

APR 29 1988

The Honorable Edward M. Kennedy  
United States Senate  
Washington, D. C. 20510

Dear Senator Kennedy:

Enclosed are responses to questions forwarded with your March 8, 1988 letter to Thomas E. Murley, who testified for the Nuclear Regulatory Commission at the Senate Labor and Human Resources Committee hearing on the proposed restart of the Pilgrim plant.

A copy of these responses has been sent to Boston Edison Company, the licensee for Pilgrim, for verification of the accuracy and completeness of certain information. We expect their comments within two weeks. If any corrections or additions to the enclosed responses are necessary as a result of the licensee's review, we will provide you a revised version of our submittal.

Sincerely,

Steve Kent for

John C. Bradburne  
Congressional Affairs Director  
Office of Governmental and Public Affairs

Enclosure:  
As stated

Distribution

Central Files	JTaylor
PDTSS Rdg	TRehm
SBlack	WRussell
CThomas	JMurray
BBoger	HThompson
FGillespie	EBeckjord
TMurley	OCA
EDO 3569	SECY 88-220
NRC PDR	
DMossburg EDO 3569	
VStello	

\*SEE PREVIOUS CONCURRENCE  
(KENNEDY MEMO)

OFC	:PDTSS:PTSB*	:PTSB:PHAS*	:AD:ADRI*	:*D:PHAS	:*D:NPR	:*EDO	:GPA/CA
NAME	:SBlack/lt	:CThomas	:BBoger	:FGillespie	:TMurley	:VStello	:JBradburne
DATE	:04/12/88	:04/12/88	:04/12/88	:04/12/88	:04/14/88	:04/18/88	:5/2/88

8805240431 830429  
PDR ADOCK 05000293  
U PDR

QUESTION 1.

There remains a great deal of uncertainty as to how the NRC will evaluate whether the Pilgrim reactor is ready to restart. As you know, I fully support the adjudicatory hearing process and hope that the NRC will agree that an adjudicatory hearing is the proper way to proceed. I am aware that there has been one public meeting in Plymouth and that another meeting is contemplated. Would you provide me with a schedule of planned or proposed future meetings, including the location of the meetings, who will attend from the NRC, and what public involvement there will be at the meetings. I am also interested in learning if a final decision has been made on Governor Dukakis' and Attorney General Shannon's petition for an adjudicatory hearing. If a decision has not yet been made, when will it be made?

ANSWER.

The NRC staff and local officials in Massachusetts have engaged in a continuing dialogue on the Pilgrim situation. This dialogue has included public meetings with the Plymouth Board of Selectmen and Chamber of Commerce, the Duxbury Board of Selectmen, the Massachusetts Joint Committee on Energy, the Massachusetts Legislative Committee on the Investigation and Study of the Pilgrim Station, the Town of Plymouth Advisory Committee on Nuclear Matters, and others. The NRC staff also participated in a public forum on the Pilgrim situation at the

Duxbury High School on October 29, 1987. This meeting was sponsored by the Duxbury Board of Selectmen. Representatives from some of these groups also have participated in NRC Region I management meetings dealing with the Pilgrim facility, including the Systematic Assessment of Licensee Performance (SALP) meeting held on May 7, 1987. On October 8, 1987, the NRC met with representatives of the Commonwealth of Massachusetts in our Region I office. This meeting, which was open to the public, was held to discuss agenda items proposed by the Commonwealth, including emergency preparedness issues, the status of various NRC technical reviews, and inspection activities expected in the next few months. Subsequently, other meetings have been held with representatives of the Commonwealth discussing the same topics.

The most recent meeting, which was coordinated with the Commonwealth and was open to participation by interested members of the public, was held in Plymouth on February 18, 1988. The purpose of this meeting was to receive comments on the Pilgrim Nuclear Station Restart Plan.

The following is the projected schedule, location, and expected participation for future meetings which are currently planned. The schedules are subject to change depending on several of the integrated activities being conducted by both the licensee and NRC staff.

1. Public meeting(s) will be held in the Plymouth area, currently projected for late April or early May, to discuss the disposition of comments and

- concerns raised in the February 18, 1988 public meeting. The meeting(s) will be chaired by NRC senior staff members and members of the public will be invited to participate.
2. A Commission meeting, currently projected for June 1988, will be conducted to brief the Commission on the status of licensee activities relating to plant restart and the NRC staff's plans and schedule for completing their readiness review. This will be a public meeting held in the Washington, D.C. area.
  3. A meeting will be conducted by the NRC staff in the Plymouth area to discuss with interested members of the public the results of NRC's team inspection of the readiness of the plant, and licensee management preparations to support the restart and safe operation of the plant. This meeting is tentatively scheduled for July or August 1988.
  4. A meeting, currently projected for July or August 1988, will be held in the Plymouth area with State Senator William Golden and the other petitioners who submitted the July 1986 Petition, under 10 CFR Part 2.206, if the petitioners desire a meeting. Senior NRC staff members will discuss emergency preparedness, management, and plant readiness issues with the Petitioners and answer any questions they may have. Members of the public will be invited to participate. This meeting may be coordinated with the meeting addressed in number 3 above.



5. The Commission will hold an additional public meeting at NRC Headquarters prior to making any decisions regarding the readiness of Pilgrim to resume operations. The licensee will provide a full accounting of its readiness to restart the Pilgrim station during this meeting. The staff will also brief the Commission on the results of its independent inspection and review of licensee activities.

Other public meetings, including those with Boston Edison, will be held as circumstances warrant. These meetings will be announced pursuant to NRC staff policy on open meetings (43 FR 28058 which is enclosed).

A final decision has not been made on Governor Dukakis' and Attorney General Shannon's petition for an adjudicatory hearing. The petitioners were notified by letter dated November 13, 1987 that the Petition would be treated as a request for action under 10 CFR Part 2.206 of the Commission's regulations. The staff is nearing completion of its evaluation of the petition, and expects to render a decision in the near future. We will advise you as soon as we make a decision on the petition.

Enclosure:

43 FR 28058

UNITED STATES NUCLEAR REGULATORY COMMISSION  
RULES and REGULATIONS

Enclosure to  
Question 1

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS - ENERGY

COMMISSION NOTICES  
POLICY STATEMENTS

Conduct of Proceedings

43 FR 28058  
Published 6/28/78

DOMESTIC LICENSE APPLICATIONS

Open Meetings and Statement of NRC Staff  
Policy

The Nuclear Regulatory Commission's (NRC's) regulations in 10 CFR 2.102 permit applicants to confer informally with the NRC technical staff during reviews of domestic license or permit applications. These meetings have served as an essential means for the exchange of technical information and views necessary for the technical review of applications. For several years other parties or potential parties to domestic licensing proceedings, as well as members of the general public, have, upon request, been permitted to attend applicant-NRC technical staff meetings as observers. However, the Commission's regulations do not require that others be permitted to attend such informal meetings between applicant and staff, and the general practice being followed in this regard has never been formally articulated. This statement is intended to provide such articulation. It is also noted that this matter is related to the provision for increased public participation which was approved by the Commission during its consideration of NUREG 0292 (Denton Report).

As a general matter, the Commission and staff try to involve concerned citizens in any Commission activity in which they have expressed an interest. All meetings conducted by the NRC technical staff as part of its review of a particular domestic license or permit application (including an application for an amendment to a license or permit) will be open to attendance by all parties or petitioners for leave to intervene in the case. These meetings are intended by the NRC technical staff to facilitate an exchange of information between the applicant and the staff. It is expected that the NRC technical staff and the applicant will actively participate in the meeting. Others may attend as observers. Likewise, when meetings are scheduled between the staff and other parties or petitioners, applicants would be permitted to attend only as observers.

The general policy of open meetings described above will admit of only a few exceptions, which must be approved by the Director of the relevant division. For example, some persons may not be permitted to attend meetings where classified or proprietary information (including sensitive safeguards information) is to be discussed. The NRC staff will prepare a written

summary of the unclassified and non-proprietary portions of such meetings and forward the summary to interested persons unable to attend so that they will be informed of what transpired at the meeting. However, attendance will not be limited solely because preliminary opinions, recommendations, or advice will be offered on the merits of the applications during the meeting.

When a party or petitioner for leave to intervene requests, reasonable efforts will be made by the NRC staff to inform the party or petitioner of forthcoming meetings conducted by the NRC technical staff and that appropriate arrangements for attendance can be made. It is recognized that in some cases the need for a prompt meeting may make it impossible or impracticable to notify all parties and petitioners. The policy described above also cannot practically be applied to chance encounters between NRC technical staff personnel and other parties or petitioners but such chance encounters will not be permitted to serve as a source of information for the conduct of licensing reviews.

46 FR 28533

Published 5/27/81

Statement of Policy on Conduct of  
Licensing Proceedings

I. Background

The Commission has reviewed the docket of the Atomic Safety and Licensing Board Panel (ASLBP) and its current status of proceedings before its individual boards. In a series of public meetings, the Commission has examined at length all major elements in its licensing procedure. It is clear that a number of difficult problems face the agency as it endeavors to meet its responsibilities in the licensing area.

