMA report as they determined whether there was reasonable assurance that adequate protective measures could and would be taken in the event of an emergency at Pilgrim.

In a petition before the United States Court of Appeals for the First Circuit, the Commonwealth of Massachusetts contended the NRC abused its discretion by allowing Pilgrim to restart despite problems with the emergency plans. In a June 29, 1989, ruling, the court stated that by reviewing the August 1987 FEMA findings the NRC acted properly in reaching its final reasonable assurance conclusion.

### FINDINGS

Based on the information developed during this inspection, we found (1) the assessment by the NRC staff of Pilgrim off-site emergency preparedness was not balanced or thorough; and (2) certain information provided by the staff concerning the status of Pilgrim off-site emergency preparedness during the October and December 1988 Commission meetings was inaccurate.

### ADEQUACY OF THE NRC ASSESSMENT OF PILGRIM OFF-SITE EMERGENCY PREPAREDNESS

The NRC staff's assessment of off-site emergency preparedness at Pilgrim was neither balanced nor thorough. Prior to the October 14, 1988, meeting, the staff conducted little firsthand review of off-site emergency preparedness at the local level and had minimal contact with local officials who had the primary responsibility for developing off-site emergency plans and procedures. Instead, NRC staff relied on information obtained from the Boston Edison Company (BECO). FEMA, on the other hand, interacts with and receives information from State and local emergency planning officials when conducting its review of off-site emergency preparedness. We believe that in light of BECO's vested interest in restarting Pilgrim, BECO was not the best source for the NRC staff to rely on for information on the status of off-site emergency preparedness. The NRC staff could have obtained firsthand information on the status of Pilgrim off-site emergency preparedness by meeting with responsible local officials prior to the October meeting to vote on the restart of Pilgrim.

The NRC staff learned from BECO that all emergency implementing procedures for the EPZ communities had been submitted to the State for technical review with the exception of five procedures for the Towns of Plymouth and Duxbury. During the October 14, 1988, Commission meeting, the staff reported this status and concluded that it evidenced considerable progress towards



resolution of emergency preparedness issues. The NRC staff reported this information to the Commission without first verifying it with the emergency planning officials in the EPZ communities. Had NRC staff discussed the status of the emergency implementing procedures with local officials, they would have learned the information was not correct. According to Plymouth and Duxbury officials, none of the implementing procedures (about 130 procedures) for these communities had even been approved for submission to the State. In fact, many of these procedures were still being developed.

On a number of issues the NRC staff received different information from various credible sources. This information included the expected number of special needs persons, the population of the beaches, and the effect of monthly lunar high tides on the ability to evacuate Saquish Beach. The staff did not reconcile the differences or validate the information they reported.

#### ACCURACY OF INFORMATION PRESENTED AT THE COMMISSION MEETINGS

It was clear to the NRC staff that it was their responsibility to provide the NRC Commission with an accurate presentation of the status of off-site emergency preparedness at Pilgrim. However, certain information the staff provided during the October and December 1988 Commission meetings was inaccurate. During the October 14, 1988, Commission meeting, the NRC staff said they had met with local emergency planning officials and had conducted numerous public meetings to discuss off-site emergency preparedness plans and procedures. We found that the NRC staff did not make their first visits to the EPZ communities to meet with local emergency planning officials until after the October Commission meeting. Additionally, the numerous public meetings referred to by the staff were not held to discuss off-site emergency preparedness issues and did not involve meaningful dialogue between NRC staff and local emergency planning officials.

We found that the statement by the NRC staff during the October 14, 1988, Commission meeting that they had toured the EPZ areas with special emphasis on the beaches was also inaccurate. The "special emphasis" on the beaches involved a single March 1988 tour of Duxbury and Saquish beaches that was provided to one staff member by Mr. Quaid, a private citizen. No local officials accompanied them on the tour.

During the October 14, 1988, Commission meeting, the NRC staff also made inaccurate statements about the situation on the beaches located in the EPZ. In one instance, the NRC staff responded to a Commissioner's direct question by reporting that no one remained on Saquish Beach overnight. This statement was

inaccurate because the staff did not clarify that there are several hundred homes on Saguish Beach, some of which are occupied 24 hours a day. According to the staff member he provided this answer because he knew where the question was heading, i.e., were there any hotels, motels, or camp grounds on the beach. Based on this interpretation he did not elaborate. Also, during the December 9, 1988, Commission meeting, the NRC staff told the Commission that the Saguish Beach summer population was less than 700. The NRC staff did not recall the source of this population figure, and they could not explain to us why they thought it was more accurate than the larger numbers made available to them by local citizens. However, we note that in February 1989, after Pilgrim was authorized to restart, the NRC staff agreed with local emergency planning officials that a Saguish Beach population of between 2,000 and 4,000 for most summer weekends and perhaps 5,000 on holiday weekends was reasonably accurate.

#### CONCLUSIONS

The staffs' assessment of Pilgrim off-site emergency preparedness was neither balanced nor thorough. They did not contact responsible emergency planning officials in a timely manner, they did not reconcile differences in credible information they received from various sources, and in some cases they did not validate information they accepted. The NRC staff was responsible for providing an accurate presentation of the status of Pilgrim off-site emergency preparedness for the Commission's consideration. However, portions of the staff's presentations during the October 14 and December 9, 1988, Commission meetings were inaccurate. This inaccurate information includes the extent of the staff's interaction with local emergency planning officials and the situation on the beaches located in the EPZ.

#### NRC STAFF COMMENTS

On June 27, 1990, the NRC Office of Nuclear Reactor Regulation formally responded to the findings in our report. We have reviewed the comments and where appropriate the comments have been incorporated into our report. We are including the entire text of the staff's comments and our response to each of the staff's comments as Appendix I to the report.

## REPORT OF INSPECTION

INTRODUCTION

In a June 25, 1989, letter to the Office of the Inspector General (OIG), Nuclear Regulatory Commission (NRC), Mr. David L. Quaid, a resident of Duxbury, Massachusetts, requested an immediate investigation into his allegation that the NRC staff had provided inaccurate information to the NRC Commission with respect to off-site emergency preparedness at the Pilgrim Nuclear Power Station (Pilgrim). In his letter, Mr. Quaid outlined what he believed to be false and distorted statements by the staff regarding the safety of persons using the Plymouth and Duxbury, Massachusetts beaches in the event of a radiological emergency at Pilgrim. These statements were allegedly made by the staff during Commission meetings held on October 14 and December 9, 1988, regarding the restart of Pilgrim.

In a July 27, 1989, memorandum, William T. Russell, Administrator, Region I, NRC, forwarded to OIG a copy of a letter addressed to Senator John Glenn, Jr., Chairman of the Senate Committee on Governmental Affairs, from Citizens Urging Responsible Energy, a non-profit citizen action group. The letter to Senator Glenn alleged that officials of NRC Region I misrepresented facts regarding the status of emergency planning for Pilgrim during the Commission meeting on October 14, 1988.

Based on these letters, an OIG inspection was initiated. As we looked into the NRC staff's statements during the Commission meetings on Pilgrim restart, we identified an additional concern with respect to the thoroughness of the staff's assessment of Pilgrim off-site emergency preparedness. Specifically, our inspection addressed the following issues:

1. The adequacy of the NRC staff's assessment of Pilgrim off-site emergency preparedness.
2. The accuracy of the information provided by the staff to the NRC Commission during meetings in October and December 1988.

BACKGROUND

The Pilgrim Nuclear Power Station is located four miles southeast of Plymouth, Massachusetts. Located in the Pilgrim Emergency Planning Zone (EPZ) are the Towns of Plymouth, Duxbury, Carver, Marshfield, and Kingston, Massachusetts. Also located in the EPZ are nine beaches patronized by vacationers. The EPZ is the area surrounding a commercial nuclear power facility that is used in off-site emergency planning. For commercial nuclear power plants, the plume EPZ extends for a radius of 10 miles around each plant.



The Nuclear Regulatory Commission Appropriation Authorization, dated June 30, 1980, (Public Law 96-295) and implementing regulations (contained in Title 10 and Title 44 of the Code of Federal Regulations) identify the Federal Emergency Management Agency (FEMA) as the lead federal agency for reviewing emergency planning and preparedness activities of State and local governments with respect to nuclear facilities. FEMA's emergency preparedness responsibilities include the review of the adequacy and the implementation capability of emergency plans of the communities located within the 10 mile EPZ. FEMA must report the findings and determinations of its review to NRC. NRC is responsible for assessing the adequacy of licensee on-site emergency plans. The on-site emergency planning specifically addresses the actions to be taken within the perimeter of the plant in the event of an accident. The NRC must also make a final determination about whether the integrated state of on-site and off-site emergency preparedness will provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the plant. The NRC is required to review FEMA's findings and determinations concerning off-site emergency preparedness before reaching its final conclusion.

Boston Edison Company (BECO), the licensee, was issued an operating license for Pilgrim on September 15, 1972. Pilgrim was in commercial operation until April 12, 1986, when it was shut down by BECO due to equipment and operational problems. NRC, Region I, subsequently issued a Confirmatory Action Letter confirming BECO's intent to keep the plant shut down until the problems were corrected.

On August 4, 1987, FEMA issued a report entitled "Self-Initiated Review and Interim Findings for the Pilgrim Nuclear Power Station". This report documented FEMA's just completed analysis of the adequacy of the off-site emergency preparedness plans for Pilgrim. The FEMA report concluded that Massachusetts off-site radiological emergency planning and preparedness were not adequate to protect the public health and safety in the EPZ in the event of an accident at Pilgrim. Consequently, FEMA withdrew its 1982 interim finding of adequacy with respect to off-site emergency preparedness at Pilgrim.

