



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

October 23, 1985

MEMORANDUM FOR: **Thomas T. Martin, Director**  
Division of Radiation Safety and Safeguards  
Region I

FROM: David B. Matthews, Chief  
Emergency Preparedness Branch  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

SUBJECT: OFFSITE EMERGENCY PREPAREDNESS AT SALEM

The enclosed memoranda from Richard Krimm, Assistant Associate Director, Office of Natural and Technological Hazards Programs, FEMA forward updates on the status of offsite emergency preparedness at the Salem Nuclear Generating Station. Advance copies of these memoranda have been provided to members of your staff. A prior FEMA status report of February 25, 1985 was forwarded to you by memorandum dated March 21, 1985.

The FEMA status report of February 25, 1985 discussed the two deficiencies which were related to habitability problems at the Delaware State Emergency Operation Center (EOC); i.e., air filtering and pressurization of the State EOC, and decontamination showers and sleeping quarters at the State EOC. Public Service Gas & Electric (PSE&G), in a letter of July 18, 1985, proposed the installation of an air filtering and pressurization system for the State EOC, comparable to the system installed in the Salem EOC. The Delaware Division of Emergency Planning and Operations, and the Accident Assessment and Advisory Group have accepted the proposed corrective actions. The projected date for completion of the system installation is October 29, 1985, the date of the next Salem/Hope Creek emergency exercise. FEMA Region III believes that the schedule of corrective actions is adequate to correct the problem, and that the exercise will provide the opportunity to confirm that the installation is complete, the system is operable and, presumably, resolve the deficiency.

Contact: Gerald E. Simonds, IE  
492-4870

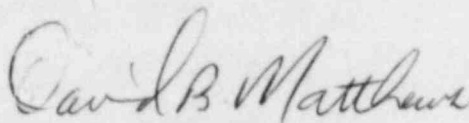
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Thomas T. Martin

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Concerning the second deficiency, PSE&G has agreed to underwrite the cost of installing decontamination showers and sleeping quarters at the State EOC. Construction should be underway by the October 29, 1985, Salem/Hope Creek exercise. The FEMA Region III office has determined that this modification provides the State EOC with the capability for continuous operations over a prolonged period; thus correcting this deficiency.

We recommend that you transmit the enclosed FEMA memoranda to the licensee.



David B. Matthews, Chief  
Emergency Preparedness Branch  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

Enclosures:

1. FEMA memo dtd. 9/6/85
2. FEMA memo dtd. 9/16/85



# Federal Emergency Management Agency

Washington, D.C. 20472

SEP 16 1985

MEMORANDUM FOR: Edward L. Jordan  
Director, Division of Emergency Preparedness  
and Engineering Division  
Office of Inspection and Enforcement  
U. S. Nuclear Regulatory Commission

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

SUBJECT: Status Regarding Delaware's Outstanding Exercise  
Deficiencies for Salem/Hope Creek

The remaining outstanding Category B deficiency identified during the Salem Nuclear Generating Station Exercise on October 26, 1983, has been corrected.

The Public Service Electric and Gas Company has agreed to underwrite the cost of installing decontamination showers and sleeping quarters at the State Emergency Operations Center (EOC). Information provided to the Federal Emergency Management Agency's Region III Office by the State of Delaware includes a schematic plan for these accommodations. The Region III Office has determined that this modification provides the State EOC with the capability for continuous operations over a prolonged period; thus correcting this deficiency. Construction should be underway by the October 29, 1985, Salem/Hope Creek exercise.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 646-2861.

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# Federal Emergency Management Agency

Washington, D.C. 20472

SEP 6 1985

MEMORANDUM FOR: Edward L. Jordan  
Director, Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission

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

SUBJECT: Update on Delaware's Outstanding Category B Deficiencies Resulting  
From the Salem Nuclear Generating Station Exercise on October 26, 1983

This is an update to my memorandum to you of February 25, 1985, which discussed the Category B deficiencies identified during the Salem Nuclear Generating Station Exercise on October 26, 1983.

The two deficiencies which remain uncorrected at this time relate to habitability problems at the Delaware State Emergency Operations Center (EOC) and are listed in the November 25, 1983 Exercise Evaluation Report as Deficiencies Nos. 5 and 6. Attached is a copy of a memorandum from the State of Delaware and a letter from Public Service Electric and Gas Company (PSE & G) which propose correction of the deficiency concerning the air filtering system in the State EOC. PSE & G has agreed to install an air filtering and pressurizing system in the State EOC comparable to the air filtering and pressurizing system installed in the Salem Emergency Operations Facility which has been approved by the NRC. Please note that the Delaware Division of Emergency Planning and Operations and the Accident Assessment and Advisory Group have accepted the proposed corrective actions. The Accident Assessment and Advisory Group had previously expressed reservations about remaining within the State EOC in the event of a plume exposure without a suitable air filtering system.