This is especially the case with regard to staff reviews and hearings, where requests for applications for nuclear power plant operating licenses.

Historically, NRC operating licensing reviews have been completed and the license issued by the time the nuclear plant is ready to operate. Now, for the first time the hearings on a number of operating license applications may not be concluded before construction is completed. This situation is a consequence of the Three Mile Island (TMI) accident, which required a

reexamination of the entire regulatory structure. After TMI, for over a year and a half, the Commission's attention and resources were focused on plants which were already licensed to operate and on the preparation of an action plan which specified changes necessary for reactions as a result of the accident.

Although staff review of pending license applications was delayed during this period, utilities which had received construction permits continued to build the authorized plants. The staff is now expediting its review of the applications and an unprecedented number of hearings are scheduled in the next 24 months. Many of these proceedings concern applications for operating licenses. If these proceedings are not concluded prior to the completion of construction, the cost of such delay could reach billions of dollars. The Commission will seek to avoid or reduce such delays whenever measures are available that do not compromise the Commission's fundamental commitment to a fair and thorough hearing process.

Therefore, the Commission is issuing this policy statement on the need for the balanced and efficient conduct of all phases of the hearing process. The Commission appreciates the many difficulties faced by its boards in conducting these contentious and complex proceedings. By and large, the boards have performed very well. This document is intended to deal with problems not primarily of the boards' own making. However, the boards will play an important role in resolving such difficulties.

Individual adjudicatory boards are encouraged to expedite the hearing process by using those management methods already contained in Part 2 of the Commission's Rules and Regulations. The Commission wishes to emphasize though that, in expediting the hearings, the board should ensure that the hearings are fair, and produce a record which leads to high quality decisions that adequately protect the public health and safety and the environment.

Virtually all of the procedural devices discussed in this Statement are currently being employed by sitting boards to varying degrees. The Commission's re-emphasis of the use of such tools is intended to reduce the time for completing licensing proceedings. The guidelines set forth below are not to be

QUESTION 2. During your testimony, you mentioned that the NRC had asked Boston Edison a series of questions relating to direct torus venting. Specifically, Edison was asked when and under what conditions they would utilize a direct torus vent. At the time of the hearing, Boston Edison had not yet responded to the NRC's questions. You indicated that a response would be necessary before the NRC could proceed with considering whether the installation of a direct torus vent was warranted at Pilgrim. Has Edison responded to the NRC's questions? If so, has the NRC made a decision on whether it will permit the licensee to make the direct torus vent improvement?

ANSWER.

The Boston Edison Company (BECo) has not yet responded to the questions we posed on August 21, 1987 concerning BECo's submittal of a design for a direct torus vent (DTV). As stated in the testimony, the questions must be resolved before the system is placed into service. The DTV, a hard pipe designed to be capable of providing a path that could withstand high pressures from the containment torus structure to the plant stack, has been installed but with a physical block (blank flanges) to prevent flow and isolate it from the low pressure path. The piping, supports, and blank flange were installed by BECo pursuant to provisions of 10 CFR Part 50.59.

10 CFR Part 50.59 allows licensees to make changes to their facility as described in the safety analysis report without prior Commission approval, if the proposed change does not involve a change in the technical specifications incorporated in the license or an unreviewed safety question.

An inspection team was sent to the Pilgrim site during the first week of March to review the blanked off vent line. The objective of the inspection was to verify the adequacy of the plant modification and associated licensee safety evaluations. Although the vent line is not operational, we chose to confirm that the plant modification (including the installation of the piping, supports and blank flange) does not adversely affect the function of the other plant systems, structures or the plant response under accident conditions. The inspection team concluded that the plant modification was adequately evaluated by the licensee and the design change had been made with no adverse impact on plant safety. The conclusion was based on a system walkdown, inspection of the supporting documentation, and interviews with utility personnel. At this time the NRC has not made a decision on allowing the completion of the installation or operation of a direct torus vent system.

QUESTION 3. During the hearing, I asked you how many times the NRC has been formally requested to hold adjudicatory hearings in relation to restarting or licensing a nuclear reactor. I would be interested in learning who made the requests (i.e., whether they came from the licensee, from a State government, or elsewhere), and whether the NRC acted favorably or unfavorably on the requests (and/or petitions)?

ANSWER.

There have been contested operating licensing proceedings for most operating nuclear power plants. Our log shows some 80 proceedings. There have also been some 70 proceedings involving amendments to power plants' operating licenses. Many amendment proceedings could affect continued reactor operation.

We have identified 6 proceedings directly involving power plant restarts:

Browns Ferry - 1975; Changes involving startup after fire;  
Intervenor B. Garner. Commission authorized operation.

Humboldt Bay - 1977; Request to delete seismic upgrade requirements allowing startup of the facility; Intervenor Sierra Club, Friends of the Earth.  
Proceedings terminated after licensee notified NRC of intent to decommission the facility.

Trojan - 1978; Proceedings on Commission Order requiring modifications to Control Building; Intervenors D. McCoy, C.Parson, N.Bell, E.Rosolie, S.Willingham, Coalition for Safe Power, Columbia Environmental Council, Bonneville Power Authority, State of Oregon. Commission authorized operation.

Rancho Seco - 1979; Proceeding to permit operation after post-TMI shutdown Order; Licensee requested hearing; Intervenor California Energy Commission et.al. Commission authorized operation.

Three Mile Island 1 - 1979; Proceedings to permit operation after post-TMI shutdown Order; Intervenors Commonwealth of Pennsylvania, UCS, TMI Alert, Mr.& Mrs. Aamodt. Commission authorized operation.

San Onofre Unit 1 - 1984; Seismic shutdown Order rescission; Hearing requested by Sierra Club et.al. Commission denied request for hearing and authorized operation.

We also looked at 81 published Director's Decisions issued since February, 1979 that relate to power reactors. In 30 of those cases, petitioners made requests under 10 CFR § 2.206 that could fairly be construed as requests for adjudicatory hearings. (Petitioners rarely used the word "adjudicatory".)

A brief explanation of the process associated with petitions filed under 10 CFR § 2.206 is called for. Under 10 CFR 2.206, any person may file a request with an NRC director "...to institute a proceeding pursuant to § 2.202 [Orders to Show Cause] to modify, suspend or revoke a license, or for such other action



as may be proper." There is no requirement for the petitioner to demonstrate a legal interest in the matters raised in the petition.

Only if the NRC institutes a proceeding in response to the 2.206 petition, will members of the public be given an opportunity to request a hearing and demonstrate the requisite legal interest in the proceeding so as to be allowed to intervene. The demonstration of requisite interest is not affected by the fact that the petitioner to intervene had filed a 2.206 petition; it is an independent requirement.

Thus, granting an adjudicatory hearing directly in response to a 2.206 petition would be legally inappropriate. The reason is that a 2.206 petitioner has no right to a hearing. Illinois v. NRC, 591 F.2d 12, 14 (7th Cir. 1979). For this reason, the NRC has never granted an adjudicatory hearing in direct response to the request of a 2.206 petitioner.

Nevertheless, in two instances, requests by petitioners did indirectly result in adjudicatory hearings. In one case, an Order to Show Cause issued in response to a petition resulted in a proceeding. See Dairyland Power Cooperative (LaCrosse Boiling Water Reactor), DD80-9, 11 NRC 392 (1980). In a second case the Commission decided to hold a discretionary adjudication to resolve safety issues raised by a petition and Director's Decision responding to the petition. See Consolidated Edison Co. of New York Inc. (Indian Point Unit No. 3), DD-80-55, 11 NRC 351 (1980). See also Consolidated Edison Co. of New York Inc. (Indian Point Unit No. 3), CLI-81-1, 13 NRC 1 (1981).

QUESTION 4. You may be aware that the Massachusetts State Legislature is considering a bill which would expand the Emergency Planning Zone around nuclear power plants in Massachusetts to 50 miles. Would the NRC support this initiative?

ANSWER.

It is the NRC view that the current detailed planning requirements for the 10-mile plume exposure pathway EPZ and 50-mile ingestion exposure pathway EPZ are adequate to assure that prompt and effective actions can be taken to protect the public in the event of an accident. We do not believe there is a need from a public health and safety standpoint to expand the 10-mile plume exposure pathway EPZ around nuclear power plants to 50 miles. However, this does not preclude a State and utility from working together to develop supplemental planning for the plume exposure pathway for areas beyond 10 miles if they so desire.



QUESTION 5. In your prepared statement you said, "The NRC will not permit the facility (Pilgrim) to resume operation until corrective actions satisfactory to the NRC have been taken to address the Emergency Planning deficiencies identified by FEMA". Have those corrective actions been taken? You also indicated that the NRC would allow the plant to restart without the resolution of all Emergency Planning deficiencies. What deficiencies would the NRC allow to be left unresolved at restart?