Pilgrim was still shut down at the time FEMA issued its August 1987 report, and the NRC took no enforcement action as a result of the FEMA report. However, the NRC staff judged the deficiencies to be significant enough that they stated the plant would not be permitted to restart until improvements were made in the emergency plans and they observed some demonstration of the improvements. The staff did not specify the nature or the improvements or demonstration they required. Further, because off-site emergency procedures were being revised, the biennial



full participation emergency preparedness exercise scheduled for the Fall of 1987 was waived at the request of BECO. The purpose of the regulatory required exercise is to test the ability of State and local government emergency personnel to adequately assess and respond to an accident at a commercial nuclear power plant. BECO continued to request and NRC continued to waive this exercise through 1988 because the off-site emergency preparedness plans and procedures were still being revised.

FEMA's review of the revised Pilgrim off-site emergency preparedness plans began shortly after publishing its August 1987 report. In early 1988, the NRC staff realized that the equipment and operational problems at Pilgrim which forced the plant to shut down were being resolved to NRC's satisfaction, and it was apparent that Pilgrim would be operationally ready for restart before the ongoing FEMA review of off-site emergency preparedness was completed. Therefore, although not the regulatory requirement, the Director of NRC's Office of Nuclear Reactor Regulation decided to have the NRC staff conduct an assessment of off-site emergency preparedness to avoid a possible delay in the restart of Pilgrim. The staff's review began in the Summer of 1988.

In an August 22, 1988, letter to the Massachusetts Executive Office of Public Safety, FEMA discussed the status of its ongoing review of Pilgrim off-site emergency preparedness. FEMA acknowledged the efforts of the State and the local communities to upgrade emergency preparedness, and it reported it had completed informal technical assistance reviews of draft radiological emergency response plans for all the EPZ communities except one. FEMA recognized there had been some progress in improving and upgrading local plans; however, overall the plans remained incomplete, lacked specific details in certain areas, and did not include implementing procedures. Additionally, the status of the Massachusetts Civil Defense Agency Area II plan for Pilgrim was obsolete in many respects and needed upgrading and republishing. A full formal technical review of off-site planning for Pilgrim could not be completed by FEMA until revised State and Pilgrim area plans were submitted along with complete supporting local plans. FEMA also stated that full implementing procedures, Letters of Agreement, revised public information brochures, and training modules had to be submitted for a formal technical review.

NRC is required to review the findings and determinations of a FEMA review of off-site emergency preparedness before arriving at a final reasonable assurance conclusion. Since the results of the ongoing FEMA review of the revised emergency plans would not be available by the time Pilgrim was operationally ready for restart, the NRC staff decided to use their review of the findings in FEMA's August 1987 report in reaching their final reasonable assurance conclusion. Based on the NRC staff's review of the FEMA report and Pilgrim off-site emergency preparedness,

the staff believed that sufficient progress had been made to warrant a reasonable assurance conclusion that adequate protective measures could and would be taken in the event of a radiological emergency at the power plant.

At the October 14, 1988, Commission meeting to consider the restart of Pilgrim, the NRC staff told the Commission they believed the equipment and operational problems that were the basis for the Pilgrim shut down were resolved and the facility was ready for restart. The staff also stated they recognized that more work needed to be done before the NRC could receive a FEMA finding of adequacy; however, based on their review of off-site emergency preparedness in the Pilgrim EPZ, they reported to the Commission their belief there was reasonable assurance that adequate protective measures could and would be taken in the event of an accident at Pilgrim. Consequently, the staff recommended to the Commission that it authorize Pilgrim to restart. The Commission decided at this meeting that it needed more time to reflect on what it had been told and to allow for more progress in improving the state of off-site emergency preparedness. The Commission did not vote on the restart of Pilgrim during the October 1988 meeting.

A second Commission meeting was held on December 9, 1988. During this meeting the NRC staff acknowledged to the Commission that more work needed to be done by FEMA and State and local governments to improve Pilgrim off-site emergency preparedness before the NRC could receive a finding of adequacy from FEMA. However, the NRC staff again told the Commission that as a result of their review of the improvements made in off-site emergency preparedness, they believed there was reasonable assurance that adequate protective measures could and would be taken in the event of an accident at Pilgrim. On December 21, 1988, the NRC Commission authorized BECO to restart Pilgrim and begin a controlled power ascension program.

As noted above, NRC is required to review the report of FEMA findings and determinations before arriving at a final reasonable assurance conclusion. NRC, however, need not agree with or accept the FEMA findings. Although a FEMA review of the Pilgrim revised off-site emergency plans was ongoing during 1988, the NRC staff considered the requirement for NRC to review a FEMA report to be satisfied by their review of the August 1987 FEMA report as they determined whether there was reasonable assurance that adequate protective measures could and would be taken in the event of an emergency at Pilgrim.

In a petition before the United States Court of Appeals for the First Circuit, the Commonwealth of Massachusetts contended the NRC abused its discretion by allowing Pilgrim to restart despite problems with the emergency plans. In a June 29, 1989, ruling,

the court stated NRC acted properly in reviewing the August 1987 FEMA findings when reaching its final conclusion.

### FINDINGS

Based on the information developed during this inspection, we found, (1) the assessment conducted by the NRC staff of Pilgrim off-site emergency preparedness was neither balanced nor thorough; and (2) certain information provided by the staff concerning the status of Pilgrim off-site emergency preparedness during the October and December 1988 Commission meetings was inaccurate.

Details on each finding are presented in the following sections.

#### ADEQUACY OF THE NRC ASSESSMENT OF PILGRIM OFF-SITE EMERGENCY PREPAREDNESS

The NRC staff recognized the significance of the deficiencies identified by FEMA in its August 1987 report and stated that Pilgrim would not be permitted to restart until improvements were made and some demonstration of the improvements was observed. Although FEMA had already begun its review of Pilgrim off-site emergency preparedness, the NRC staff initiated their own assessment of Pilgrim off-site emergency preparedness rather than wait for FEMA to complete its review and issue a report. During the October 14 and December 9, 1988, Commission meetings, the NRC staff told the Commission that based on their assessment of Pilgrim off-site emergency preparedness they concluded there was reasonable assurance that adequate protective measures could and would be taken in the event of an emergency at Pilgrim. We found, however, that the NRC assessment was not balanced or thorough.

Prior to the October 14, 1988, Commission meeting to possibly vote on the restart of Pilgrim, the Region I, NRC staff had not met with local officials responsible for preparing off-site emergency preparedness plans and procedures, and with the exception of one EPZ community, the staff had not reviewed the local, revised, off-site emergency implementing procedures. The staff told us they could assess the status of off-site emergency preparedness by the five EPZ communities based on information obtained from BECO. However, BECO is not responsible for off-site emergency preparedness. FEMA, on the other hand, interacts with and receives information from State and local government officials during its review of off-site emergency plans and procedures. We believe in light of BECO's vested interest in restarting Pilgrim, BECO was not the NRC staff's best source of information on the status of off-site emergency preparedness. The NRC staff could have obtained firsthand information on the status of off-site emergency preparedness by meeting with local



officials in the EPZ communities prior to the October meeting to possibly vote on the restart of Pilgrim.

To illustrate the above, the staff reported during the October 1988 Commission meeting that all emergency implementing procedures for the EPZ communities had been submitted to the State for technical review with the exception of five procedures for Plymouth and Duxbury. The staff concluded that this evidenced considerable progress towards resolution of emergency preparedness issues. This information was obtained from BECO and reported to the Commission without first discussing it with the emergency planning officials in the EPZ communities. Had NRC staff discussed the status of procedures with local officials, they would have discovered that the information was not correct. According to Plymouth and Duxbury officials, none of their implementing procedures (about 130 procedures) had been approved for submission to the State for technical review, and many of these procedures were still being developed and reviewed by local officials.

Following the October 14, 1988, Commission meeting, NRC staff did visit each EPZ community once and discussed emergency planning issues with local planning officials. During these meetings the local officials reported to the NRC staff that more work had to be done before they would be ready to implement the plans. While at the local sites, the NRC staff did not review the draft local emergency implementing procedures that were available.

In 1987 while Pilgrim was shut down, NRC waived the regulatory requirement that BECO conduct a biennial, full participation emergency preparedness exercise. The last exercise conducted by BECO at Pilgrim was in 1985, and the next exercise was scheduled for the Fall of 1987. NRC continued to waive this requirement through 1988 because the revised off-site emergency plans and procedures were not complete; therefore, no emergency preparedness exercise was conducted to demonstrate the viability of the revised emergency plans and procedures before the Commission authorized Pilgrim to restart. Consequently, we believe it was even more important that the NRC staff assessment should have included a thorough on location review of off-site emergency preparedness. This would have provided the staff the opportunity to observe the improvements and remaining deficiencies in off-site emergency preparedness, and it would have enabled the staff to report more accurate information during the October and December 1988 Commission meetings.

On a number of issues various credible sources provided the NRC staff with different information. However, the staff did not reconcile these differences or determine the validity of certain information they reported to the Commission during the October and December 1988 meetings. The staff also did not inform the Commission of the existence of conflicting information. For



example, prior to the October 1988 Commission meeting, the staff was made aware of information in the United States Disability Census indicating that the expected number of special needs persons in the total population was many times higher than the number provided by the staff to the Commission. Although the staff did not review the census or ascertain the validity of the number they quoted to the Commission, they told us they did not believe the census figures were accurate for Pilgrim. Further, the NRC staff was aware of information on the effect of the monthly lunar high tides on egress from Saquish Beach and on the population of the beaches that differed from the information they provided the Commission. Again, the NRC staff did not reconcile the differences.