The attached information has been forwarded to the Department of Energy, the Environmental Protection Agency, and Nuclear Regulatory Commission Regional Assistance Committee (RAC) members for review and comment. The projected date for completion of installation of the system is the date of the upcoming Salem/ Hope Creek radiological emergency preparedness exercise on October 29, 1985, which will provide an opportunity for evaluation of the operation of the system.

The FEMA Region III staff has requested additional information on Deficiency No. 6 regarding showering and decontamination facilities. You will be advised as additional information is developed.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 646-2861.

Attachment  
As Stated

*8509130293 7PP*





# Federal Emergency Management Agency

Region III 105 South 7th Street Philadelphia, Pennsylvania 19106

August 7, 1985

MEMORANDUM FOR: Robert S. Wilkerson, Chief  
Technological Hazards Division

ATTENTION: Gloria Joyner

FROM: James Asher, Region III RAC Chairman *J.R. Asher*

SUBJECT: Status update regarding Delaware's outstanding deficiencies from the October 26, 1983 Salem REP exercise

As reported in our last memorandum concerning this subject (dated August 24, 1984), Delaware has two unresolved deficiencies which were identified during the last Salem REP exercise, conducted October 26, 1983. Both of these relate to habitability problems at the State EOC, and are listed as Deficiencies 5. and 6. in our November 25, 1983 Exercise Evaluation Report.

Attached is a copy of a memorandum and related materials received recently from Delaware which address Deficiency 5. The utility has agreed to install a filtering and pressurizing system at the State EOC. The proposed system is alleged to be comparable to the system at the utility's EOC, which has NRC approval. Based on this, we believe that the system will be adequate to correct the problem. To be sure, however, we have requested an evaluation of the proposal from our DOE, EPA, and NRC RAC members, and have advised the State accordingly. It should be noted that this system is acceptable to both the Division of Emergency Planning and Operations, which has overall responsibility for managing the State's response, and to the members of the Accident Assessment and Advisory Group (composed of members of other State agencies), who had previously expressed reservation about remaining within the state EOC in the event of plume exposure without a suitable filtering system.

The projected date for the completion of this system is the date of the upcoming Salem/Hope Creek REP exercise, October 29, 1985. This will provide us with the opportunity to confirm that the installation is complete and the system is operable, and, presumably, resolve the deficiency.

As for Deficiency 6., the State has provided no new information, so we have requested a status update. We will keep you advised of future developments concerning these two outstanding deficiencies.

Attachment

STATE OF DELAWARE  
DEPARTMENT OF PUBLIC SAFETY  
**DIVISION OF EMERGENCY PLANNING  
AND OPERATIONS**  
P.O. BOX C  
DELAWARE CITY, DELAWARE 19706  
(302) 834-4531

**MEMORANDUM**

TO: PAUL GIORDANO, FEMA REGION III DIRECTOR  
FROM: CLARKE V. JESTER, DIRECTOR *c.v.j.*  
DATE: JULY 31, 1985  
SUBJECT: Delaware EOC Inhabitability/Air Filtration

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Delaware is very pleased to announce the Division of Emergency Planning and Operations (DEPO) in concert with Delaware's Accident Assessment and Advisory Group (AAAG) has reached an agreement with Public Service Gas and Electric's (PSE&G) Artificial Island Emergency Preparedness Group which will definitely solve deficiencies cited in previous exercises. PSE&G has offered to provide Delaware with HIGH EFFICIENCY AIR (HEPA) FILTRATION for the State EOC.

Together with provisions for positive pressurization of air within the EOC (preventing infiltration of outside air) the HEPA filter will provide exposure protection for emergency workers within the EOC allaying FEMA exercise criticisms founded in 24 Hour EOC Inhabitability deficiencies as per NUREG 0654 Part II Section H. A.4 page 75. Negotiations with PSE&G and Delaware's AAAG resulted in a more than satisfactory solution which will assuredly please RAC Committee Chairman, Jim Asher of your REP staff.

Work to finalize these improvements will begin immediately and hopefully see completion before DEPO's '86 REP, FEMA graded exercise. Please contact Jan Zarabicki of my staff with any questions.

attachments

cc: James Asher, RAC Chairman  
Dennis McCloskey, PSE&G Emergency Preparedness Manager ✓  
Dr. Lyman Olsen, Delaware AAAG Chairman

CVT/1/12m



STATE OF DELAWARE  
DEPARTMENT OF HEALTH AND SOCIAL SERVICES  
DIVISION OF PUBLIC HEALTH  
JESSE S. COOPER MEMORIAL BUILDING  
FEDERAL AND WATER STREETS  
DOVER, DELAWARE 19901

July 29, 1985

Clarke V. Jester, Director  
Division of Emergency Planning and Operations  
P.O. Box C  
Delaware City, DE 19706

Dear Mr. Jester:


The AAAG met in Dover on July 26, 1985 to consider the latest proposal from PSE&G regarding the installation of the air filtration system as requested by your letter dated July 22, 1985. Those in attendance were: Dr. H. Otto, DNREC; M. McGrath, D.A.; A. Tapert, DPH; Dr. L. Krone, DPH; and J. Zarebricki, DEPO, plus myself as Chairman.