ANSWER.

Progress has been made to date toward improving the offsite emergency preparedness programs at Pilgrim and correcting the emergency planning deficiencies identified by FEMA. Drafts of the local emergency plans have been completed and six of these plans have been forwarded by the Commonwealth to FEMA for informal technical review. The draft Massachusetts Civil Defense Agency Area II plan has essentially been completed and is being reviewed by the Commonwealth. The draft of the Commonwealth plan for Pilgrim is nearing completion.

As indicated in the testimony, the NRC may authorize restart with some planning issues not fully resolved. In reaching this decision, the NRC will examine each planning deficiency and weigh the significance of the deficiency, the nature of any compensatory actions, and the progress being made by the Commonwealth, local governments and the licensee toward correction of the deficiency. Our approach to these issues is not unique to the Pilgrim facility. A similar process occurs at all operating nuclear plant sites in the

United States because of the dynamic nature of the emergency planning process. In practice, we expect that emergency response plans will be revised and improved on a continual basis. Deficiencies identified during the ongoing review process and in biennial exercises at each of these sites are assessed for significance and plants may be allowed to operate while the deficiencies are being corrected. Given the progress to date at Pilgrim, it is premature at this time to attempt to determine which, if any, deficiencies will remain when restart decisions are to be made. However, the NRC will give special attention to the corrective actions involving the emergency response plans for schools and day care centers as well as the emergency response plans for special-needs and transport-dependent populations in the plume exposure pathway emergency planning zone.

QUESTION 6.

You said in your testimony that a detailed team inspection will be performed at Pilgrim prior to a restart decision. Has that inspection commenced? When will it conclude? How long will the public have to review the NRC's findings relative to the inspection and prior to a restart decision?

ANSWER.

Prior to consideration of Pilgrim plant restart, the NRC will conduct an Integrated Assessment Team Inspection (IATI) at Pilgrim to review and evaluate the effectiveness of licensee corrective action programs in order to determine the readiness of the plant and licensee personnel to support the restart and safe operation of Pilgrim. The inspection will encompass a three week period and is tentatively scheduled for June 1988, based on a projection of licensee activities. It is expected that the report documenting the findings of the team will be issued approximately one month prior to the planned public Commission meeting to consider a restart decision. As noted in our response to question 1, the NRC will hold a public meeting in the Plymouth area in July or August 1988 on the findings of the inspection team.

QUESTION 7.

A great deal of public concern has focused on a release of radioactive resin which occurred at Pilgrim in the summer of 1982. It is my understanding that radioactive resin was found on the rooftops of buildings owned by Boston Edison. Would you please provide all the data the NRC has on file (including onsite and offsite readings, dosimeter readings and stack readings) indicating what the level of radioactivity had been in the period of time when the resin was released.

ANSWER.

In response to your request, we have made a comprehensive search of our files regarding information on the radioactive resin release at the Pilgrim Station. Enclosed are all the documents which were found as a result of this search.

Enclosures 1 and 3 provide the most detail concerning the event itself. Figure 1 of Enclosure 1 indicates the extent of the contamination by the resin found on June 11, 1982. All contamination found was within the site boundary. Figure 1 of Enclosure 1 provides a detailed map, but basically contamination was found as follows:

<u>Location</u>	<u>Activity in disintegrations per minute (DPM)*</u>
Administration Building Roof	100,000 - 200,000 DPM
Turbine Building	100,000 DPM
AOG Building	200,000 DPM
Retube Building	200,000 DPM
Main Transformer Area	1,000 - 25,000 DPM
Pavement curb near Retube Building	20,000 - 80,000 DPM
Pavement curb near Administration Building	100,000 - 200,000 DPM

## Enclosures:

1. Inspection Report No. 50-293/82-20, dated August 5, 1982.
2. Letter from R. W. Starostecki, NRC, to W. D. Harrington, BECo, dated June 16, 1982.
3. Letter from J. E. Howard, BECo, to R. W. Starostecki, NRC, dated July 15, 1982.
4. NUREG-0837, "NRC TLD Direct Radiation Monitoring Network," Progress Reports for January through September 1982, Vol. 2 Nos. 1, 2, and 3.
5. Memorandum from R. J. Mattson, NRC, to H. R. Denton, NRC, "Generic Implications of the Release of Spent Demineralizer Resins from Pilgrim, Unit No. 1," dated July 8, 1982.

---

\*In discrete small piles of resin of several grams.

6. Memorandum from J. L. Pellet, NRC, to K. V. Seyfrit, NRC, "Technical Review Report on Pilgrim 1 Resin Migration," dated April 19, 1983.
7. Event Evaluation Sheet, "Spent Resin Release," dated June 14, 1982.
8. IE Information Notice No. 82-43, "Deficiencies in LWR Air Filtration/Ventilation Systems," dated November 16, 1982.
9. Pilgrim Nuclear Power Station, "Radioactive Effluent and Waste Disposal Report Including Radiological Impact on Humans," January 1 through June 30, 1982, dated September 1, 1982.
10. Pilgrim Nuclear Power Station, "Radioactive Effluent and Waste Disposal Report Including Radiological Impact on Humans," July 1 through December 30, 1982, dated March 1, 1983.

Report No. 50-293/82-20

Docket No. 50-293

License No. DPR-35 Priority -- Category C

Licensee: Boston Edison Company

800 Boylston Street

Boston, Massachusetts 02199

Facility Name: Pilgrim Nuclear Power Station

Inspection At: Plymouth, Massachusetts

Inspection Conducted: June 11-13, 1982

Inspectors: R. L. Nimitz  
R. L. Nimitz, Radiation Specialist

8/5/82  
date

M. H. McBride  
M. H. McBride, Ph.D., Radiation Specialist

8/5/82  
date

R. L. Nimitz for  
J. J. Kottan, Radiation Laboratory  
Specialist

8/5/82  
date

Approved by: Edward A. Greenman  
E. G. Greenman, Acting Chief, Facilities  
Radiation Protection Section

8-5-82  
date

Inspection Summary:

Inspection on June 11-13, 1982 (Inspection Report No. 50-293/82-20)

Areas Inspected: Special, announced inspection of initial licensee actions after spent resin was found on roof-tops and pavement within the protected area of the Pilgrim Station on June 11, 1982. Areas inspected included: initial contamination identification, contamination surveys, posting and barricading, resin removal, resin source determination, notifications and initial and long term planned corrective actions. Upon arrival at the site at 10:30 p.m. on June 11, 1982, the inspectors toured the site to review the extent and control of the resin contamination. The inspection involved 33 inspector-hours onsite by three region-based inspectors.

Results: No violations were identified.

~~8248304248~~ 8pp

## DETAILS

### 1. Persons Contacted

W. Armstrong, Deputy Manager, Nuclear Operations  
W. Anderson, Watch Engineer  
J. Bunning, HVAC Supervisor, Johnson Controls  
L. Dooley, Health Physics Engineer  
B. Elderidge, Senior Radiological Engineer  
J. Frazer, Instrumentation and Control Supervisor  
\*R. Machon, Nuclear Operations Manager  
\*C. Mathis, Deputy - Nuclear Operations Manager  
A. Richards, Health Physics Engineer  
K. Roberts, Chief Maintenance Engineer  
J. Smallwood, Chemical Engineer  
\*P. Smith, Chief Technical Engineer  
V. Stagliola, Senior Waste Management Engineer

\*denotes those persons attending the exit interview on June 13, 1982

The inspector also contacted other licensee personnel during the inspection.

### 2. Purpose

The purpose of this special inspection was to review the licensee's actions after spent resin was found on roof-tops and pavement within the Protected Area of the Pilgrim Station on June 11, 1982.

### 3. Description of Identification

During a tour of the Retube Building Roof (see Figure 1) at about 1:00 p.m. on June 11, 1982, a Radiation Protection Technician saw resin in the building's rain gutters. Subsequent contamination surveys of small piles of the resin (about several grams) indicated activity levels of 100-200,000 disintegrations per minute (DPM).

### 4. Inspector Review

The inspectors reviewed the following licensee actions taken after identification of the spent resin.

#### 4.1 Contamination Surveys

The review of this area indicated that, when the resin was found the licensee immediately performed surveys of the entire Protected Area and selected areas of the Licensee Controlled Area. The surveys were completed within about 2 hours of initial identification of the resin.

Areas surveyed included: roof-tops of other buildings, pavement areas, storm drains, security access area, parking lots, automobiles and the shore front area.



The licensee identified resin contamination on the Reactor, Turbine, Administration, and Augmented Off-Gas Buildings. Resin was also identified on two areas of pavement (see Figure 1).

No resin contamination was found off site or in the storm drains.

Based on this review, the licensee performed adequate initial contamination surveys to define the extent of resin contamination.

No violations were identified.