During the December meeting the NRC staff informed the Commission that the form and content of the Letters of Agreement between the State and transportation providers had been approved by the State and that the Massachusetts Emergency Public Information Brochure was being finalized and was scheduled for distribution during that month. The NRC staff did not confirm this information with the Massachusetts Office of Public Safety before presenting it to the Commission. Massachusetts officials later disagreed with these statements.

The 1987 FEMA report identified as deficient the evacuation plans for public and private schools and day-care centers, the special-needs population, and the transportation-dependent population. At the October 14, 1988, Commission meeting, the NRC staff reported they had audited six training sessions for transportation providers, a total of 50 bus and ambulance drivers. The staff stated that this served as a basis for concluding that significant progress had been made in improving emergency plans and procedures for schools and day care centers, and the special needs and transportation dependent populations. We found, however, that more than 6000 persons had been identified as needing emergency response training in various disciplines with transportation providers being only one segment of this total. The validity of the NRC staff's sweeping conclusion that significant progress had been made in all of the reported areas seems questionable considering the NRC staff only reviewed the training of less than one percent of the personnel requiring training and in only one functional area.

#### ACCURACY OF INFORMATION PRESENTED AT THE COMMISSION MEETINGS

It was clear to the NRC staff that their responsibility was to provide the NRC Commission with an accurate presentation of the status of off-site emergency preparedness at Pilgrim. However, during the Commission meetings on the restart of Pilgrim, the NRC staff provided certain information that was inaccurate. For example, at the October 14, 1988, Commission meeting, the NRC

Region I branch chief responsible for the review of Pilgrim off-site emergency preparedness stated that to assess the progress in improving off-site emergency preparedness at Pilgrim, the staff had discussed the issues with local emergency planning officials and had attended numerous public meetings in the area. We found that it was not until after the October Commission meeting that the NRC staff made their first visits to the EPZ communities and met with local emergency planning officials. The branch chief told us his statement that staff had discussed the issues with local officials was based on the discussions between NRC staff and private citizens which were held during the numerous public meetings he mentioned. However, the public meetings referred to by the branch chief were not held to discuss off-site emergency preparedness issues. These public meetings did not involve meaningful dialogue between the NRC staff and local planning officials regarding off-site emergency preparedness issues. In fact, at one of these meetings, the NRC staff informed the audience that emergency preparedness issues raised by the audience would be forwarded to the appropriate federal agency.

During the October Commission meeting the NRC staff stated they had toured the EPZ areas with special emphasis on the beaches and the local Emergency Operations Centers (EOC). We found that the "special emphasis" on the beaches was limited to a single March 1988 tour of Duxbury and Saguish beaches that was provided to one staff member by Mr. Quaid, a private citizen. No local officials accompanied them on the tour. Similarly, with respect to the "special emphasis" on tours of the EOCs, we were told this comment was based on one visit by this staff member to the Duxbury EOC to review the habitability of the structure in the event of an emergency. During this visit there was no discussion of the status of Duxbury emergency preparedness. In addition to the visit to the Duxbury EOC, the same staff member occasionally visited the Plymouth EOC, located in the rear of the Plymouth Memorial Hall, following public meetings held in the hall. The visits to the Plymouth EOC were not official and did not involve a tour of the EOC or a briefing by Plymouth emergency planning officials.

During the October Commission meeting, the NRC staff made inaccurate statements about the situation on the beaches located in the EPZ. In response to a Commissioner's direct question, the NRC staff reported that no one remained on Saguish Beach overnight. This statement was inaccurate because the staff did not clarify that there are several hundred homes on Saguish Beach, some of which are occupied 24 hours a day. We were told that the reason the staff member provided that answer was because he knew where the Commissioner was headed with that question, i.e., were there any hotels, motels, or camp grounds on the beach. Based on his interpretation of the question he answered no and did not elaborate. Additionally, the staff's comment during the October meeting that during monthly lunar high tides Saguish

Beach is isolated for four hours a month was an understatement. We found that at the time of the meeting the staff had information from a credible source that indicated a more accurate figure was at least 20 hours a month; however, the higher figure was not provided to the Commission for its consideration.

As noted in the adequacy section of this report, during the October meeting the NRC staff told the Commission that with the exception of five procedures for Plymouth and Duxbury, all emergency implementing procedures for the EPZ communities had been submitted to the State for technical review. This statement was not accurate because about 130 implementing procedures for Plymouth and Duxbury had not been submitted. The staff subsequently corrected errors in the transcript of the October 14, 1988, meeting with respect to the number of implementing procedures submitted to the State by Plymouth and Duxbury and provided a copy of the corrected transcript to the Commission and to the State. However, the purpose of the October meeting was to discuss and possibly vote on the restart of Pilgrim; therefore, had the Commission voted during the October meeting, their vote would have been based, in part, on inaccurate information.

During the December 9, 1988, Commission meeting, the NRC staff told the Commission that the Saguish Beach summer population was less than 700. The staff did not recall the source of this population figure, and they could not explain why they thought it was more accurate than the larger numbers made available to them by other sources. We noted, however, that in February 1989, after Pilgrim was authorized to restart, the NRC staff agreed with local emergency planning officials that a Saguish Beach population of between 2,000 and 4,000 for most summer weekends and perhaps 5,000 on holiday weekends was reasonably accurate. Additionally, during the December meeting the staff reported to the Commission that several EPZ school committees had yet to approve the school implementing procedures. This statement was inaccurate because, as the staff learned during their visits to the EPZ communities during late October and early November 1988, none of the school committees had approved these procedures.

Further, as we stated in the adequacy section of this report, because the staff did not confirm certain information with State officials, the Commission received inaccurate information during the December meeting concerning the status of the Massachusetts Emergency Public Information Brochure and the Letters of Agreement between the State and transportation providers.

#### CONCLUSIONS

The staffs' assessment of Pilgrim off-site emergency preparedness was neither balanced nor thorough. They did not contact responsible emergency planning officials in a timely manner, they did not reconcile differences in credible information they



received from various sources, and in some cases they did not validate information they accepted. The NRC staff was responsible for providing an accurate presentation of the status of Pilgrim off-site emergency preparedness for the Commission's consideration. However, portions of the staff's presentations during the October 14 and December 9, 1988, Commission meetings were inaccurate. This inaccurate information includes the extent of the staff's interaction with local emergency planning officials and the situation on the beaches located in the EPZ.

#### NRC STAFF COMMENTS

On June 27, 1990, the NRC Office of Nuclear Reactor Regulation formally responded to the findings in our report. We have reviewed the comments and where appropriate the comments have been incorporated into our report. We are including the entire text of the staff's comments and our response to each of the staff's comments as Appendix I to the report.



## APPENDIX I

OIG RESPONSE TO NRC STAFF COMMENTSOIG OVERALL RESPONSE

This OIG inspection was conducted in response to specific allegations that during Commission meetings in October and December 1988, the NRC staff provided inaccurate information that misrepresented the status of Pilgrim off-site emergency preparedness. Our inspection involved an in-depth review and analysis of (1) the NRC staff activities as they conducted their Pilgrim off-site emergency preparedness review, and (2) the accuracy of the information the staff ultimately reported to the Commission. Our report includes conclusions on the adequacy of the staff review and the accuracy of certain information provided to the Commission. It is not the OIG's responsibility to duplicate the staff's technical analysis of the status of Pilgrim emergency preparedness; therefore, we did not address the Commission's decision to restart Pilgrim based on the information provided it by the staff.

We provided the staff an opportunity to comment on our draft report. In their comments, which begin on page 18, the NRC staff provide a lengthy discussion of the requirements in 10 CFR 50.47 and 10 CFR 50.54(s) concerning NRC and FEMA review responsibilities in connection with a power plant that has an operating license. We are aware of the requirements in the CFR; however, the staff's discussion of the CFR is not relevant to the issues in our report. As we indicate above, our report addresses the adequacy of the NRC staff's efforts as they conducted their review of the status of off-site emergency preparedness at Pilgrim as well as the accuracy of the information the staff provided to the Commission.

Although our report does not take issue with the NRC staff conducting the review (only with how they conducted it), we do believe the NRC staff should have handled the technical matters related to the Confirmatory Action Letter (CAL) separately from the finding in the August 1987 FEMA report--that Pilgrim's reasonable assurance was being withdrawn. In our opinion the NRC staff should have made their off-site emergency preparedness reasonable assurance determination regarding Pilgrim near the time the FEMA report was issued. If NRC determined the state of emergency preparedness "does not provide reasonable assurance" then the 120 day clock should have started. The fact that during the Summer of 1988 the technical items addressed in the CAL were

nearing completion and Pilgrim would soon be ready to restart, should have had no impact on the timing of the NRC staff's actions regarding the Pilgrim reasonable assurance determination. The staff should have acted on the FEMA report regardless of the status of the CAL.

Throughout their detailed comments (starting on page 23) the staff refer to NRC participation on the FEMA Regional Assistance Committee (RAC) to support their position that they were aware of the status of implementing procedures prior to the October 1988 Commission meeting. Apparently, the staff believe they were able to conduct an NRC review of the status of the emergency implementing procedures for the Pilgrim EPZ communities through the NRC representative on the RAC. We do not believe that participation by one staff member on a FEMA committee constitutes an NRC staff review. Additionally, we note that at the time of the October Commission meeting the RAC had received implementing procedures from only one of the Pilgrim EPZ communities--Marshfield.