Based on the very informative presentation and supporting materials by Mr. Jan Zarebricki, it is evident that:

1. official government requirements for air filtration systems in a State Emergency Operations Center (EOC), several miles from a nuclear plant, do not exist at present;
2. as determined by the American Physical Society, the significance of the release of radioiodines from a light water commercial power reactor is probably much less than previously perceived; and
3. the filtration system of the Emergency Operations Facility (EOF) in Salem, New Jersey meets with the approval of FEMA.

Therefore, the AAAG finds the PSE&G proposal to upgrade the Delaware City EOC air filtration system to parity with the Salem EOF is an acceptable means to improve the habitability of its occupants during a radiological emergency.

Sincerely,



Lyman J. Olsen, M.D.  
Director  
Division of Public Health

LJO/lb

cc: H. Otto, Ph.D.  
D. Hill  
A. Tapert

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038  
Nuclear Department

July 18, 1985  
EP-85-537

Mr. Clarke V. Jester, Director  
State of Delaware  
Department of Public Safety  
Division of Emergency Planning & Operations  
Delaware City, DE 19706

Dear Mr. Jester:

HABITABILITY OF THE DELAWARE STATE  
EMERGENCY OPERATIONS CENTER

Thank you again for your hospitality during our July 17th  
visit to your facility.

In conversation we discussed the two points of concern with  
respect to preventing airborne radioactive materials from  
entering your facility. Primarily, the filtering of outside  
air that is introduced through the air conditioning system and  
the maintenance of a positive pressure in the building to  
prevent infiltration of outside air.

As you are aware, dose assessment studies of integrated doses  
to residents of the EOC utilizing the Delaware State model do  
not indicate the need for protective actions for whole body,  
but rather only for iodine exposure. Therefore, there are two  
actions available to block or limit the exposure of emergency  
workers to radioactive iodine. The use of Potassium Iodide  
(KI) as a prophylaxis for personnel and in the case of  
facility protection, the provision of HEPA filtration and a  
positive pressure protected envelope.

It is our position that the addition of HEPA filters will be  
more than sufficient to allay concerns about exposure to the  
thyroid for Emergency Workers.



Mr. Clarke V. Jester

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7/18/85

The recommended filtering system for outside air will consist of a throw-away roughing filter, a 90% efficient prefilter, a 99.97% efficient HEPA filter and a second HEPA filter. An outside air fan will be utilized to overcome the air friction of the filters and to pressurize the Ventilating Equipment Building. The filters will be mounted in casings, supplied by the filter manufacturer.

A fan will be installed to maintain a positive pressure in the return air duct, a portion of which is located outside of the building, and to maintain the flow of return air into the pressurized Ventilating Equipment Building.

In order to keep the building under a slight positive pressure with the existing air conditioning system, all entrance/exit doors will be tightly fitted. If required, two sets of doors will be used providing a vestibule at each entrance/exit.

The physical dimensions of the filter bank and air handling unit are such that an addition must be made to the existing Ventilation Equipment Building. Two louvers in the existing building must be removed and the openings closed.

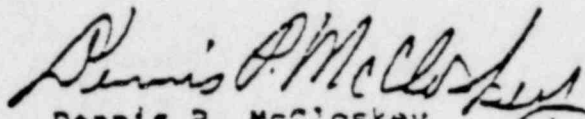
The outside air filtering system will handle ventilation air for the air conditioning system and air for pressurization of the Ventilating Equipment Building. The present quantity of outside air being processed is not known. If the cooling, dehumidifying and heating of the newly required air quantity taxes the existing air conditioning system, a supplementary air cooled air conditioning unit with electric heating coil will be added.

This complex air handling system is similar in design to the one that protects Public Service Electric & Gas employees, located at our EOF, which is approximately the same distance from the reactors as the Delaware EOC. Incidentally, the ventilation system of our EOF has been thoroughly scrutinized by the NRC and found to meet federal guidelines established for facilities designed to be used as a center for accident mitigation activities.

7/18/85

I trust this proposed protective system will meet with the approval of the AAA&G members. I look forward to receiving your commitment letter accepting the PSE&G Co. proposed course of action.

Sincerely,



Dennis P. McCloskey  
Nuclear Emergency Preparedness  
Manager