#### 4.2 Personnel Contamination Surveys

The licensee's normal personnel contamination survey requirements includes the requirement that personnel exiting the Controlled Area perform a complete whole body frisk. In addition, personnel are required to pass through high sensitivity portal monitors at the security access/egress area.

Subsequent to the resin identification, the licensee initiated a requirement that all personnel exiting the security access/egress area perform contamination surveys of their shoes with a thin window detector. The requirement to perform the additional surveys was implemented within about two hours after the initial identification. No shoe contamination was identified.

No violations were identified.

#### 4.3 Posting and Barricading

The review of the posting and barricading of selected contaminated areas, indicated the licensee had posted and barricaded the areas in an expeditious manner and in accordance with station procedures.

No violations were identified.

#### 4.4 Spent Resin Removal

The review of this area indicated the licensee initiated vacuuming of the resin from the contaminated areas and from the Reactor Building Contaminated Ventilation Exhaust System in an expeditious manner.

To further expedite the clean-up operation, the licensee ordered additional vacuum cleaners. These vacuum cleaners were to be flown in by airplane.

During removal of resins from the pavement and roof-top areas, the licensee also collected airborne radioactivity samples. No airborne radioactivity was identified.

#### 4.5 Source Identification/Initial Corrective Action

The inspectors' review of licensee actions taken following identification of the spent resin indicated that the licensee immediately initiated an investigation to determine the source of the resin contamination.

The licensee's initial findings indicated the resin was entering the ventilation system during resin cleaning operations. The licensee subsequently suspended all operations which could result in further resin releases to ventilation system duct work. Figure 2 provides the apparent resin contamination/release pathway.

The inspector's discussions with licensee representatives regarding the initial identification of spent resin in the ventilation system showed that spent resin had been identified in the ventilation system prior to the identification of the resin on roof-tops. The inspector also noted that dry radioactive resin was found in the "B" Stand By Gas Treatment (SBGT) System on September 27, 1981. (Inspection Report 50-293/82-01).

The SBGT System exhausts air from contaminated ventilation systems in the Reactor Building as does the Reactor Building Contaminated Area Exhaust System. Consequently, the inspector noted the identification of spent resin in the SBGT System would serve as an indication of possible resin contamination of the Reactor Building Contaminated Area Exhaust System. The latter system vents to atmosphere via the Reactor Building Vent Stack.

Licensee representatives stated that in September 1981, the Reactor Building Contaminated Area Exhaust Filters were found to be by-passing, apparently due to improper filter fit and degradation and were subsequently replaced. The licensee representatives stated that the contamination most likely exited the plant vent via the by-pass prior to the repair of the filters.

The inspector indicated that circumstances surrounding the initial ventilation system contamination and the licensee's actions taken would be reviewed further during a subsequent inspection. (50-293/82-20-01)

#### 4.6 Notifications

The inspectors reviewed the identification of the spent resin event with respect to the requirements of 10 CFR 50.72, "Notification of significant events." Upon evaluation it was determined that the detection of the contamination did not constitute a significant event as described in 10 CFR 50.72.

Inspector discussions with the Pilgrim Station Senior Resident Inspector indicated that he noted additional personnel activity (about one hour after the licensee's initial discovery) and questioned licensee representatives regarding this activity. Licensee representatives stated that the additional activity was the result of resin identification on roof-tops.

The Senior Resident Inspector subsequently notified NRC Region I. The licensee also notified the NRC Operations Center of the resin contamination.

No violations were identified.

#### 5. Long Term Corrective Action

The inspector met with licensee representatives on June 13, 1982 to discuss the licensee's plans for long term corrective actions.

As a result of these discussions and a followup telephone conversation on June 15, 1982 between the Director, Division of Project and Resident Programs, NRC Region I and the licensee, a Confirmatory Action Letter (No. CAL 82-19) dated June 16, 1982, was sent to the licensee to document the NRC's understanding of planned actions.

The letter stated the NRC understanding that the licensee would undertake and complete the following actions:

- Discontinue back flushing, regenerating or ultrasonically cleaning condensate demineralizer spent resins until the source of the resin contamination of ventilation systems is identified and corrective actions taken for its cause. In the event long term plant design changes are needed to correct the cause of the resin release to the ventilation system, resin cleaning operations may be performed provided that: a) appropriate procedure revisions and other administrative controls are established to prevent further resin releases to the ventilation system; b) a test of the adequacy of the procedure revisions and other administrative controls is performed using clean resin and; c) the integrity of the Contaminated Exhaust Ventilation filters has been verified by DOP testing.
- Inspect or test all potentially effected safety-related ventilation system components (e.g. Secondary Containment Isolation Dampers) to verify their operability and the absence of resin. In the event resin contamination is identified, the resin will be removed. The results of this inspection shall be documented for subsequent NRC review.
- Inspect clean air intake ventilation filters or ducts for all potentially effected station structures to verify absence of resin. In the event resin contamination is identified, the resin will be removed. The results of this inspection shall be documented for subsequent NRC review.

- Inspect the Reactor Building plant vent monitor to verify its operability and the absence of resin in the sampling system. The results of this inspection shall be documented for subsequent NRC review.
- Establish a surveillance and preventative maintenance program for contaminated ventilation exhaust systems to ensure exhaust filter integrity. This program will also include provisions for system inspection to identify resin accumulation.
- Provide to the NRC Region I office by July 15, 1982 a report detailing the history and extent of the duct contamination, its causes, and the circumstances surrounding the release of radioactive material. This report will also describe the corrective actions taken and the additional management oversight initiated to prevent recurrence.

The licensee provided the requested report in a letter dated July 15, 1982. The licensee's implementation of the remaining NRC understanding will be reviewed during a subsequent inspection (50-293/82-20-02).

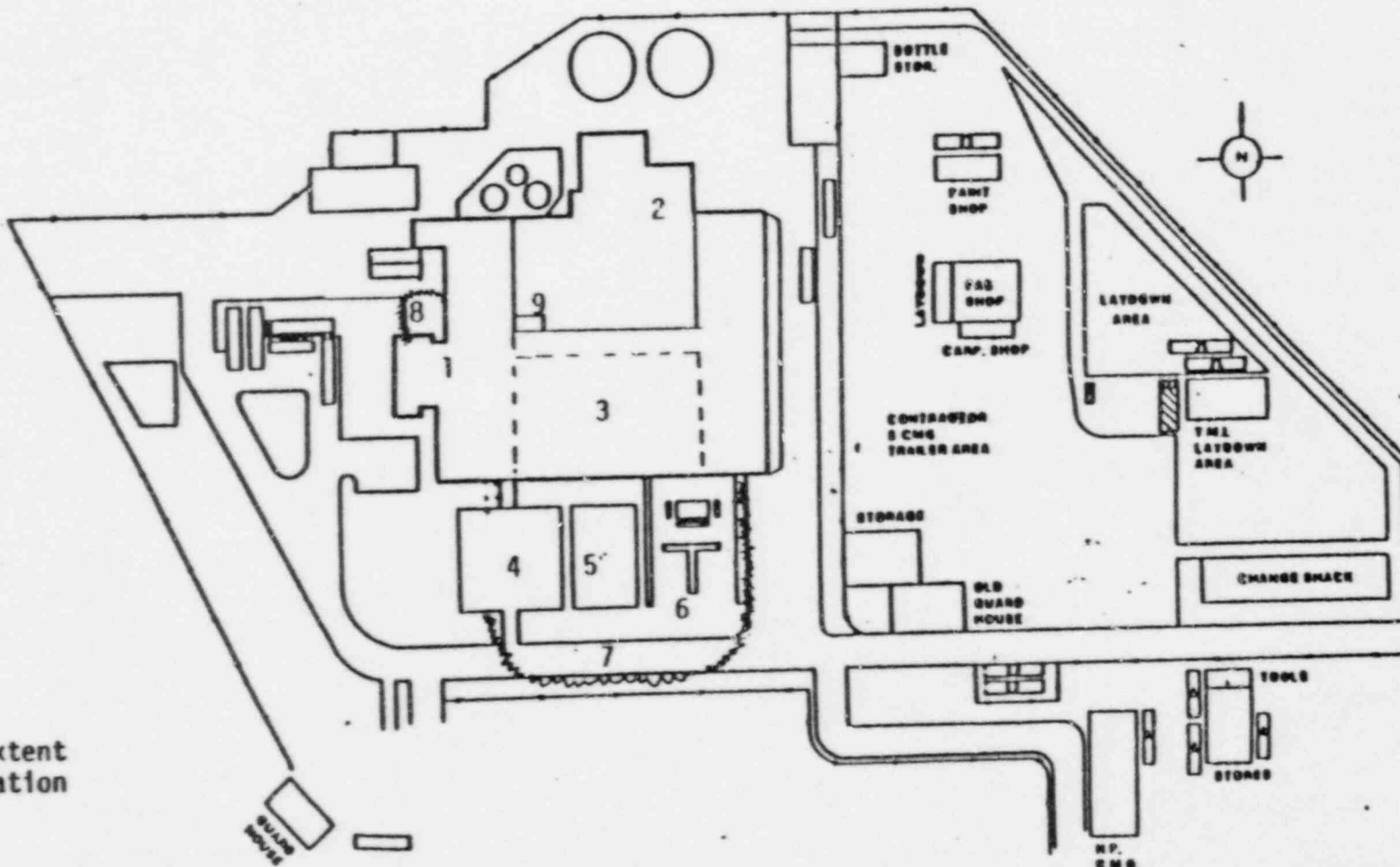
#### 6. Exit Interview

The inspector met with licensee representatives (denoted in Section 1 of this report) on June 13, 1982. The inspector summarized the scope and findings of the inspection.