Throughout their detailed comments, the staff refer to a memo they prepared which they claim documents 31 meetings some of which were held to discuss Pilgrim off-site emergency preparedness. They also claim that, in a number of cases, local officials were involved in meaningful dialogue at those meetings. The staff present this information to address the statement we make in our report that it was not until after the October Commission meeting that the NRC staff made their first visits to the EPZ communities to meet with and obtain input from the local officials responsible for emergency preparedness. During our inspection we reviewed this memo and other documents related to the 31 meetings, and we continue to believe these documents support our report. The title of the memo, which was prepared and sent to the Commissioners following the October Commission meeting, was "PILGRIM NUCLEAR POWER STATION MEETINGS REGARDING EMERGENCY PREPAREDNESS." Although this title could lead the reader to believe that these meetings were held to discuss emergency preparedness, our review of the records of these meetings disclosed that none were held for the purpose of discussing off-site emergency preparedness, and they did not involve meaningful dialogue with local emergency planning officials. Had the staff taken the time to plan and conduct meetings on emergency preparedness, they would have been announced in advance so the responsible local officials could attend and carry on meaningful dialogue with NRC staff.

NRC staff comments begin on the following page.

# NRC STAFF COMMENTS ON PRINCIPAL ISSUES RAISED IN THE DRAFT REPORT

The principal issues raised by the report are reflected in the findings that (1) the NRC staff's assessment of emergency preparedness was not objectively or thoroughly conducted, and (2) that certain information provided by the staff to the Commission during the October and December 1988 Commission meetings was inaccurate and misleading (p. 3).

The report bases its findings that the staff review was not objective or thorough on the assertion that the staff relied on Boston Edison Company (BECO) and that, because of BECO's self interest, BECO was not the best source of information for the staff to rely on (p. 3) and that the staff could have obtained first hand information by meeting with responsible local officials before the October 14, 1988 meeting (p. 3). The report asserts that because it relied on information from BECO, the staff reported to the Commission that there had been considerable progress in emergency planning, but if the staff had discussed the status with local officials it would have learned that the information was incorrect (p. 4). The report also asserts that the NRC staff received information from credible sources and did not "reconcile the differences or validate the information they chose to report" (p. 4) and that the staff selected and reported to the Commission "that information which presented the status of Pilgrim offsite emergency planning in the most favorable light" (p. 4).

The report bases its finding that the staff presented inaccurate information to the Commission on the statement during the October 14, 1988 meeting that the staff had met with local emergency planning officials and had conducted numerous public meetings to discuss offsite emergency preparedness. In this regard, the draft report claims that the staff did not make its first visits to EPZ communities to meet with local emergency planning officials until after the October Commission meeting (p. 4). The report asserts that the statement in the October 14, 1988 meeting that the staff had toured the EPZ areas "with special emphasis on the beaches" was misleading since it involved only a single tour by one staff member in March 1988 with a private citizen (p. 4). The report also asserts that the statement at the October 14, 1988 Commission meeting responding to a question by a Commissioner that no one remained on the Saguish Beach overnight was inaccurate (p. 4) and that at the December 9, 1988 Commission meeting, the staff told the Commission that the Saguish Beach summer population was less than 700, but that in February 1989 the staff agreed with local officials that the Saguish Beach population was between 2,000 to 4,000 for most summer weekends and perhaps 5,000 on holiday weekends (p. 5).



## NATURE OF 50.54(s) REVIEW

Another concept reflected in the report that may have some bearing on the findings is the concept that the staff review of offsite emergency planning for Pilgrim was "not the regular practice" (pp. 2, 8).

The report seems to confuse the nature of the NRC and FEMA review functions in connection with the initial issuance of an operating license pursuant to 10 CFR 50.47 with the nature of the review regarding operating reactors under 50.54(s). At the outset it might be well to set the procedural framework for the staff review of emergency preparedness.

Before issuance of an operating license the Commission's regulations require the NRC to find that "there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 CFR 50.47(a)(1). This finding is to be based on a review of "[FEMA] findings as to whether State and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented, and on the NRC assessment as to whether applicant's onsite emergency plans are adequate...". 50.47(a)(2). In NRC licensing proceedings, FEMA findings constitute rebuttable presumptions on questions of adequacy and implementation capability. 50.47(a)(2). However, for operating reactors, the Commission explicitly provided procedures to be followed in cases in which NRC finds that the state of emergency preparedness "does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency". 50.54(s)(2)(ii). If the NRC makes such a finding and such deficiencies are not corrected in 4 months, the NRC will determine whether the reactor shall be shut down until the deficiencies are corrected or whether other enforcement action is appropriate. 50.54(s)(2)(ii). Again, the NRC is to base its finding on a review of FEMA's findings as to whether State and local plans are adequate and capable of being implemented. 50.54(s)(3).

While 50.54(s) cases are not unusual (the October 14, 1988 meeting transcript, at page 77, discusses other cases in which there have been emergency preparedness deficiencies), in the Pilgrim case, the facts had two slightly different features, both related to timing. When FEMA's reasonable assurance finding was withdrawn in August 1987, the plant was already shutdown for other reasons. Thus, the focus of the staff's review was on efforts to remedy deficiencies. However, when the licensee anticipated nearing completion of the work called for by the Confirmatory Action Letter (CAL), it became clear to the staff that while there had been progress by the licensee and the state and localities on correcting emergency plan deficiencies, such work would not be completed and would not be reviewed for

adequacy by FEMA within the time frame in which the licensee anticipated satisfying those matters specified in the CAL. Thus, it became clear that the staff would be required to decide whether it normally require corrective action and to start the process for imposing shutdown or other enforcement action on the licensee for emergency planning deficiencies--deficiencies not encompassed by the existing CAL.

In view of FEMA's schedule for review of the revised state and local plans for adequacy, which was dependent upon submittals by the Commonwealth, the staff was obligated to address whether to invoke 50.54(s) in connection with consideration of whether to permit restart when the existing CAL was satisfied, that is, whether the circumstances required that the NRC determine that the state of emergency preparedness "does not provide [the requisite] reasonable assurance". While 50.54(s)(3) required the staff to consider the FEMA finding of deficiencies reflected in the 1987 FEMA Self-Initiated Review and Interim Finding report, it did not require the staff to ignore developments and improvements and other information significantly bearing on emergency preparedness in the area which had occurred in the time period after FEMA issued its 1987 report. (See remarks of the Director, NRR, in the transcript of the October 14, 1988 Commission meeting, page 87.)

#### THE STAFF REVIEW WAS OBJECTIVELY CONDUCTED

The principal assertions on which the finding of lack of objectivity is premised are the assertions that the staff lacked first hand information concerning emergency preparedness in the vicinity of the Pilgrim station and the staff relied on information from BECO. With respect to staff lack of meeting with local officials, see the discussion below and attached detailed comments on Items 8, 9, and 20. Further, the draft report does not address the staff's participation as part of FEMA's Regional Assistance Committee (RAC) which assists State and local government officials in the development of their radiological emergency response plans and reviews and evaluates them for adequacy. As participants in RAC reviews of emergency planning in the vicinity of nuclear power plants, NRC staff members gain substantial first-hand information concerning emergency planning and emergency preparedness of the states and localities in the vicinity of nuclear power facilities. (See Detailed Comments Item No. 9.)

The other major point made in the report is that because BECO had a self-interest in the matter, the staff should not have relied on information from BECO. The NRC regulatory process relies heavily on the truth and accuracy of information provided by licensees. Licensees' obligations to be truthful are emphasized by 10 CFR 50.9 and licensees are fully cognizant of the criminal nature of providing false information to NRC. Of course, the

staff review process confirms the accuracy of licensee information against the staff's own expertise as do staff inspections as well as the use of outside sources of information. During the evaluation of offsite emergency preparedness at Pilgrim, the information provided by BECO was extensive since BECO was working with the Commonwealth and with local communities in efforts to improve emergency planning in the vicinity of the Pilgrim Station. But, BECO was not the only source of staff information concerning emergency preparedness in the area. The information provided by BECO was judged by the staff to be reliable.

#### INFORMATION PROVIDED TO THE COMMISSION WAS ACCURATE

This discussion focuses on the issues discussed in the Executive Summary as forming the principle bases for the finding (p. 3) that the staff provided information to the Commission that was inaccurate and misleading. More specific comments on statements contained in the draft report (following p. 6) are contained in the attached Detailed Comments.

The report focuses on individual statements by staff members in the transcripts of October 14, 1988 and December 9, 1988. It does not mention the additional supporting information in documents supplied by the staff to the Commission in connection with the Commission's review of Pilgrim restart, particularly the November 15, 1988 status report which:

annotates the sources of information for many of the statements made at the October 14, 1988 Commission meeting;

lists and describes 31 meetings with state and local officials, and with other federal agencies, held prior to October 14, 1988, identifying the time, place and speakers and briefly describing the subjects of discussion;

and provides notes of meetings held after October 14, 1988 with local emergency planning officials.

This information corroborates and provides details supporting the statement made by the staff at the October 14, 1988 Commission meeting that the staff had in fact had numerous meetings with local officials concerning emergency preparedness at Pilgrim. The draft report is plainly in error when it asserts that the staff had no meeting with local emergency planning officials until after October 14, 1988. Even if one were to question the nature of the meetings, it is difficult to see how the draft report can possibly conclude that the Commission was misled when the staff provided the Commission with information describing the nature and attendees of such meetings.



If the draft report is in fact asserting that the information in the November 15, 1988 report is false, it is important that we be provided information as specific as possible concerning the source and nature of such false information so that the staff can promptly take appropriate action.

With respect to the assertion that the staff provided the Commission inaccurate and misleading information concerning Saguish Beach, the draft report asserts that when the staff informed the Commission on October 14, 1988 about some 2,000-4,000 people with access to the beach by 4-wheel drive vehicles the statement that they "did not overnite on the beach" was inaccurate because we did not mention the approximately 500-700 permanent summer residents who have houses on Saguish beach. Yet, the draft report also asserts that when the staff informed the Commission on December 9, 1988 about the approximately 700 resident population, the statement was inaccurate because we did not inform the Commission that the transient summer population can reach 2,000 to 4,000. As discussed in the Detailed Comments, we believe that fairly read, the staff statements were not inaccurate.