# PILGRIM STATION SITE PLAN

## SPENT RESIN CONTAMINATION LEVELS

JUNE 11, 1982



Indicates extent of contamination

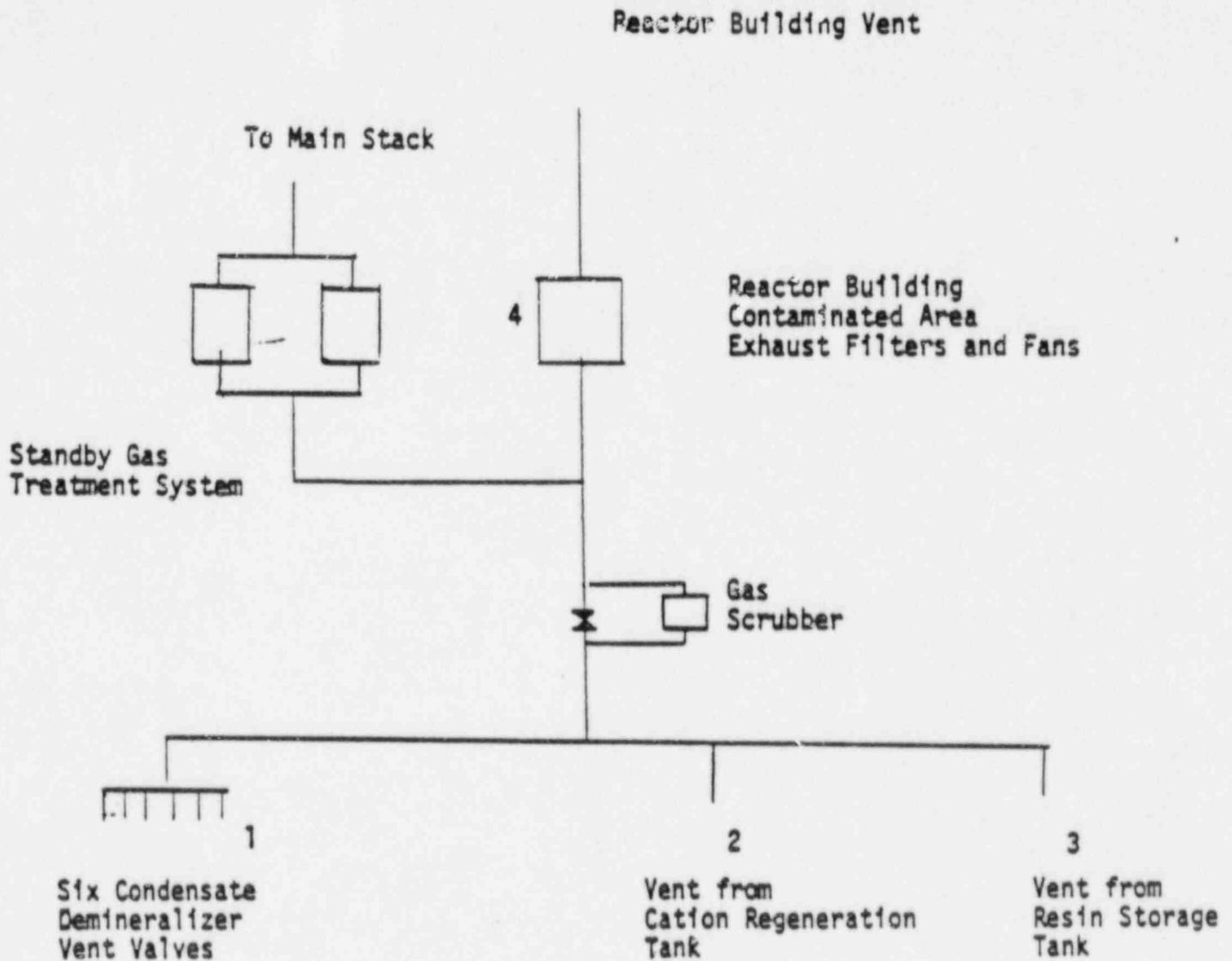
- 1. Administration Building Roof - pockets, 100K - 200K dpm
- 2. Reactor Building Roof - clean
- 3. Turbine Building Roof - pockets, 100K dpm
- 4. AOG Building - pockets, 200K dpm
- 5. Retube Building - pockets, 200K dpm
- 6. Main Transformer Area - 1K - 25K dpm (small areas)

- 7. Pavement - along curb, 20K - 80K dpm
- 8. Pavement - along curb, 100K - 200K dpm
- 9. Plant Vent - Point of Release

\*Assumed 10% Detector Efficiency

FIGURE 1

FIGURE 2  
SPENT RESIN CONTAMINATION/RELEASE  
PATHWAY



1. Possible source prior to repair.
2. Apparent source during backwashing.
3. Possible source during resin transfer
4. Filters found to be by-passing about September 1981.



16 JUN 1982

Docket No. 50-293  
CAL No. 82-19

Boston Edison Company M/C Nuclear  
ATTN: Mr. William D. Harrington  
Senior Vice President, Nuclear  
25 Braintree Hill Office Park  
Braintree, Massachusetts 02184

Gentlemen:

This refers to our telephone conversation on June 15, 1982 regarding the identification of spent resin on roof-tops and pavement within the protected area of the Pilgrim Station on June 11, 1982.

With regard to the matters discussed, we understand that you have undertaken or will undertake and complete the following actions:

1. Discontinue back flushing, regenerating or ultrasonically cleaning condensate demineralizer spent resins until the source of the resin contamination of ventilation systems is identified and corrective actions taken for its cause. In the event long term plant design changes are needed to correct the cause of the resin release to the ventilation system, resin cleaning operations may be performed provided that: a) appropriate procedure revisions and other administrative controls are established to prevent further resin releases to the ventilation system; b) a test of the adequacy of the procedure revisions and other administrative controls is performed using clean resin and; c) the integrity of the Contaminated Exhaust Ventilation filters has been verified by DOP testing.
2. Inspect or test all potentially effected safety related ventilation system components (e.g. Secondary Containment Isolation Dampers) to verify their operability and the absence of resin. The results of the inspections/tests shall be documented for subsequent NRC review.
3. Inspect clean air intake ventilation filters or ducts for all potentially effected station structures to verify absence of resin. In the event resin contamination is identified, the resin will be removed. The results of this inspection shall be documented for subsequent NRC review.
4. Inspect the Reactor Building Plant vent monitor to verify its operability and the absence of resin in the sampling system. The results of this inspection shall be documented for subsequent NRC review.

OFFICIAL RECORD COPY

~~8206220151~~ 820616  
PDR ADOCK 05000293  
Q PDR

211

16 JUN 1982

Boston Edison Company M/C Nuclear 2

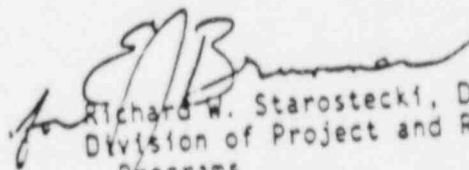
5. Establish a surveillance and preventative maintenance program for contaminate ventilation exhaust systems to ensure exhaust filter integrity. This program will also include provisions for system inspection to identify resin accumulation.
6. Provide to this office by July 15, 1982 a report detailing the history and extent of the duct contamination, its causes, the circumstances surrounding the release of the resin, and the amount and extent of onsite and offsite releases of radioactive material. This report will also describe the corrective actions taken and the additional management oversight initiated to prevent recurrence.

The response directed by this letter is not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

If our understanding of your planned actions described above is not in accordance with your actual plans and actions being implemented, please notify this office by telephone within 24 hours of your receipt of this letter.

Your cooperation with us in this matter is appreciated.

Sincerely,

  
 for Richard W. Starostecki, Director  
 Division of Project and Resident  
 Programs

cc w/encl:  
 A. V. Morisi, Manager, Nuclear Operations Support  
 R. D. Machon, Nuclear Operations Manager - Pilgrim Station  
 Public Document Room (PDR)  
 Local Public Document Room (LPDR)  
 Nuclear Safety Information Center (NSIC)  
 Commonwealth of Massachusetts (2)  
 NRC Resident Inspector

bcc w/encl:  
 Region 1 Docket Room (with concurrences)

R. Carlson  
 E. Brunner  
 E. Greenman  
 T. Martin  
 R. Haynes



MAR 22 '88 11:04 PILGRIM NRC RESIDENT

ENCLOSURE 3  
TO QUESTION 7

BOSTON EDISON COMPANY  
800 EDLINGTON STREET  
BOSTON, MASSACHUSETTS 02199

July 15, 1982

BECO. Ltr. #82-194

Mr. Richard W. Starostecki, Director  
Division of Project and Resident Programs  
Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA. 19406

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

Response to CAL #82-19

Reference (A) NRC letter (R. Starostecki) to  
BECO (W. Harrington), CAL #82-19,  
dated June 16, 1982

Dear Sir:

This letter provides our response to Reference (A), Item 6, regarding the identification of spent resin on roof tops and pavement within the protected area of Pilgrim Nuclear Power Station on June 11, 1982.

Response

1. History and Causes

The Condensate Demineralizer System has been identified as the source of the resin contamination found in the ductwork. More specifically, the processes associated with condensate demineralizer resin backwash/transfer have been determined as the causal factors as discussed below:

During resin transfer operations into a condensate demineralizer, the vent valve is open to allow proper resin sluicing and subsequent filling with water. Condensate demineralizer venting occurs sequentially via 1) common vent header, 2) gas scrubber, 3) reactor building contaminated exhaust system and 4) standby gas treatment system. (Attachments A & E)

For the fill stop, gas scrubber readings are utilized by the operator for indication of a "Full" demineralizer. However, because of excess water carry-over into the scrubber and beyond, water could flood through the scrubber and into the ventilation ductwork on Fl. 23' of the reactor building, depositing any entrained resin in the ductwork and ultimately, after drying, in the Standby Gas Treatment System.

8606 Scott 9pp

LITTON COMPANY

Richard W. Starostacki, Director  
July 15, 1982  
Page 2

During resin backwash operations, the "Cation" or "Storage" tank, by system design (Attachment B), warrant the respective vent valve to be in the open position for venting through the upstream gas scrubber. Small amounts of resin are sometimes entrained in the air and water sluice, which could gain access to the contaminated exhaust vent plenum as discussed above.

## 2. Extent of Duct Contamination

Attachment D shows the extent of duct contamination from the sources (Condensate Demineralizers) to the Reactor Building Vent Stack. It also shows the amount of resin collected from June 12, 1982 to July 13, 1982.

Since the contaminated exhaust filters were found to be degraded and replaced on March 15, 1982, and since the analysis of the resin indicated that it was at least a year old, it was concluded that the most likely pathway of the resin was from the condensate demineralizer vent to the contaminated exhaust plenum, through the contaminated exhaust filters and out the Reactor Building Vent Stack.

## 3. Circumstances Surrounding Release of Resins

The circumstances surrounding the release of resin can be attributed to several factors. As mentioned earlier, condensate demineralizer backwash operations and problems with the condensate demineralizer system vents were primary factors.

In order to maintain condensate demineralizers operating within low differential values, so as to attain maximum filter capabilities while minimizing crud loading of the reactor vessel and attendant radiation exposures, numerous backwashes of the condensate demineralizer beds were required during the ascension to power from extended refuel outages. The resin beads that had accumulated in the vent ducting over the years were hastened in their migration by the repeated venting operations and by virtue of SGTS testing using a common ventilation plenum allowing the entrained resin beads to pass into the Reactor Building Ventilation.

The initial identification of the release was observed by a health physics technician on June 11, 1982 while collecting random samples on top of the Condenser Retube Building, as part of a general site survey.

## 4. Amount and Extent of Onsite and Offsite Releases

An extensive survey was conducted both onsite and offsite. Small quantities of resins were detected on sections within the protected area to the south and west of the plant. Attachment C shows onsite areas where resin was discovered. The total amount of resin found outside the process buildings was less than one cubic foot. Health physics technicians surveyed and checked personnel and

L. L. EDON COMPANY

Mr. Richard W. Starostecki, Director  
July 15, 1982  
Page 3

vehicles in the parking lot with no measurable results. The storm drain outlet to the Discharge Canal was checked with no measurable results. A fine mesh screen was affixed to all storm drains to contain resin within the protected area. In situ soil analyses conducted in selected areas outside the Protected Area resulted in no detectable activity above historic levels. The shorefront area and the main stack area were also checked which resulted in no activity above background. A complete list of samples taken including isotopic analyses is available for review.

In total, less than one (1) cubic foot of resin was found inside the protected area fencing and less than (70) cubic feet was found and removed from inside the ventilation system. (Attachment D)

#### 5. Corrective Actions Taken

Our immediate corrective actions were to conduct an extensive survey of affected areas, commence cleanup operations, and identify and secure the resin source. The Condensate Demineralizer System was identified as the resin source and was secured to preclude further backwashing or venting activities until procedures and/or temporary modifications could be implemented to ensure that no more resin would be admitted to the ventilation ducting.

The vent to the ducting was blanked off under Temporary Modification T4 82-39 and a Temporary Procedure TP 82-44 was written to address the operational aspects necessary to prevent carryover of resins. The Temporary Procedure was finalized utilizing a clean (new) charge of resin before condensate demineralizer operation was allowed again.

The integrity of the contaminated exhaust ventilation filters was verified by DOP testing (Procedure #7.) 30), on June 14, 1982 and found to be 99.95% particulate efficient for both banks. Potentially affected safety-related ventilation system components were inspected or tested to verify their operability and the absence of resin. Clean air intake filters and ducts were inspected to verify absence of resin. The Reactor Building Vent monitor was inspected to verify operability. The inspection found the system to be operable.

The long term corrective actions to prevent recurrence currently in place or under consideration are: 1) changes to the operating procedure, i.e. restricting times and flows during backwashes and transfers to minimize resin volume with the cation tank; 2) a plant design change to the existing gas scrubber so as to provide a larger volume, two levels of phase separation and a final stage screen to trap the resin; and 3) the condensate demineralizer vent system will be vented to the TIP Room rather than directly to the ventilation ducting.

In addition, a ventilation system inspection program has been established to identify and remove any remaining resin from the ventilation system. The integrity of the contaminated exhaust filters will be verified by visual inspection on a six month basis.

BOSTON EDISON COMPANY

Mr. Richard W. Starostecki, Director  
July 15, 1982  
Page 4

We believe these actions to be prudent and effective measures to assure that the condensate demineralizer resins will not be entrained in the plant ventilation systems in the future.

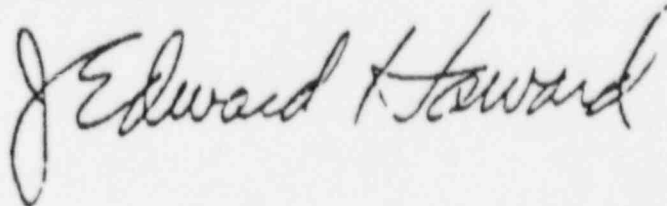
6. Additional Management Oversight Initiated

Boston Edison Company, in response to an Order modifying our License, has committed to improve the Corrective Action Program through a Performance Improvement Program (PIP). In Sections III.1.C.3 and III.1.C.4 of the PIP, we have made commitments to identify weaknesses and determine alternatives for improvements. This determination will include 1) Management Systems involved in Corrective Action Program, 2) Forms and Reports including Status Reports, 3) Latest Trend Analysis, 4) Informational sources and 5) Evaluation of communication methods and uses.

In addition, revision to the Corrective Action System design will be developed around a "universal carrier form" on which to identify report problems/events. The use of this report/follow-up mechanism will be procedurally addressed. The origin of some of the elements which will revise the Corrective Action System are based on our recent knowledge of a Corrective Action System used by another Utility, currently under review by Boston Edison Company.

We believe this information adequately addresses the Reference A concerns; however, should you have additional questions on this subject, please do not hesitate to contact us.