The draft report also states that at the time of the October 14, 1988 meeting, at which the staff indicated that Saguish Beach is isolated about four hours a month, the staff also had information "from credible sources that indicated that a more accurate figure was at least 20 hours a month" (p. 14). We know of no such credible information. (See Detailed Comments Item No. 22.)

NRC STAFF DETAILED COMMENTS KEYED TO MAIN BODY OF DRAFT IG REPORT  
AND OIG RESPONSE TO DETAILED COMMENTS

1. Page 7, line 12, states:

"The on-site emergency planning specifically addresses the actions to be taken within the perimeter of the plant in the event of an accident."

Comment No. 1

This statement implies that so-called "onsite" emergency planning actions by licensees stop at the perimeter of the plant. In fact, onsite emergency planning is integrated with and includes many aspects of offsite emergency planning. These activities include the responsibility for making protective action recommendations to offsite decision makers, arrangements for assistance with offsite support organizations such as fire, ambulance and police, arrangements to interface with State and local emergency response personnel in the licensee's emergency operations facility which is typically located miles from the site, communication links and procedures with offsite response organizations, the installation of offsite alert and notification systems, the deployment of offsite monitoring teams, arrangements with offsite medical services for contaminated and injured onsite individuals, and arrangements for training offsite emergency response personnel. In addition, many licensees such as BECO provide direct assistance to offsite support organizations in drafting offsite emergency plans and procedures, funding emergency planning staff for State and local governments, providing communications and monitoring equipment, and refurbishing offsite emergency operations and reception centers.

Comment No. 1-OIG Response

We recognize the distinction between on-site and off-site emergency planning. By this general definition we are not implying that the licensee has no involvement with off-site emergency planning. Our purpose is to recognize the two areas of emergency planning and to identify who has primary emergency planning responsibility for these two areas.

2. Page 7, line 19, states:

"The NRC is required to review FEMA's findings and determinations concerning off-site emergency preparedness before reaching its final conclusion." (See also page 1 of Executive Summary.)

Comment No. 2

The draft report implies that the NRC staff review of the status of offsite emergency preparedness for Pilgrim was remiss because the "NRC is required to review the report of FEMA findings and determinations before arriving at a final reasonable assurance conclusion" and that although a FEMA review of the revised Pilgrim offsite emergency plans was ongoing in 1988, the NRC did not wait until the FEMA review was completed. (It should be noted that the FEMA report has not yet been issued.) The NRC staff review was conducted in accordance with the Commission's regulations and, in fact, the draft report cites no instance where the staff review did not comport with the regulations.

The Commission's emergency planning regulations, 10 CFR 50.47 and 10 CFR 50, Appendix E, provide a comprehensive framework for public protection in the event of a serious radiological emergency. The regulatory framework contemplates the submission, review, and approval of onsite and offsite emergency plans. The offsite plans are often developed in whole or in part by a licensee in conjunction with the appropriate State and local officials. The adequacy of the offsite plans is initially reviewed and evaluated by FEMA.

However, it is the NRC, not FEMA, that must make a determination whether the overall state of emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. 10 CFR 50.47(a)(1). See also 50.54(s)(2)(ii). Contrary to the implications of the draft report, an NRC finding of adequate emergency preparedness is not automatically established by FEMA approval or precluded by lack of FEMA approval or by lack of finalization of emergency plans. For example, a positive FEMA finding is "a rebuttable presumption" in NRC licensing proceedings 10 CFR 50.47(a)(2). On the other hand, a facility with emergency preparedness deficiencies may nonetheless be licensed if the facility satisfies the conditions set forth in 10 CFR 50.47(c)(1). For an operating plant like Pilgrim, the regulations give the NRC considerable enforcement flexibility. Identification of an emergency planning deficiency does not necessarily require shutdown of a facility. County of Rockland v. NRC, 709 F.2d 766, (2d Cir. 1983).

Comment No. 2-OIG Response

This sentence does not imply that the NRC staff was remiss because they did not wait until the FEMA review was completed. This statement is included in this section of the report to provide the reader with factual background information. Further, we are aware that the FEMA report has not yet been issued because of the incomplete status of off-site emergency preparedness in the Pilgrim EPZ.



We understand the point being made by the staff in the third paragraph of their comment; however, this is not an issue in this report. Our report acknowledges the 1989 United States Court of Appeals decision that by basing the final reasonable assurance conclusion in part on a review of FEMA's 1987 findings, the NRC acted properly.

3. Page 8, line 16, states:

"Therefore, although not the regular practice, the Director of NRC's Office of Nuclear Reactor Regulation decided to have the NRC staff conduct an assessment of offsite emergency preparedness to avoid a possible delay in the restart of Pilgrim."

Comment No. 3

The reasons for having the NRC staff conduct an assessment included (1) knowing that progress had been made in upgrading emergency preparedness and (2) FEMA had informed the NRC staff (by memorandum, September 29, 1987, from R. Krimm to F. Congel) that they would not be in a position to update the finding made in their self-initiated review until the Commonwealth submitted revised plans for formal review. Since the Pilgrim plant was scheduled to complete action on the items covered by the CAL and would, from the standpoint of the CAL, be ready to restart before completion of the FEMA review, it was essential for the staff, in light of the August 1987 FEMA report, to consider whether 50.54(s) requirements relating to emergency planning should be imposed in connection with restart; that is, did the circumstances require that the NRC find "...that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency..." and thus start "the 170 day clock" of 50.54(s)(2)(ii).

It should also be noted that the NRC staff had been participating with FEMA since early 1988 in their technical assistance reviews for Pilgrim, as a member of the FEMA Regional Assistance Committee (RAC). The staff was therefore, well aware of the status of draft plans and procedures that had been submitted. (See also the discussion about Regional Assistance Committees in Comment Number 9.)

Comment No. 3-OIG Response

Based on the staff's comment, they do not disagree with our statement. As discussed in our overall comment on page 16, we are aware of the regulations cited by the staff. However, we believe the NRC should have acted on the August 1987 FEMA report in a more timely manner and the FEMA report should have been

handled separately from the Confirmatory Action Letter.

Regarding the staff's comment on their participation on the FEMA Regional Assistance Committee, please see our overall response on page 17.

4. Page 8, line 20, states:

"The staff's review began in the Summer of 1988."

Comment No. 4

The staff commenced reviews of Pilgrim offsite plans in conjunction with the RAC in March 1988, rather than the Summer of 1988.

Comment No. 4-OIG Response

During our inspection we were informed by the NRC staff that their review began in the summer of 1988. Moreover, we do not believe that participation by one NRC staff member on a FEMA Regional Assistance Committee constitutes an NRC staff review. For further elaboration on this matter please see our overall response on page 17.

5. Page 8, line 43, states:

"Since the results of the ongoing FEMA review of the revised emergency plans would not be available by the time Pilgrim was operationally ready for restart, the NRC staff decided to review the findings in FEMA's August 1987 report."

Comment No. 5

The NRC staff reviewed FEMA's August 6, 1987 report promptly upon receipt. On August 18, 1987, the staff requested BECO to address the deficiencies cited in the FEMA report. The NRC review of the findings in FEMA's August 1987 report was not undertaken only because the results of the ongoing FEMA review of the revised emergency plans would not be available by the time Pilgrim was ready for restart. As indicated in response No. 2, it is the NRC, not FEMA, that must make a determination whether the overall state of emergency preparedness provides reasonable assurance. Thus, the NRC as it would do for any operating reactor, initiated a review of the FEMA findings as well as other pertinent information with the objective of ensuring that the license took appropriate steps to assist the Commonwealth and local governments in addressing the deficiencies in offsite preparedness identified by FEMA. (See August 18, 1987 memo S. Varga, NRC, + Bird, BECO.)

Comment No. 5-OIG Response

We did not imply this was the first time the NRC staff reviewed the August 1987 FEMA report. In fact, on page 7 of our report we recognize that the NRC staff had reviewed the FEMA report when we discuss the staff's reaction to it. However, to avoid any possible confusion we added clarifying language.

6. Page 9, line 22, states:

"A second Commission meeting was held on December 9, 1988. During this meeting the NRC staff acknowledged to the Commission that more work needed to be done by FEMA and State and local governments to improve Pilgrim offsite emergency preparedness before the NRC could receive a finding of adequacy from FEMA."

Comment No. 6

This statement taken together with the previous paragraph implies that in the December 9, 1988 Commission meeting the NRC staff acknowledged, for the first time, that more work needed to be done to improve offsite preparedness. In fact, the staff explicitly stated during the October 14, 1988 Commission meeting that, "there clearly is more work to be done in connection with emergency planning at Pilgrim. At this time, we do not have a schedule for the resolution of all these issues. The staff believes that a carefully constructed power ascension program can take place with emergency planning in its current condition provided that there is continued progress toward finalizing the resolution of outstanding emergency planning matters." (Transcript pages 53, 54. See also transcript pages 78 and 100.)

Comment No. 6-OIG Response

We did not imply that this was the first time the NRC staff acknowledged there was more work to be done before the Pilgrim EPZ communities could receive a FEMA finding of adequacy. We included this statement to point out that the NRC staff was aware, as late as December 9, 1988, that from FEMA's perspective the situation that existed in August 1987 still had not been corrected. However, we added a statement to the previous paragraph to acknowledge the staff's comments at the October 14, 1988, Commission meeting regarding the emergency preparedness work that still remained to be done.

7. Page 9, line 37, states:

"Although a FEMA review of the Pilgrim revised off-site emergency plans was ongoing during 1988, the NRC staff considered the



requirement for NRC to review a FEMA report to be satisfied by their review of the August 1987 FEMA report as they determined whether there was reasonable assurance that adequate protective measures could and would be taken in the event of an emergency at Pilgrim." (See also page 2 of Executive Summary.)