Very truly yours,



Attachments:

- (A) P&ID #M-213
- (B) P&ID #M-214
- (C) Location of onsite Resin Discoveries
- (D) Sketch of Resin Discoveries in Ventilation System
- (E) P&ID #M-294





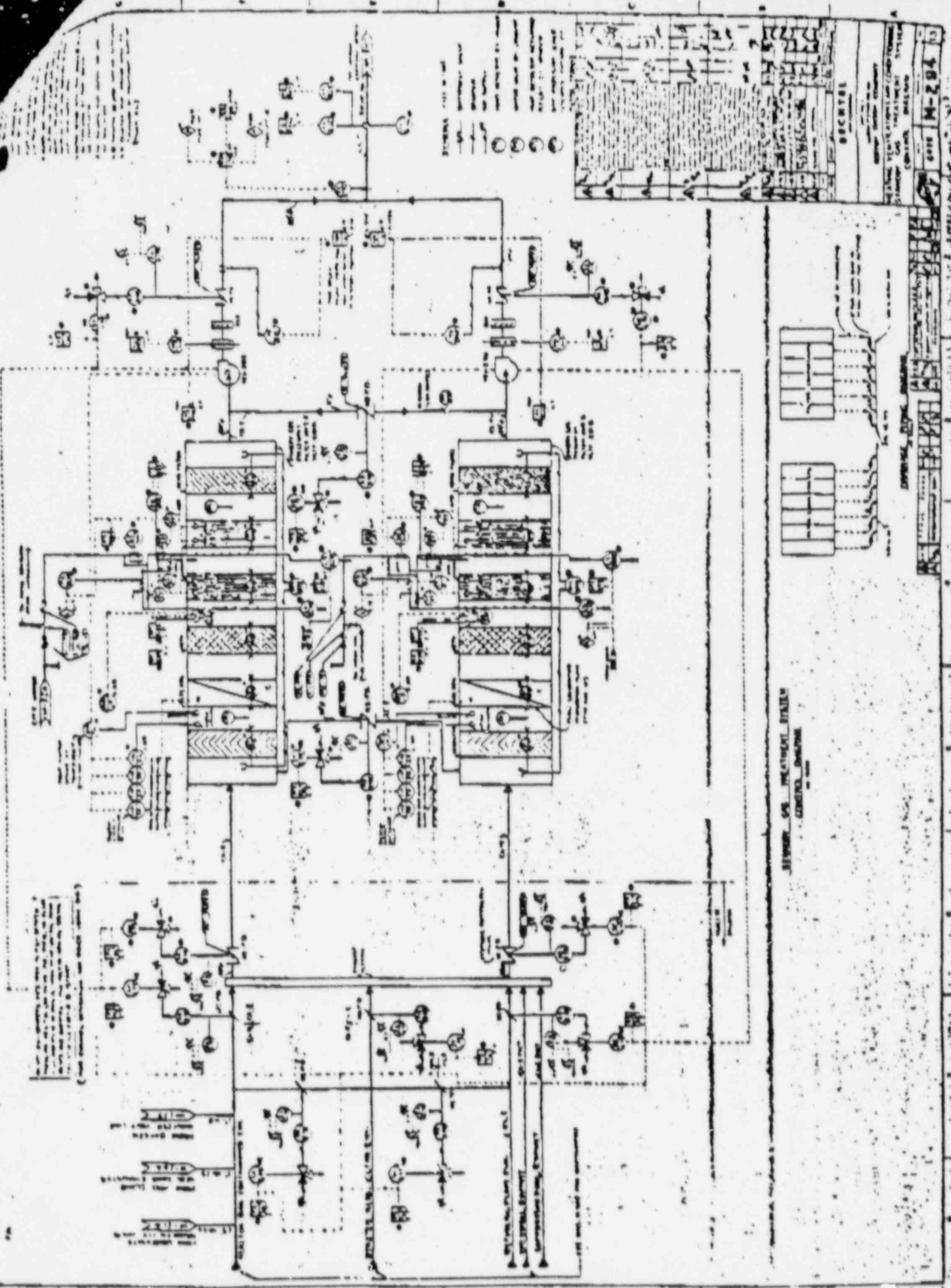




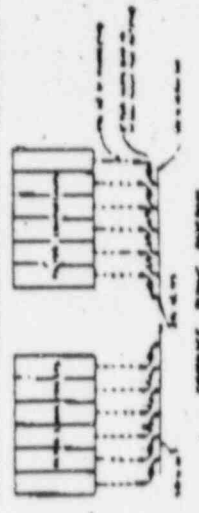




ATTACHMENT E



REACTOR OR REACTOR SYSTEM  
CONTROL SYSTEM



REACTOR OR REACTOR SYSTEM  
CONTROL SYSTEM

SECRET	
CLASSIFICATION AND CONTROL	GROUP M-294
STANDARD TREATMENT AND CONTROL	GROUP M-294
CONTROL SYSTEM	GROUP M-294

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406



16 JUN 1982

Docket No. 50-293  
CAL No. 82-19

Boston Edison Company M/C Nuclear  
ATTN: Mr. William D. Harrington  
Senior Vice President, Nuclear  
25 Braintree Hill Office Park  
Braintree, Massachusetts 02184

RECEIVED

'82 JUN 21 AM 10 35

PILGRIM STATION  
NUCLEAR RECORDS CENTER

Gentlemen:

This refers to our telephone conversation on June 15, 1982 regarding the identification of spent resin on roof-tops and pavement within the protected area of the Pilgrim Station on June 11, 1982.

With regard to the matters discussed, we understand that you have undertaken or will undertake and complete the following actions:

1. Discontinue back flushing, regenerating or ultrasonically cleaning condensate demineralizer spent resins until the source of the resin contamination of ventilation systems is identified and corrective actions taken for its cause. In the event long term plant design changes are needed to correct the cause of the resin release to the ventilation system, resin cleaning operations may be performed provided that: a) appropriate procedure revisions and other administrative controls are established to prevent further resin releases to the ventilation system; b) a test of the adequacy of the procedure revisions and other administrative controls is performed using clean resin and; c) the integrity of the Contaminated Exhaust Ventilation filters has been verified by DOP testing.
2. Inspect or test all potentially effected safety related ventilation system components (e.g. Secondary Containment Isolation Dampers) to verify their operability and the absence of resin. The results of the inspections/tests shall be documented for subsequent NRC review.
3. Inspect clean air intake ventilation filters or ducts for all potentially effected station structures to verify absence of resin. In the event resin contamination is identified, the resin will be removed. The results of this inspection shall be documented for subsequent NRC review.
4. Inspect the Reactor Building Plant vent monitor to verify its operability and the absence of resin in the sampling system. The results of this inspection shall be documented for subsequent NRC review.

*Handwritten signature and scribbles*

16 JUN 1988

Boston Edison Company M/C Nuclear 2

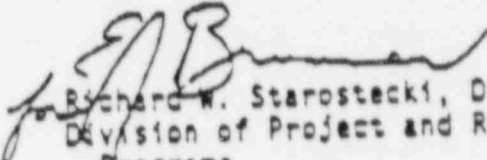
5. Establish a surveillance and preventative maintenance program for contaminated ventilation exhaust systems to ensure exhaust filter integrity. This program will also include provisions for system inspection to identify resin accumulation.
6. Provide to this office by July 15, 1982 a report detailing the history and extent of the duct contamination, its causes, the circumstances surrounding the release of the resin, and the amount and extent of onsite and offsite releases of radioactive material. This report will also describe the corrective actions taken and the additional management oversight initiated to prevent recurrence.

The response directed by this letter is not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

If our understanding of your planned actions described above is not in accordance with your actual plans and actions being implemented, please notify this office by telephone within 24 hours of your receipt of this letter.

Your cooperation with us in this matter is appreciated.

Sincerely,

  
Richard W. Starostecki, Director  
Division of Project and Resident  
Programs

cc w/encl:

A. V. Morisi, Manager, Nuclear Operations Support  
R. D. Machon, Nuclear Operations Manager - Pilgrim Station  
Public Document Room (PDR)  
Local Public Document Room (LPDR)  
Nuclear Safety Information Center (NSIC)  
Commonwealth of Massachusetts (2)  
NRC Resident Inspector

*Glow*



PILGRIM NUCLEAR POWER STATION  
RYD #1 ROCKY HILL ROAD  
PLYMOUTH, MASSACHUSETTS 02360

July 9, 1982

BECO Ltr. 482-188

R. D. MACHON  
NUCLEAR OPERATIONS MANAGER  
PILGRIM STATION

*R...*

*82-102*

Ronald C. Haynes  
Regional Administrator, Region I  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Docket Number 50-293  
License DPR-35

Dear Sir:

The attached Licensee Event Report 82-019/03L-0, "A" Standby Gas Treatment System", is hereby submitted in accordance with the requirements of Pilgrim Nuclear Power Station Technical Specification 6.9.B.2.b.

If there are any questions on this subject, please contact us.

Respectfully submitted,

R. D. Machon  
Nuclear Operations Manager  
Pilgrim Station

GDM:ep

Enclosure: LER 82-019/03L-0

cc: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Standard BECO LER Distribution

*8207200146 tp*





PILGRIM NUCLEAR POWER STATION  
DOCKET NO. 50-293Attachment to LFP 82-019/031-0

On June 11, 1982 during steady state reactor operation, while conducting a surveillance test (8.7.2.6, of the Standby Gas Treatment System (SGTS), the 'A' SGTS train was declared inoperable due to the inability to attain sufficient flow as defined by the test criteria. The redundant system was then successfully tested as required by Technical Specifications 3.7.2.1.c and an investigation was conducted to determine cause.

The investigation determined the cause to be carryover of resin beads from the condensate demineralizer vent system, into the contaminated exhaust vent and to the SGTS. The resultant resin migration via the reactor building vent was reported to the NRC as a separate issue via the ENS line per 10 CFR 50.72.

The condensate demineralizer system was secured and cleanup and corrective measures initiated. Procedure changes and a temporary modification were made to allow interim operation, while for long term corrective actions, a new operating procedure and design change will be made.

This entire event is the subject of a report to be sent to NRC Region 1 as a reply to CAL #82-19. A synopsis of this report is as follows:

Backwashing of demineralizer beds, by design, removes resin fines and particulates. It is expected that some whole resin beads will also be entrained.

During initial startup operations, a gas scrubber was designed and installed to minimize this entrainment. Since the time the scrubber was installed, the system has suffered from component breakdown which resulted in resin being found in the radwaste and ventilation systems.

In order to maintain condensate demineralizers operating within low differential values, so as to maintain maximum filter capabilities to minimize crud loading of the reactor vessel and attendant radiation exposures, numerous backwashes of the condensate demineralizer beds were required during the ascension to power subsequent to extended refuel outages. The resin beads that had accumulated in the vent ducting over the years were hastened in their migration by the repeated venting operations and by virtue of SGTS testing using a common ventilation plenum allowing the entrained resin beads to pass into the SGTS.

The resin release outside the process buildings has been secured. Off-site sampling found no measurable amounts of resin released to the surrounding environs. Less than one-half of a cubic foot of resin beads was found inside the protected area fencing. Less than seventy cubic feet was found and removed from inside the ventilation system.

Special IR # 82-19

6/14 - 8/1

11.

#### 4. Followup of June 11, 1982 Identification of Spent Resin

The inspectors reviewed the licensee's actions with regard to the June 11, 1982 identification of spent resin on roof tops and pavements and the NRC Confirmatory Action Letter (CAL) No. 82-19 dated June 16, 1982. No further condensate demineralizer system backwash evolutions were performed until the licensee took actions to prevent recurrence. A temporary modification was made to the vent system by blanking off the outlet of the gas scrubber to the Contaminated Exhaust System. The licensee made use of the dump valve off of the gas scrubber to vent the demineralizers/cation/storage tanks to the Reactor Building equipment sump in the HPCI quadrant.

A trial run was made with clean resin and resulted in no further increase of resin into the ventilation system. Inspections were made of the ventilation system (dampers and plenums) and removal of any previously deposited resin was performed. Procedure changes were made to ensure that backwashing evolutions were compatible with the new vent path. The licensee also initiated actions to prepare the Ultrasonic Resin Cleaner (URC) for future use in an attempt to reduce the need for some future backwashing evolutions.

On June 22, 1982, at about 12:50 pm, (while touring the condensate demineralizer area of the Turbine Building as part of a review of procedure TP-82-44, Test Program for Developing an Alternate Venting Pathway for Condensate Demineralizers) the inspector noted the existence of a resin slurry on the floor near the condensate pumps.

The inspector determined that the spill of resin was caused by a failed check valve in the condensate transfer system and allowed clean and spent resin to exit an open flow meter at panel C127 which was being cleaned as part of the URC system maintenance. No violations of equipment control tagging or radiation protection procedures were identified.

The inspector noted the existence of an out of calibration (due April 10, 1982) survey meter in the area under a table. This meter was immediately removed from the area by the licensee, and the inspector verified, through a review of radiation survey records, that the out of calibration meter had not been used following the due date.

No violations were identified during this followup. The inspectors will continue to review condensate demineralizer operations during routine inspections of the facility.



PRELIMINARY NOTIFICATION OF EVENT OF UNUSUAL OCCURRENCE - 10 CFR 101.11

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region 1 staff on this date.

Facility: Pilgrim Nuclear Power Station  
Plymouth, Massachusetts  
DN 50-293

Licensee Emergency Classification:  
 Notification of Unusual Event  
 Alert  
 Site Area Emergency  
 General Emergency  
 Not Applicable

Subject: RELEASE OF SPENT RESIN

At approximately 1300 on June 11, 1982 spent resin was found on the ground near the Turbine Building. Subsequent surveys identified contamination of the roofs of the Turbine, Reactor, Off-Gas and Re-Tube Buildings. Contamination was also found on the ground within the site controlled areas. Contamination levels ranged from 20-30,000 dpm/100 cm<sup>2</sup> with maximum contamination of up to 100,000 dpm/100 cm<sup>2</sup>. Gamma isotopic analysis of the resin identified primarily long lived radionuclides (Co-60, Cs-137, Cs-134 and Mn-54).

No contamination was identified off-site or in storm drains. All personnel are being frisked prior to exiting the site and no personnel contamination has been identified.

The resin may have been released through the reactor building vent duct which exhausts to the atmosphere at an elevation of approximately 100 ft. The licensee has found approximately 10 ft<sup>3</sup> of resin in the Standby Gas Treatment System inlet plenum. The source of the resin is being investigated. Three radiation specialists have been dispatched to the site to evaluate the radiological aspects of the occurrence.

Media interest is expected due to public interest in the facility. The licensee is considering issuing a press release. The NRC does not plan to issue a press release but will respond to media inquiries. The Commonwealth of Massachusetts has been informed.

This PN is current as of 4:45 P.M., June 11, 1982.

CONTACT: Elsassner 488-1235 Brunner 488-1225

DISTRIBUTION:  
 H. St. \_\_\_\_\_  
 Chairman Palladino \_\_\_\_\_  
 Comm. Gilinsky \_\_\_\_\_  
 Comm. Ahearn \_\_\_\_\_  
 Comm. Roberts \_\_\_\_\_  
 ACBS \_\_\_\_\_  
 SDCY \_\_\_\_\_  
 CA \_\_\_\_\_  
 PCB \_\_\_\_\_

PNBB \_\_\_\_\_  
 EDO \_\_\_\_\_  
 PA \_\_\_\_\_  
 WPA \_\_\_\_\_  
 ELD \_\_\_\_\_

Phillips 5:28 6/10/82  
 ARR \_\_\_\_\_

Air Rights SP \_\_\_\_\_

INPO \_\_\_\_\_  
 NSAC \_\_\_\_\_

EW \_\_\_\_\_  
 SE \_\_\_\_\_  
 OIA \_\_\_\_\_  
 AEOD \_\_\_\_\_

Williste \_\_\_\_\_  
 NYSS \_\_\_\_\_  
 RES \_\_\_\_\_

MAIL: ADM: EMB  
 DOT: Trans \_\_\_\_\_

Regional Offices \_\_\_\_\_

NY: Resident Section 5:28 6/10/82  
 RI: Resident Office 5:28 6/10/82

B206170377 020611  
 PDR I&E  
 PNO-1-82-042 PDR

Licensee:  
 (reactor licensees)

... of evaluation, and is basically all that is ...  
this date

Pilgrim Nuclear Power Station  
Plymouth, Massachusetts  
DN 50-293

Licensee Emergency  
Notification of  
Alert  
Site Area Emergency  
General Emergency  
x Not Applicable

Subject: RELEASE OF SPENT RESIN (UPDATE PNO-1-82-42)

Surveys of the entire site within the protected area and surveys of selected areas of the licensee controlled area were made within 3 hours of the identification of the spent resin release. The licensee's onsite surveys identified two contaminated pavement areas which were barricaded and posted. Surveys confirmed contamination of the Turbine, Administration, Augmented Off-Gas and Re-Tube Building roofs. The Reactor Building Roof was found to be free of contamination. The licensee's offsite survey included surveys of cars, parking lots, shorefront, and security access areas. No contamination was identified. Routine environmental air samples covering the period June 1-15, 1982 were counted. Nothing unusual was identified. Because of the size and weight of the resins, no offsite airborne release of the beads appears to have occurred. This was confirmed by air samples collected during clean-up of the contaminated pavement areas which when counted indicated background and the identification of resins only on roof-tops under the Reactor Building Vent. Preliminary samples of storm drain residue have been counted with no contamination identified. All contaminated ventilation ducts have been vacuumed clean. A duct surveillance program has been established to identify any additional resin accumulation.

The licensee believes the resin entered the ventilation ducts from the condensate demineralizer system during resin backwashing via the Cation Regeneration Tank Vent. In addition, resin from defective condensate demineralizer vent valves may have also been released prior to their repair during the September 1981 - March 1982 refueling outage. The resin appears to have been released from the Reactor Building Ventilation Exhaust System vents above the reactor building roof, prior to the repair of defective filters in this system in September 1981.

The licensee has suspended all transfer operations which could result in further resin releases to ventilation ducts and has initiated additional environmental sampling. The licensee's actions were monitored by three Region I Radiation Specialists throughout the weekend. Region I will issue a Confirmatory Action Letter to address planned licensee corrective actions. The licensee is continuing to review the source and cause to determine what permanent corrective action will be needed. The Resident Inspectors are closely following licensee actions concerning this event.

Media interest has occurred. The licensee has responded to media inquiries but does not plan to issue a press release. The NRC will respond to media inquiries but does not plan to issue a press release.

This PK is current as of 11:00 a.m., June 14, 1982.

PILGRIM  
PNO-1-82-42

82-06210607 4p