Comment No. 7

Because, at that time, the Commonwealth was not requesting a formal review of revised emergency plans, the only review FEMA was undertaking was an informal technical assistance review of draft plans and procedures submitted to them. Based on that review, comments would be provided to the Commonwealth regarding possible changes and improvements to the plans and procedures. As indicated in a February 4, 1988 letter to E. Thomas, FEMA, from R. Boulay, MCDA, the Commonwealth submittal of the revised plans did not constitute an application for review and approval under 44 CFR 350.7 of FEMA's regulations.

Comment No. 7-OIG Response

We understand what is involved in the FEMA review process and recognize that FEMA had not received a request from Massachusetts for a formal review because the emergency procedures for the EPZ communities had not been finalized. However, FEMA had been working with the State and local communities since the August 1987 report was issued. Further, we note that the FEMA review we are referring to here is the same FEMA review the NRC staff referred to during the October and December 1988 Commission meetings.

8. Page 10, line 29, states:

"Prior to the October 14, 1988, Commission meeting to possibly vote on the restart of Pilgrim, the Region I, NRC staff had not met with local officials responsible for preparing offsite emergency preparedness plans and procedures." (See also page 3 of Executive Summary.)

Comment No. 8

In a November 15, 1988 memorandum to the Commission, the EDO specifically addressed the question of staff meetings with local officials regarding their emergency preparedness concerns. Thirty-one meetings were identified and described in an enclosure to that memorandum (copy enclosed). Not all of these meetings involved local officials, but a number of them did, particularly those discussed in Comment No. 20.

Comment No. 8-OIG Response

We were aware of the November 15, 1988, memorandum to the Commission and the enclosure to the memorandum which were prepared by the staff and discuss the thirty-one meetings. During our inspection we reviewed these documents. Although the title of the enclosure cited by the staff, "PILGRIM NUCLEAR POWER STATION MEETINGS REGARDING EMERGENCY PREPAREDNESS," would lead the reader to believe that these meetings pertained to emergency preparedness, our review of the records of these meetings disclosed that none were held for the purpose of discussing emergency preparedness and they did not involve meaningful dialogue with local emergency planning officials.

9. Page 10, line 32, states,

"With the exception of one EPZ community, the staff had not reviewed the local, revised, offsite emergency implementing procedures."

Comment No. 9

As described in 48 FR 44338, there exists in each of the ten standard Federal Regions a Regional Assistance Committee (RAC) chaired by a FEMA Regional official and having members from NRC, HHS, DOE, DOT, EPA, and Agricultural and Commerce Departments. As stated in that public notice, "The RACs will assist State and local government officials in the development of their radiological emergency response plans, and will review plans and observe exercises to evaluate the adequacy of these plans and related preparedness."

Through the staff's participation as a member of the Regional Assistance Committee for FEMA Region I, the staff had reviewed the implementing procedures for the towns of Taunton, Marshfield, and Bridgewater in detail prior to the October 14, 1988 meeting. The procedures for the other towns were similar. Copies of the procedures for all the towns were available from Boston Edison, as their contractor was working with the towns to develop the procedures. A sampling of the procedures from the other towns were also obtained from BECO and reviewed prior to October 14, 1988.

Comment No. 9-OIG Response

As noted in our overall response to the NRC comments (page 17) we do not believe participation by one NRC staff member on a FEMA Regional Assistance Committee constitutes an NRC staff review. We note also that the towns of Taunton and Bridgewater are reception communities which are not located in the Pilgrim EPZ, and further, only about 10 percent of the town of Marshfield is

in the EPZ. Also, we do not agree with the NRC staff that emergency procedures for reception communities would be similar to the procedures for the five EPZ communities which would be evacuating to the reception communities.

The procedures from the other four towns which the NRC staff said were obtained from BECO were drafts that were being revised by the local communities at the time of the October 14, 1988, Commission meeting, i.e., they were not complete and had not been submitted for review.

10. Page 10, line 34, states:

"Staff told us they could assess the status of offsite emergency preparedness by the five EPZ communities based on information obtained from BECO."

Comment No. 10

Although the staff obtained information from BECO, this was not the only source of information. The staff also obtained information from the reports of Secretary Barry of the Commonwealth, letters from local public officials, numerous public meetings held in the Plymouth area, direct interface with Commonwealth officials, and from involvement with the FEMA Regional Assistance Committee.

Comment No. 10-OIG Response

This statement is taken directly from testimony provided to us by the NRC staff during our inspection. Further, we are aware of information provided to the staff by other sources that often contradicted information obtained from BECO. We note however, that the staff did not provide this information during the October 14, 1988, Commission meeting. In fact, page 7 of the Secretary Barry report, referenced by the staff in their comment, specifically stated, "We only wish that the NRC would give as much attention to the views of State and local government regarding off-site emergency preparedness as they do to the observations of the licensee." Regarding information received through membership on the FEMA Regional Assistance Committee please see our overall response on page 17.

11. Page 10, line 41, states:

"We believe in light of BECO's vested interest in restarting Pilgrim, BECO was not the NRC staff's best source of objective information on the status of offsite emergency preparedness."  
(See also page 3 of Executive Summary.)



Comment No. 11

This statement implies that BECO was not a reliable source of information regarding the status of emergency preparedness. The NRC relies on licensees to provide complete and accurate information on matters pertaining to the regulatory requirements under which they are permitted to operate (10 CFR 50.9).

Comment No. 11-OIG Response

We do not imply that BECO is an unreliable source. We point out that BECO is not the best source of off-site emergency preparedness information. Our report pointed out that the staff had information available that contradicted information obtained from BECO which the staff did not reconcile. In fact, BECO informed the NRC staff of its reluctance to provide information on the status of off-site emergency preparedness in the local communities. We recognize that the NRC staff relies on the licensee to provide accurate information on technical matters for which the licensee is responsible. In these cases NRC inspectors constantly validate the licensee input. Because off-site emergency preparedness is the primary responsibility of State and local governments, the NRC staff should have obtained and validated status information from the responsible officials.

12. Page 10, line 44, states:

"The NRC staff could have obtained first hand information on the status of offsite emergency preparedness by meeting with local officials in the EPZ communities prior to the October meeting to possibly vote on the restart of Pilgrim." (See also page 3 of Executive Summary.)

Comment No. 12

The staff did receive information directly during public meetings (see Comment Nos. 8 and 20). While not all of these meetings involved discussions with local officials in the EPZ communities, some did, such as the meetings in Plymouth, Massachusetts, on February 18 and May 11, 1988.

Comment No. 12-OIG Response

We are aware of these meetings, however, none were conducted for the purpose of discussing the status of off-site emergency preparedness. Please see our response to NRC comment Nos. 8 and 20 for further discussion of this matter.

11. Page 11, line 3, states:

"... the staff reported during the October 1988 Commission meeting that all emergency implementing procedures for the EPZ communities had been submitted to the State for technical review with the exception of five procedures for Plymouth and Duxbury. The staff concluded that this evidenced considerable progress towards resolution of emergency preparedness issues. This information was obtained from BECO and reported to the Commission without first discussing it with the emergency planning officials in the EPZ communities," (See also page 3 of Executive Summary.)

Comment No. 13

Discussions with emergency planning officials would have helped to further mutual understandings. However, to ensure that there was no misunderstanding on the part of the Commission with respect to the status of the implementing procedures for Plymouth and Duxbury, the staff provided additional information to the Commission on October 21, 1988. The Commonwealth of Massachusetts was informed of the additional information in a letter from Chairman Zech to Mr. Peter Agnes dated October 27, 1988.

Comment No. 13-OIG Response

On page 14 of our report we acknowledge that the staff corrected errors in the transcript of the October 14, 1988, Commission meeting with respect to the number of implementing procedures submitted to the State by Plymouth and Duxbury and provided a copy of the corrected transcript to the Commission and to the State. We also note on page 14 a very important point, "...the purpose of the October meeting was to discuss and possibly vote on the restart of Pilgrim; therefore, had the Commission voted during the October meeting, their vote would have been based, in part, on inaccurate information". It is noteworthy to point out that accurate information was available had the staff conducted a thorough review.

14. Page 11, second paragraph, states:

"Following the October Commission meeting NRC staff did visit each EPZ community once and discussed emergency planning issues with local officials. During these meetings the local officials reported to the NRC staff that more work had to be done before they would be ready to implement the plans. While at the local sites, the NRC staff did not review the draft local emergency implementing procedures that were available."

Comment No. 14

As stated in the EDO's November 15, 1988 memorandum to the Commission: "In order to continue to assess progress and further ensure that the factual basis on which the staff relied in making its recommendation was accurate, the staff met with each of the EPZ community Civil Defense Directors and again toured the local beaches this time with the responsible local official." The principal purpose of these meetings was not to review documents, but to see, hear and discuss matters of concern to local officials. The review of planning documents was a continuing separate parallel activity in the context of RAC reviews. (See Comment No. 9.)

Comment No. 14-OIG Response

The staff agrees with our description of their activities when they visited the EPZ communities subsequent to the October 14, 1988, Commission meeting. Please see our overall response on page 17 regarding the NRC staff membership on the RAC.

15. Page 12, line 1, states:

"For example, prior to the October 1988 Commission meeting, the staff was made aware of a National Institutes of Health (NIH) study indicating that the expected number of special needs persons in the EPZ was several times higher than the number provided by the staff to the Commission."

Comment No. 15

The NRC staff is not aware of any such NIH study. However, Ms. Ann Waitkus-Arnold at the December 9, 1988 Commission meeting stated:

"...the latest Harris Polls for the United States Disabilities Census shows actual figures of 17 percent, many of whom would need assistance in an emergency."

In responding to the draft report, the staff has contacted NIH and the Federal Interagency Committee on Disabilities Statistics but as of June 25, 1990, has not been able to identify or locate an "NIH study" pertaining to special needs persons.

The staff's basis for special needs population determination was explained at the December 9, 1988 Commission meeting (see transcript pages 175-176).

Comment No. 15-OIG Response

We understand the staff's confusion by our characterizing the United States Disability Census as an NIH study. It is our understanding that this census was sponsored by the NIH. The specific title of this document has been added to our report. However, the point we make in our inspection report does not concern the title of the document, but rather, that the staff was informed of the census figures as early as January 1988, and without even reviewing the census report, they concluded that the estimated figures were inaccurate. Additionally, the estimate the staff provided to the Commission was not validated either.

16. Page 12, line 13, states:

"In each instance the staff selected and reported information to the Commission that presented the status of Pilgrim offsite emergency preparedness in the most favorable light." (See also page 4 of Executive Summary.)

Comment No. 16

The information presented was considered by the staff to be the most accurate and reliable information available, without regard to whether it showed the emergency preparedness in the area surrounding Pilgrim station in a favorable or unfavorable light.

Comment No. 16-OIG Response

The point we are making here is that the NRC staff did not reconcile differences in information they had received. We believe the information selected and reported did in fact present the Pilgrim emergency planning status in the most favorable light. However, because this was not necessarily done intentionally, we have deleted this sentence to avoid this implication.

17. Page 12, line 14, states:

"During the December meeting the NRC staff informed the Commission that the form and content of the Letters of Agreement between the State and transportation providers had been approved by the State and that the Massachusetts Emergency Public Information Brochure was being finalized and was scheduled for distribution during that month. The NRC staff did not confirm this information with the Massachusetts Office of Public Safety before presenting it to the Commission. Massachusetts state officials later disagreed with these statements."



Comment No. 17

The draft report is correct. The basis for the staff's presentation to the Commission was as follows: The Commonwealth of Massachusetts issued a "Report on Progress made in Emergency Response Planning for Response to an Accident at Pilgrim Nuclear Power Station" on October 11, 1988. Page 48 of that report states: "Nearly double the anticipated number of buses needed to support emergency response have been identified, and training has been provided for some of the drivers. However, the letters of agreement which Boston Edison proposed the transportation providers sign have been sent back for revision by the Executive Office of Public Safety because they did not indicate informed consent on the part of the drivers."

On the day before (October 10, 1988), the Commonwealth, in a letter to BECO, provided a proposed new draft letter of agreement for transportation providers. BECO informed the staff that they intended to accept the Commonwealth's proposal and believed that agreement had been reached. Based on the Commonwealth's letter and BECO's acceptance of the Commonwealth's proposal, the staff also believed that agreement had been reached and felt no need to verify this information with the Commonwealth.

The information regarding the scheduling of issuance of the Public Information Brochure was obtained from BECO and was believed to have been accurate at the time of the December 9, 1988 Commission meeting. Subsequent to that meeting, issuance was deferred (see letter to R. Boulay, MCDA, from R. Varley, BECO, dated December 19, 1988).

Comment No. 17-OIG Response

The staff acknowledges that our report is correct, but in their comment the staff attempts to rationalize their actions. We do not accept their explanation. As we state in our response to NRC comment No. 11, BECO is not the best source for this type of information. Had the staff taken the time to confirm the information obtained from BECO they would have learned that progress toward resolution of these outstanding issues was not as advanced as they reported to the Commission.

18. Page 12, line 33, states:

"We found, however, that more than 6,000 persons had been identified as needing emergency response training in various disciplines with transportation providers being only one segment of this total. The validity of the NRC staff's sweeping conclusion that significant progress had been made in all of the reported areas seems questionable considering the NRC staff only

reviewed the training of less than one percent of the personnel requiring training and in only one functional area."

Comment No. 18

On page 82 of the October 14, 1988 meeting transcript, it was stated:

"...a training program, approved by the Commonwealth, is being conducted. The NRC staff has audited this training program, including the individual lesson plans and staff from both Region I and NRR have observed the training of bus and ambulance drivers from companies providing transportation for school and daycare centers, the special needs population, and the transportation-dependent persons."

The purpose of the NRC's audit of the training program was to evaluate the quality of the training materials, instructors, transportation providers' procedures and the presentation. The significant progress the staff noted referred to the effectiveness of the transportation plan based on the quality of the training. The NRC staff was auditing the training program. It was not trying to literally oversee and witness the training of each individual in the program.

Additionally, on page 96 of the October 14, 1988 testimony to the Commission, it was stated:

"I would think that by the end of the year, there will be the overwhelming majority of the 6,000 people trained that have been specified in the Commonwealth approved training program."

On page 174 of the December 9, 1988 testimony, the staff reported the following:

"A maximum of 5,800 individuals, needing approximately 25,000 manhours of training, have been identified. Of these, 2,569 individuals have received 7811 hours of classroom training pertaining to utilizing the approved lesson plans".

Comment No. 18-OIG Response

In their comment the staff acknowledges that their audit was of only the quality of training in one functional area-- transportation providers. The staff also commented that "The significant progress the staff noted [during the October 14, 1988 Commission meeting] referred to the effectiveness of the transportation plan based on the quality of training". We dispute this comment because this is not what the staff told the Commission. In fact, what the staff noted (page 82) during the October Commission meeting was, "The staff has audited six different training sessions and witnessed implementation of the

training for approximately 50 transportation providers, which is 25 percent of that training that has already been conducted. These limited demonstrations provide the staff with the basis to conclude that significant progress has been made in improving the emergency plans and procedures for schools and daycare centers and for the special needs and transportation-dependent populations in the emergency planning zone." (Emphasis added) We continue to believe that this sweeping conclusion cannot be drawn from an audit of the training program as described by the staff.

We also note our disagreement with the staff's position in their comment that the effectiveness of the transportation plan can be judged by an audit of the training program. We believe an audit of a training program will indicate the quality of the training program.

We are aware of the additional statements made by staff during the October and December Commission meetings which are quoted in their comments. However, the statements are not relevant to the issue raised in our report. Since the staff raised these points it is interesting to note that their comment during the October Commission meeting that by the end of the year an overwhelming majority of the 6000 people will have been trained was very optimistic since the staff reported during the December Commission meeting that in fact less than one-third of the training had been conducted.

19. Page 13, line 6, states:

"It was not until after the October Commission meeting that the NRC staff made their first visits to the EPZ communities and met with local emergency planning officials." (See also page 4 of Executive Summary.)

Comment No. 19

See Comment Nos. 8 and 20.

Comment No. 19-OIG Response

See our response to NRC comment Nos. 8 and 20.

20. Page 13, line 14, states:

"These public meetings did not involve meaningful dialogue between the NRC staff and local planning officials regarding offsite emergency preparedness issues." (See also page 4 of Executive Summary.)

Comment No. 20

Particularly noteworthy public meetings involving meaningful dialogue regarding offsite emergency preparedness issues were held in Plymouth, Massachusetts on February 18, 1988 and May 11, 1988. (Notes of these meetings were enclosed with the EDO's November 15, 1988 memorandum to the Commission referenced in Comment No. 8.) Although not all of the other meetings involved local planning officials, they also provided a great deal of information on emergency planning matters to the staff.

Comment No. 20-OIG Response

We were aware of the November 15, 1988, memorandum to the Commission and the enclosure to the memorandum which were prepared by the staff and discuss the thirty-one meetings. As we note in our response to NRC comment No. 8, the title of this enclosure, "PILGRIM NUCLEAR POWER STATION MEETINGS REGARDING EMERGENCY PREPAREDNESS", would lead the reader to believe that these meetings pertained to emergency preparedness. However, our review of the records of these meetings disclosed that none were held for the purpose of discussing emergency preparedness. We note that in those few cases where emergency preparedness topics were raised by members of the audience the dialogue between the audience and the NRC staff was not, in our opinion, meaningful. For example, with regard to the February 18, 1988, meeting referenced in the staff's comments, we note that the member of the NRC staff who chaired this meeting stated to the audience, "The purpose of this meeting here today is to provide the opportunity for the interested public to comment on the restart plan.....This format is not intended to give specific responses or replies to the comments brought forth today.....Although it is acknowledged that the Pilgrim restart plan does not contain plans or actions for emergency preparedness we are prepared to listen to your issues in this area and forward them to the appropriate Federal agency for consideration during the ongoing reviews of Pilgrim prior to restart". (Emphasis added) The same format was followed in the May 11, 1988, meeting referenced by the staff in their comments.

21. Page 13, line 22, states:

"We found that the statement during the October Commission meeting that NRC staff had toured the EPZ areas with special emphasis on the beaches and the local Emergency Operations Centers (EOC) was also misleading. The "special emphasis" on the beaches involved a single March 1988 tour of Duxbury and Saquish beaches that was provided to one staff member by Mr. Quaid, a private citizen. No local officials accompanied them on the tour. Similarly, with respect to the "special emphasis" on tours of the EOCs, we were told this comment was based on one visit by



this staff member to the Duxbury EOC to review the habitability of the structure in the event of an emergency. During this visit there was no discussion of the status of Duxbury emergency preparedness."

Comment No. 21

The staff remarks regarding touring of beach and emergency operations centers were perhaps somewhat broader than intended and might be misconstrued.

With regard to the beach, knowing of the concern with the Saquish-Garnett beach area, a specific tour with Mr. Quaid seemed warranted. It was sufficient to become aware of the beach geography and its impact on emergency preparedness. This was the only beach toured because it was believed to be the only beach that required special emphasis because of potential difficulties in evacuation.

With regard to the EOC visit, Region I staff visited the Duxbury EOC on October 6, 1988 and met with the Duxbury Civil Defense Director and local citizens to discuss EOC habitability. The status of emergency plans and procedures was also discussed with the Director during the visit. (A note of this meeting is enclosed with the EDO's November 15, 1988 memorandum to the Commission referenced in Comment No. 8.)

Comment No. 21-OIG Response

We agree with the staff that their comments regarding the special emphasis on the beaches and EOCs were overstatements and could easily be misconstrued. As noted in our report we do not believe one tour of one beach with a private citizen constitutes special emphasis on the beaches. With respect to the Region I staff member's visit to the Duxbury EOC on October 6, 1988, this staff member told us that the visit was specifically to look at the habitability of the EOC following an incident and the discussions were limited to this topic. Additionally, the Duxbury Civil Defense Director, who attended the meeting, told us that during this brief meeting there was no discussion of emergency planning at Duxbury. Also, the note of this meeting that was enclosed with the November 15, 1988, memorandum to the Commission, referenced in the staff's comment, does not indicate that the status of Duxbury emergency preparedness was discussed.

22. Page 13, line 38, states:

"During the October meeting, the NRC staff made inaccurate statements about the situation on the beaches located in the EPZ. In response to a Commissioner's direct question, the NRC staff reported that no one remained on Saquish beach overnight. This

statement was inaccurate because the staff did not clarify that there are several hundred homes on Saguish beach, some of which are occupied 24 hours a day. We were told that the reason the staff member provided that answer was because he knew where the Commissioner "was headed with that question, "i.e., were there any hotels, motels, or camp grounds on the beach. Based on his interpretation of the question he answered no and did not elaborate." (See also page 4 of Executive Summary.)

#### Comment No. 22

This question must be considered in proper context.

The discussion preceding, "Do they overnight on these beaches?", at the October 14, 1988 Commission meeting, transcript page 98, discussed thousands of people on the beach in 4-wheel drive vehicles and closing the beaches early. The staff understood this question to be in the context of the large number of day visitors. You would not close the beaches for permanent residents, but only to those visiting for the day. Day visitors do not generally stay overnight on the beach, since there are no motels, hotels or camps. (See also Comment No. 24.)

#### Comment No. 22-OIG Response

We closely examined the context of the discussion and we do not agree with the staff's comment. We believe that when Commissioner Carr addressed this issue for the first time he was clearly trying to establish a timeframe during which evacuation of people on Saguish Beach would be a problem during lunar high tides. By the staff's failure to mention the 700 residents who remain on the beach overnight Commissioner Carr was left with the mistaken impression that evacuation was a problem that could only occur during daylight hours.

#### 23. Page 13, line 49, states:

"Additionally, the staff's comment during the October meeting that during monthly lunar high tides Saguish Beach is isolated for four hours a month was an understatement. We found that at the time of the meeting the staff had information from credible sources that indicated a more accurate figure was at least 20 hours a month; however, the higher figure was not provided to the Commission for its consideration."

#### Comment No. 23

The staff was not aware of any information prior to the October 14, 1988 Commission meeting that indicated that the Saguish beach was isolated for 20 hours a month. The four hours was a staff estimate based on the understanding at that time. There was no

indication in the October 11, 1988 Commonwealth Report on Progress Made in Emergency Planning for Response to an Accident at Pilgrim Nuclear Power Station, which included a report from David Quaid dated September 17, 1988, that contradicted that estimate.

At the December 9, 1988 Commission meeting Mr. Quaid testified (pages 120-121) that the road was "inundated" for 2 and a half to 3 hours during the high course tides (2 a day) for 3 to 4 days a month. That would be a total of 15 to 24 hours a month. His testimony does not indicate that the road would be impassable for all that period by the 4-wheel drive vehicles used to reach the beach. He indicates that the maximum depth would be between 1 foot 11 inches and 2 feet 7 inches. Nowhere in the testimony does Mr. Quaid make the statement that Saquish beach is "isolated" for 20 hours a month. In fact, there is contradictory information from the head of the Department of Lands and Natural resources in Duxbury that the flooding is to a depth of 1 to 2 feet on consecutive high tides for 2 days a month (8 hours total) and would not present a serious impediment to most four-wheel drive vehicles. (See November 4, 1988 memorandum from Lazarus and Hogan to William Russell, which is enclosed with the November 15, 1988 memorandum from the EDO to the Commission referenced in Comment 8).

#### Comment No. 23-OIG Response

This information was provided to the NRC staff member who toured the beach with Mr. Quaid in March 1988. Additionally, Mr. Quaid presented information on the duration of the lunar high tides during public meetings in February and September 1988. Shortly after the October Commission meeting, to reinforce the information he had presented earlier, Mr. Quaid provided the staff with a tide calendar that indicated lunar high tides would last about 20 hours a month.

With respect to Mr. Quaid's December 9, 1988, testimony to the Commission, we agree that he did not indicate that the road would be "impassable," rather, he stated that it would be "impossible" to evacuate the beach during high course tides. Additionally, our report is not referring to Mr. Quaid's December testimony when we state the beach is "isolated." Our report clearly refers to the staff's comment during the October meeting that "...those beaches are isolated only approximately four hours a month". (See page 98 of October 14, 1988, Commission meeting transcript)

We agree there was contradictory information. However, this is another example of the staff not resolving differences in information they received or providing the Commission with all available information for its consideration.

In their comment the staff uses information obtained from the

Head of the Department of Lands and Natural Resources in Duxbury to explain certain staff statements made at the Commission meetings. Since that time, the staff has learned that this individual had no responsibility for emergency response planning for Duxbury and further, he has denied in writing ever making the comments attributed to him by the NRC staff. Therefore, we question the staff's continued use of this information to support their position.

24. Page 14, line 21, states:

"During the December 9, 1988, Commission meeting, the NRC staff told the Commission that the Saguish Beach summer population was less than 700. The staff did not recall the source of this population figure and they could not explain why they thought it was more accurate than the larger numbers made available to them by other sources. We noted, however, that in February 1989, after Pilgrim was authorized to restart, the NRC staff agreed with local emergency planning officials that a Saguish Beach population of between 2,000 and 4,000 for most summer weekends and perhaps 5,000 on holiday weekends was reasonably accurate. (See also page 5 of Executive Summary.)

Comment No. 24

We believe that the context of the question related to the summer "resident" population and we believe that such context is clear in the response. The staff figure of 700 referred to the resident population of Saguish-Gurnet and was derived from the Evacuation Time Estimate. The staff was also aware that the total population of the area swelled to 2,000 to 4,000 on weekends, and to 5,000 on holiday weekends. In a context that related to "day trippers", the staff informed the Commission on October 14, 1988, that the beach population was approximately 2,000 to 4,000 (see transcript page 98).

As stated in, the December 9, 1988 testimony to the Commission on pages 176 and 177, "The town of Duxbury, particularly the Department of Land and Natural Resources, has the necessary resources to effect an evacuation of this area, and this department head believes a peak population for this area is 4,000, with 3,000 being typical."

Comment No. 24-OIG Response

We disagree with the staff regarding the context of this statement. The staff statement regarding the Saguish Beach population was not made in response to a question, but, was made as part of the staff's prepared testimony. The staff's figure of 700 did not refer to the resident population of Saguish Beach. During the December 9, 1988, meeting the staff told the



Commission that access to the Saguish/Gurnet area is limited to the residents and the summer population is less than 700. (Emphasis added) This is not a true statement since access to this area is not limited to just the 700 residents, but rather, as acknowledged by the staff in their comment there are approximately 2,000 to 4,000 people on the Saguish/Gurnet beaches during the summer.

We have considered the staff's comment which refers to their December 9, 1988, testimony regarding the town of Duxbury's plan to evacuate a beach population of 3,000 to 4,000. This comment is not relevant to Saguish/Gurnet, however, since it pertains to Duxbury Beach. As acknowledged by the staff on page 176 of the transcript the Saguish/Gurnet area is jurisdictionally part of the town of Plymouth, not Duxbury, for evacuation purposes.

25. Page 14, line 31, states:

"Additionally, during the December meeting the staff reported to the Commission that several EPZ school committees had yet to approve the school implementing procedures. This statement was misleading because, as the staff learned during their visits to the EPZ communities during late October and early November 1988, none of the school committees had approved these procedures."

Comment No. 25

A review of the status concerning the school implementing procedures (IPs) for each town was conducted during the meetings with emergency response officials between October 25 and November 2, 1988. During those meetings the officials provided the following status: (1) for Carver, all IPs had been through the local review process and forwarded to FEMA. The school committee was working on a procedural concern, however, there was no statement regarding their non-approval; (2) in Duxbury, the school committee did not agree with the IP as written; (3) in Kingston, all IPs had been through the local review process and forwarded to FEMA. The school committee however, was addressing a potential change to the IP; (4) in Marshfield all IPs had been through the local review process and forwarded to FEMA. There is no reference to a school committee, however, the School Superintendent was opposed to a plan that he had not personally approved; and (5) in Plymouth the school IP had not received local approval or school committee approval. This information was provided directly to the NRC staff by local planning officials, and verified to be accurate. (This information is all documented in reports enclosed with the EDO's November 15, 1988 memorandum to the Commission referenced in Comment No. 8.)

Comment No. 25-OIG Response

We have reviewed the staff's comment and documentation, and we do not believe they refute the information in our report. Based on the staff's comment, it seems clear to us that the local officials were saying that the school committees were either still developing draft procedures or had gone on record as disapproving those draft procedures presented to them for review.

(NRC Note: Copies of documents referred to in the NRC comments are attached.)

(OIG Note: The OIG reviewed these documents during the inspection. They are not included as attachments to our report.)